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SITE ASSESSMENT REPORT

**Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida
ERIC_7410
FDEP Contract HW 550, Task Assignment SOL-0A065**

Prepared for

Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Prepared by

Geosyntec Consultants, Inc.
19321 U.S. Highway 19 North
Building C, Suite 200
Clearwater, FL 33764

Project FR3598B

15 May 2020

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1. INTRODUCTION

1.1 Overview

Geosyntec Consultants, Inc. (Geosyntec) has prepared this Site Assessment Report for the Indian River State College (IRSC; “the Site”) located at 4600 Kirby Loop Road in Fort Pierce Florida on behalf of the Florida Department of Environmental Protection (FDEP). This work was conducted in accordance with Task Assignments HW550-SI-0A024, HW550-SOL-0A048, and HW550-SOL-0A065.

1.2 Objectives

The objectives of this investigation were to evaluate the extent of per- and polyfluoroalkyl substances (PFAS) in Site media including soil and groundwater and the presence or absence of PFAS in sediment and surface water.

1.3 PFAS Overview

The Interstate Technology and Regulatory Council (ITRC) has developed a series of fact sheets to summarize the latest science and emerging technologies for PFAS. According to the ITRC fact sheets, PFAS consist of more than 4,700 manmade fluorinated organic chemical compounds that have been extensively manufactured since the mid-20th century (ITRC, 2020). Perfluorooctane sulfonate (PFOS) and perfluorooctanoate (PFOA) are two perfluoroalkyl substances that are fully fluorinated carbon-chain molecules (USEPA, 2017). Polyfluoroalkyl substances are not fully fluorinated and have a non-fluorine atom attached to at least one of the carbon atoms (ATSDR, 2017). PFAS are widely used due to their unique physical and chemical properties (e.g., surfactant, oil-repelling, water-repelling, etc.) (ITRC, 2020; USEPA, 2017). One widely recognized use of PFAS is as a component in aqueous film forming foam (AFFF) (USEPA, 2017). AFFF has been stored and used by the military, airports, and other firefighting and fire-training facilities to extinguish hydrocarbon fires (ITRC, 2020; USEPA, 2017). PFAS are emerging environmental contaminants of concern due to evidence of their potential human health effects or environmental risks. When released to the environment, some PFAS have been shown to be stable, mobile, persistent, and bioaccumulative (ITRC 2020; USEPA 2017).

1.4 Assessment Overview

In June 2019, Geosyntec completed a Preliminary Assessment at IRSC (Task Assignment HW550-SI-0A024) that included soil, groundwater, surface water, and sediment sampling to assess the presence or absence of PFAS in Site media (Geosyntec, 2019). Results indicated that concentrations of PFOA and/or PFOS were detected above FDEP’s provisional cleanup target levels (CTLs) in soil and groundwater (see Section 1.5 regarding provisional CTLs). Based on these results, additional site assessment activities were completed between February and March 2020 (Task Assignment HW550-SOL-0A065) to evaluate the extent of PFAS in soil, groundwater, surface water, and sediment. This report presents activities and results from the Preliminary

Assessment investigation conducted in June 2019 and the Site Assessment investigation conducted between February and March 2020.

Prior to both assessment investigations, Geosyntec prepared work plans that described the proposed sampling activities for FDEP review. The Preliminary Assessment and Site Assessment Work Plans included figures showing the proposed sampling locations and tables summarizing the sampling locations, matrices, depth intervals, sampling methods, laboratory analyses, rationale, and screening criteria.

1.5 Laboratory Analysis and Data Screening Process

Site samples collected from environmental media (groundwater, sediment, soil, and surface water) and firefighting foam product were packed on wet ice and transported under chain-of-custody to the FDEP Laboratory. The laboratory analyzed the samples for up to 22 PFAS constituents using United States Environmental Protection Agency (USEPA) Method 8321B or USEPA Method 537 Modified.

CTLs for PFAS constituents have not been promulgated under Chapter 62-777, Florida Administrative Code (FAC). Following the procedures promulgated in Chapter 62-777 FAC, Chapter 62-780 FAC, and at the request of FDEP, the University of Florida (UF) calculated provisional soil cleanup target levels (SCTLs) for residential-direct exposure (R-), commercial/industrial-direct exposure (I-), and provisional groundwater leachability (L-) SCTLs for PFOA and PFOS. Following the promulgated procedures, UF also calculated provisional groundwater cleanup target levels (GCTLs) for PFOA and PFOS. The formulas, assumptions, and chemical-specific parameters used in the calculations are presented in letters prepared by UF included in **Appendix A**. The following table summarizes the provisional cleanup target levels.

Provisional Cleanup Target Level	PFOS	PFOA	PFOS + PFOA	Units*
R-SCTL	1,300	1,300	Not applicable	µg/Kg
I-SCTL	25,000	25,000	Not applicable	µg/Kg
L-SCTL	7	2	Not applicable	µg/Kg
Groundwater	70	70	70	ng/L

* µg /Kg indicates micrograms per kilogram and ng/L indicates nanograms per liter.

The provisional CTLs were used as the primary screening criteria to evaluate the nature and extent of PFAS constituents in soil and groundwater. The analytical results of the media sampled at IRSC were evaluated to identify PFAS constituents present at concentrations that exceed applicable screening criteria and assess areas of the Site that may require further investigation. For general Site characterization, both soil and groundwater were screened against human health criteria. Soil data were compared to the provisional L-, R-, and I-SCTLs, and groundwater data were compared to the provisional GCTLs. Provisional CTLs for surface water are under development, and

provisional CTLs for sediment have not been calculated. Therefore, the analytical results from these media were evaluated to identify potential exposure pathways and/or potential PFAS sources.

2. SITE DESCRIPTION AND HISTORY

2.1 Site Location

The Site is at the IRSC Treasure Coast Public Safety Training Complex located at 4600 Kirby Loop Road in Fort Pierce, St. Lucie County, Florida. The Site property lies within Section 19, Township 35 South, and Range 40 East of the Fort Pierce Quadrangle. Within the 50-acre campus, the smaller footprint of the environmental assessment area includes a fire tower, burn buildings, a fire engine garage, retention areas, Five Mile Creek, and aqueous film forming foam (AFFF) storage. The Site is bordered to the south and west by primarily residential areas. Five Mile Creek and vegetated areas border the northern and eastern boundaries of the Site. The United States Geological Survey topographic map showing the Site location is provided as **Figure 1**. The Site Vicinity Map is presented in **Figure 2**.

2.2 Site Utilities

Multiple underground utility types including potable water, wastewater, and stormwater pipes and electrical, natural gas, propane, and telecommunication lines have been identified within the area of environmental assessment activities at the Site. As-built figures depicting the master utility locations within the area of assessment activities were not provided during the assessment activities.

2.3 Topography and Drainage

The topography of the Site is generally flat with an elevation of approximately 19 feet (ft) above mean sea level. Stormwater retention areas form surface depressions at five areas on-Site.

The Site Vicinity Map (**Figure 2**) depicts one stormwater retention area partially within the property boundary that stores stormwater from the Site. Additionally, a creek (Five Mile Creek) borders the northern and eastern property boundaries that presumably conveys stormwater runoff from the Site (and nearby properties or roadways) before merging with the St. Lucie River.

2.4 Potable Water Supply Wells

A potable well desktop survey was conducted, within a 1-mile radius of the Site, through the Florida Department of Health (FDOH) website (FDOH, 2020). A total of 44 potable wells (5 labelled as “inactive”) were identified within a 0.5-mile radius and 69 potable wells were identified between a 0.5- and 1-mile radius from the Site. **Figure 3** depicts the potable wells identified within a 1-mile radius of the Site. **Table 1** includes detailed information of the potable wells collected from the FDOH website.

2.5 Operational Description

According to the IRSC website, the facility offers training for students seeking state certification as firefighters as well as current firefighters seeking to advance fire service areas (IRSC, 2020). An on-Site fire training tower, burn buildings, and props are used to create training simulations.

According to IRSC staff at the Site, the facility has historically used approximately 5 to 10 gallons of AFFF 4 times per year as part of the fire training activities.

2.6 Previous Investigations

According to the FDEP Information Portal website, no known environmental investigations for PFAS or other constituents of concern have been previously conducted or reported to the FDEP for the Site (FDEP, 2020). Assessment activities conducted by Geosyntec beginning in June 2019 mark the initial environmental investigations at the Site.

3. GEOLOGY AND HYDROGEOLOGY

3.1 Regional Geology

Geologic formations underlying the region include, in descending order (Reese, 2004):

- The Pamlico Sand, consisting of a fine quartz sand and carbonate grains that lies unconformably upon the Anastasia and Fort Thompson formations;
- The Fort Thompson Formation, consisting of discontinuous beds of marls and limestones;
- The Anastasia Formation that is a grainstone and composed of cemented shell fragments, commonly referred to as coquina;
- The Tamiami Formation that is composed of sandy very fine-grained biogenic limestone containing phosphatic sand and shells; and
- The Hawthorn Group that consists of phosphatic siliciclastic sediments of fine- to coarse-grained quartz sand, quartz silt, and clay minerals consisting of impermeable and semi-permeable marls.

Near the Site, St. Lucie County is primarily underlain by unconsolidated sediments that represent the Pamlico Sand and interbedded sands and coquina-rich limestones that are part of the Anastasia Formation.

3.2 Regional Hydrogeology

Two aquifers are present in St. Lucie County: the unconfined, surficial aquifer and the Floridan Aquifer. The surficial aquifer is unconfined with a thickness between 50 and 250 ft and is comprised of permeable sands, limestone, and shell beds of the Pamlico Sand, Fort Thompson Formation and Anastasia Formation (Reese, 2004). The surficial aquifer is separated from the underlying Floridan Aquifer by the confining beds of the Tamiami and Hawthorn Formations that consist of several hundred feet of relatively impermeable clays, silts, and marls (Reese, 2004). Near the Site, the Floridan Aquifer is separated from the surficial aquifer by a confining unit and is not considered a potable water source in this area due to brackish conditions.

3.3 Site-Specific Geology

Geosyntec documented lithology from the soil boring locations (see Sections 4.2 and 4.3 and **Appendix B**). In addition to soil borings advanced for shallow soil sampling, deeper soil borings were advanced using rotary sonic drilling for lithology characterization during monitoring well installation. The deepest soil borings were completed to a depth of 50 feet below land surface (ft BLS).

The surficial lithology across the Site generally consisted of very fine to medium grained sand with minor amounts of silt, clay, and roots (near land surface). The boundary between surficial sands and limestone was encountered in the deeper soil borings at depths between 42 and 48 ft

BLS. Cross sections representing the generalized lithology at the Site are presented on **Figure 4** and **Figure 5**.

Additionally, Geosyntec documented lithology from each sediment boring location (See Section 4.5 and **Appendix B**). Lithology collected from the sediment samples varied by location. The stormwater retention pond samples (Sed-1 and Sed-7) consisted of saturated, very fine-grained sand.

3.4 Site-Specific Hydrogeology

Geosyntec collected depth-to-groundwater measurements in monitoring wells across the Site (see Section 4.3 and **Appendix B**) in March 2020 prior to groundwater sampling. Based on the depth-to-groundwater measurements, groundwater potentiometric surfaces were generated for groundwater between 5 and 17 ft BLS and groundwater between 38 and 50 ft BLS. Groundwater in the wells screened within the 5 to 17 ft BLS zone generally flows northeast across the Site. Groundwater in the wells screened within the 38 to 50 ft BLS zone generally flows east across the Site. **Figure 6** depicts groundwater elevations within the 5 to 17 ft BLS zone, and **Figure 7** depicts groundwater elevations within the 38 to 50 ft BLS zone.

Vertical hydraulic gradients were calculated for each of the well pairs; monitoring well pairs DEPMW-1/DEPMW-13, DEPMW-3/DEPMW-14, DEPMW-8/DEPMW-17, and DEPMW-10/DEPMW-18 had upward vertical gradients and monitoring well pairs DEPMW-4/DEPMW-15, DEPMW-6/DEPMW-16, and DEPMW-12/DEPMW-19 had downward vertical gradients. The well pairs exhibiting upward vertical gradients were generally located adjacent to surface water features, suggesting that groundwater could be flowing into these features.

4. SITE CHARACTERIZATION

Field activities were performed in general accordance with FDEP Standard Operating Procedures (SOPs) for Field Activities and internal SOPs for PFAS sampling that were developed by Geosyntec. The sampling locations (including quality assurance/quality control [QA/QC] samples), matrices, depth intervals, sampling methods, laboratory analyses, rationale, and screening criteria used during the assessment activities are summarized on **Table 2**, which reflects any deviations from Preliminary Assessment and Site Assessment Work Plans (and which are further discussed in the sections below). Sampling locations are provided on **Figure 8**. Field forms are provided in **Appendix B**, and laboratory analytical reports are provided in **Appendix C**.

Geosyntec prepared a Site-specific Health and Safety Plan (HASP) in May 2019 to address project-specific hazards that were known or suspected to be present due to existing conditions and work to be performed at the Site. The HASP was updated in January 2020, and in May 2020 additional COVID-19 safety protocols were added to the HASP. The HASP met the requirements specified in the Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response program and Geosyntec's internal health and safety standards. Geosyntec maintained the HASP on-Site during assessment activities.

4.1 Utility Locate

Geosyntec observed GeoTek Services, LLC (GeoTek) perform an underground utility survey prior to soil sampling and drilling activities on 5 June 2019, 10 February 2020, and 2 March 2020. During each survey, GeoTek utilized electromagnetic induction and ground penetrating radar to identify potential subsurface utilities or obstructions. The suspected underground utilities were marked on land surface and sampling or monitoring well locations were repositioned as necessary to avoid potential subsurface conflicts.

4.2 Soil Assessment

Geosyntec conducted hand-auger soil sampling at a total of 40 boring locations (soil borings SS-1 and SB-1 were co-located and SS-2 and SB-2 were co-located) during the 2019 and 2020 assessment activities. Soil sampling locations are presented on **Figure 8**. Lithology collected from each soil boring location is presented in **Appendix B** (see general descriptions in Section 3.3).

4.2.1 Soil Sampling Methodology

Geosyntec collected a total of 163 discrete soil samples for laboratory analysis in June 2019 and February and March 2020. Soil samples from depths less than 5 ft BLS were collected using decontaminated stainless-steel hand augers. Soil samples from depths greater than 5 ft BLS were collected via direct-push technology (DPT) soil samplers. Soil sample intervals and identifications are included in **Table 3**.

In June 2019, Geosyntec collected discrete soil samples for laboratory analysis from the 0 to 1 and 1 to 2 ft BLS depth intervals¹ at 14 locations (SS-1 through SS-14; 28 total soil samples). In February and March 2020, Geosyntec collected discrete soil samples for laboratory analysis from the 0 to 0.5, 0.5 to 2, 2 to 4, 5 to 7, and 8 to 10 ft BLS depth intervals at 28 locations (SB-1 through SB-28; the 0 to 0.5 and 0.5 to 2 ft BLS intervals were not collected at SB-1 and SB-2 because those locations were colocated with SS-1 and SS-2, respectively). The Site Assessment Work Plan proposed collecting soil from the 4 to 6 ft BLS interval; however, samples were collected from 5 to 7 to allow the use of a hand auger to confirm the absence of subsurface utilities to a depth up to 5 ft. The lithology at each soil sample interval was documented and is provided in **Appendix B**. Completed soil borings were backfilled with soil cuttings generated from the location where the soil was removed.

QA/QC samples collected in June 2019 consisted of 3 equipment blanks (EQB-1, EQB-2, and EQB-3) that were collected from hand augers and DPT equipment. The QA/QC samples collected in February 2020 consisted of 11 equipment blanks (EQB-4 through EQB-14) that were collected from decontaminated hand auger buckets, DPT tooling, and peristaltic pump tubing used to sample IDW.

4.2.2 Soil Results

Analytical laboratory soil sample results are summarized on **Table 3** and depicted on **Figure 9**. PFOS results are presented by depth interval on **Figure 10** through **Figure 14**. PFOA results are presented by depth interval on **Figure 15** through **Figure 19**. Soil analytical results indicated the following:

- PFOA concentrations were greater than the provisional L-SCTL of 2 µg/Kg at 5 locations (SB-1/SS-1, SB-10, SB-13, SB-14, and SB-16) within the AFFF usage area and 1 location west of the AFFF usage area (SB-5) and
- PFOS concentrations were greater than the provisional L-SCTL of 7 µg/Kg at 9 locations (SB-1/SS-1, SB-2/SB-2, SB-9, SB-10, SB-11, SB-12, SB-13, SB-14, and SB-15) within the AFFF usage area and 3 locations (SB-4, SB-5, and SB-6) west of the AFFF usage area.

4.3 Groundwater Assessment

Geosyntec installed and sampled two temporary groundwater monitoring wells in June 2019. Based on the results from the 2019 Preliminary Assessment, Geosyntec installed and sampled 19 permanent groundwater monitoring wells between February and March 2020. Monitoring well construction details from both events are summarized in **Table 4**.

¹ At the time of the June 2019 assessment activities, samples were collected from 0 to 1 and 1 to 2 ft BLS depth intervals to evaluate the presence or absence of PFAS constituents. Depth intervals used for soil sampling during subsequent assessment activities were revised to 0 to 0.5 and 0.5 to 2 ft BLS in accordance with Chapter 62-780 FAC.

4.3.1 Temporary Monitoring Well Installation and Sampling

Geosyntec subcontracted Preferred Drilling Solutions, Inc. (PDS) to install 2 temporary monitoring wells in June 2019. Temporary wells TMW-1 and TMW-2 were installed in the center and south end of a grassy, low lying area west of the fire tower. Temporary well locations are presented on **Figure 8**.

PDS installed temporary monitoring wells to a depth of approximately 20 ft BLS using DPT. A hand auger was used to confirm the absence of subsurface utilities to a depth up to 5 ft BLS or refusal prior to installing the temporary wells. The wells were constructed with 15 ft of 1-inch diameter polyvinyl chloride (PVC) pre-packed well screen slotted at 0.010 inches and approximately 7 ft of 1-inch diameter PVC riser. The wells were screened across the water table and the formation was allowed to collapse around each well. The remaining annular borehole space was filled with 20/30 silica sand to at least six inches above the top of the well screen. Geosyntec developed the temporary monitoring wells using a centrifugal pump until the purge water was relatively free of sediment. Construction details for the temporary monitoring wells are provided in **Table 4**. Well construction and development field forms are presented in **Appendix B**.

Immediately following development of the temporary monitoring wells, Geosyntec utilized a peristaltic pump to collect groundwater samples from TMW-1 and TMW-2 and one duplicate sample (DUP-2) from TMW-1 after stabilization of geochemical field parameters in accordance with FDEP SOPs. Purge water generated during well development and sampling activities was containerized and transported off-Site for disposal (see Section 4.8). PDS removed the temporary monitoring wells after sampling and grouted the boreholes to land surface. Groundwater sampling logs are presented in **Appendix B**.

4.3.2 Permanent Monitoring Well Installation and Surveying

Geosyntec subcontracted PDS to install 19 permanent monitoring wells in February and March 2020. Monitoring well locations are presented on **Figure 8**.

PDS installed 12 monitoring wells to depths of 15 or 17 ft BLS using the hollow stem auger (HSA) technique and 7 monitoring wells to depths of 48 or 50 ft BLS using the rotasonic technique. A post-hole digger was used to confirm the absence of subsurface utilities to a depth up to 5 ft BLS or refusal prior to installing the wells. Continuous soil core samples were collected for lithologic description prior to monitoring well installation using the DPT technique for wells installed up to 17 ft BLS and rotasonic technique for up to 50 ft BLS. Based on lithologic descriptions, the 19 monitoring wells are considered to be installed at varying depths within the surficial aquifer. Field boring logs containing lithologic descriptions are included in **Appendix B**.

Monitoring wells were constructed with 10 ft of 2-inch diameter PVC well screen slotted at 0.010 inches and 2-inch diameter PVC riser to land surface. Filter packs were constructed with 20/30 silica sand from the well terminus to at least 1.5 ft above the top of the well screen. Fine sand (30/65 sand) was added above the filter pack to the monitoring wells installed to 15 or 17 ft BLS to a thickness of at least 1 ft above the top of the filter packs. Bentonite was added above the filter

pack to the monitoring wells installed to 48 or 50 ft BLS to a thickness of at least 2 ft. The remaining annular space above the filter pack seal was filled with Portland Type I/II grout to land surface. The monitoring wells were completed as flush mounts with 8-inch bolt-down manhole covers in 2 ft by 2 ft concrete well pads. Geosyntec developed the monitoring wells installed to 15 or 17 ft BLS using a peristaltic pump and wells installed to 48 or 50 ft BLS using an electric submersible pump until the development water was generally free of particulates. Purge water generated during well development activities was containerized and transported off-Site for disposal (see Section 4.8). Monitoring well construction details are provided in **Table 4**. Well construction and development field forms are presented in **Appendix B**.

On 9 March 2020, SurvTech Solutions, Inc., a Florida-licensed surveyor, conducted a survey of the top-of-casing (TOC) elevations (North American Vertical Datum of 1988) and horizontal coordinates (Florida State Plane Coordinate System, East Zone, North American Datum of 1983) at the 19 permanent monitoring well locations. Monitoring well TOC elevations are included in **Table 4**. **Figure 8** depicts the locations of the monitoring wells using the surveyed horizontal coordinates.

4.3.3 Depth-to-Groundwater and Groundwater Sampling Activities

Geosyntec measured depth-to-groundwater in 19 monitoring wells on 9 March 2020 prior to groundwater sampling. Groundwater levels were measured to the nearest 0.01 ft using an electronic water-level indicator.

Groundwater samples were collected via peristaltic pump after stabilization of water quality parameters including temperature, conductivity, pH, turbidity, and dissolved oxygen. Duplicate samples were collected at DEPMW-1 (DEPMW-1 (5-15') DUP) and DEMPMW-18 (DEPMW-18 (38-48') DUP). Groundwater sampling logs and calibration forms are included with the field notes in **Appendix B**. The laboratory analytical report is provided in **Appendix C**. Purge water generated during well sampling activities was containerized and transported off-Site for disposal (see Section 4.8).

4.3.4 Groundwater Elevation and Sampling Results

Depth-to-groundwater measurements and the surveyed TOC elevation were used to calculate groundwater elevations presented in **Table 5**. The groundwater potentiometric surface is presented with groundwater elevation data on **Figure 6** (showing groundwater elevations within the 5 to 17 ft BLS interval) and **Figure 7** (showing groundwater elevations within the 38 to 50 ft BLS interval). Groundwater within the 5 to 17 ft BLS interval was generally flowing northeast across the Site, and groundwater within the 38 to 50 ft BLS interval was generally flowing east across the Site during the March 2020 sampling event. Groundwater generally flows upward near the monitoring well pairs adjacent to surface water features and downward at the other monitoring well pairs, which suggests groundwater was flowing into surface water features during the March 2020 sampling event.

Analytical laboratory results for the temporary groundwater monitoring well samples collected in June 2019 are summarized in **Table 6** and depicted on **Figure 20**. Groundwater analytical results

indicated that the individual concentrations of PFOA and PFOS and the summation of the PFOA and PFOS concentrations at both TMW-1 and TMW-2 were above the provisional GCTL of 70 ng/L.

Analytical laboratory results from the permanent monitoring well samples collected in March 2020 are summarized in **Table 6** and depicted on **Figure 20** (showing 5 to 17 ft BLS interval) and **Figure 21** (showing 38 to 50 ft BLS interval). The vertical extent of PFOS and PFOA is depicted across A-A' in **Figure 22** and B-B' in **Figure 23**. Groundwater analytical results indicated the following:

- Within the 5 to 17 ft BLS interval, PFOS and PFOA concentrations were greater than provisional GCTLs at monitoring wells located within the AFFF usage area (DEPMW-6 and DEPMW-9), adjacent to the fire tower (DEPMW-7), near the burn buildings (DEPMW-1, DEPMW-2, and DEPMW-3), adjacent to the fire engine garage (DEPMW-11), adjacent to the retention area (DEPMW-4 and DEPMW-10), and east of the AFFF storage area (DEPMW-8);
- Within the 38 to 50 ft BLS interval, PFOS and PFOA concentrations were greater than provisional GCTLs at monitoring wells located within the AFFF usage area (DEPMW-16) and adjacent to the retention area (DEPMW-15 and DEPMW-18);
- PFOS concentrations were generally higher than PFOA concentrations across the Site; and
- PFOS and PFOA concentrations were generally higher in the 5 to 17 ft BLS interval compared to the 38 to 50 ft BLS interval (DEPMW-12/DEPMW-19 was the only well pair where PFOS and PFOA concentrations were higher in the shallow well; however, PFOS and PFOA concentrations were below provisional GCTLs in both DEPMW-12 and DEPMW-19)

4.4 Surface Water Assessment

Geosyntec collected three surface water samples and one duplicate surface water sample in June 2019 and three surface water samples in February 2020. The sampling locations are depicted on **Figure 8**.

4.4.1 Surface Water Sampling Activities

Geosyntec collected surface water samples using the direct grab technique. Three surface water samples (SW-1, SW-2, SW-4, and SW-5) were collected from the retention area west of the AFFF usage area. One surface water sample (SW-3) and one duplicate sample (DUP-1) were collected from the Five Mile Creek along the eastern boundary of the. One surface water sample (SW-6) was taken from the ditch adjacent to the AFFF storage site.

4.4.2 Surface Water Results

Analytical laboratory results for the surface water samples are summarized in **Table 7** and depicted on **Figure 24**. Provisional CTLs have not been developed for surface water, therefore individual concentrations of PFOA and PFOS and/or the summation of the PFOA and PFOS concentrations

were compared with the provisional GCTL of 70 ng/L to evaluate potential exposure pathways and/or potential sources that could contribute PFAS constituents to groundwater. Surface water analytical results indicated the following:

- PFOA and PFOS concentrations were greater than 70 ng/L at sampling locations SW-1, SW-2, SW-4, SW-5, and SW-6;
- PFOA and PFOS concentrations were less than 70 ng/L at SW-3, which was collected from Five Mile Creek.

4.5 Sediment Assessment

Geosyntec collected three sediment samples in June 2019 and four sediment samples in February 2020. The sampling locations are depicted on **Figure 8**. Lithology collected from each location is presented in **Appendix B** (see general descriptions in Section 3.3)

4.5.1 Sediment Sampling Activities

Geosyntec collected sediment samples from 0 to 1 ft BLS using stainless steel hand augers. Three sediment samples (Sed-1, Sed-2, and Sed-5) were collected from the retention area located west of the AFFF usage area. One sediment sample (Sed-4) was collected from the retention area located northwest of the AFFF usage area. One sediment sample (Sed-7) was collected from the ditch adjacent to the AFFF storage site; Sed-7 was co-located with SW-6. Two samples (Sed-3 and Sed-6) were collected east and northeast (respectively) of the Fire Tower within a ditch parallel to Five Mile Creek. After sample completion, unused sediment was returned to the borehole from which it was removed.

4.5.2 Sediment Results

Analytical laboratory sediment results and sample locations are presented on **Figure 24** and results are tabulated in **Table 8**. Provisional CTLs have not been developed for sediment, therefore individual concentrations of PFOA and PFOS were compared with the provisional L-SCTLs of 2 µg/Kg and 7 µg/Kg, respectively, to evaluate potential sources that could contribute PFAS constituents to Site media (e.g., groundwater and/or surface water). Sediments that remain perpetually submerged do not represent a direct exposure pathway for human health. PFOA concentrations were less than 2 µg/Kg in the analyzed sediment samples. PFOS concentrations were greater than 7 µg/Kg in the sediment sample Sed-2 and less than 7 µg/Kg in the other sediment samples.

4.6 Firefighting Foam Sampling

Multiple 5-gallon containers of AFFF product were observed during the June 2019 Preliminary Assessment activities within a storage building east of the fire tower.

4.6.1 Firefighting Foam Sampling

In June 2019, FDEP staff collected firefighting foam product samples from 5-gallon containers labeled as AFFF and Training Foam.

4.6.2 Firefighting Foam Results

Analytical results are summarized in **Table 9** and indicate concentrations of PFOS and PFOA were below the method detection limits. Only perfluorohexanesulfonic acid (PFHxA) was detected in the AFFF samples.

4.7 Decontamination Procedures

Decontamination activities were performed in accordance with Geosyntec internal SOPs for PFAS sampling either at a designated staging and laydown area or at each monitoring well location. Decontamination procedures utilized for non-disposable, reusable soil, sediment, surface water, and groundwater sampling equipment included decontaminating the sampling equipment in 5-gallon high-density polyethylene (HDPE) buckets. The sampling equipment was first submerged and scrubbed in at least two 5-gallon HDPE buckets filled with a solution of Liquinox detergent and PFAS-free water provided by FDEP and then submerged in at least two 5-gallon HDPE buckets filled with PFAS-free water. This sequence of scrubbing and rinsing was performed twice for each hand auger bucket and then followed by a final pour-over rinse of PFAS-free water. Equipment blanks were collected from decontaminated hand augers in June 2019 (EQB-2 and EQB-3) and from decontaminated hand auger buckets in and February 2020 (EQB-4, EQB-5, and EQB-6).

The decontamination procedures followed for monitoring well installation equipment included pressure washing DPT, HSA, and sonic drilling equipment. Drilling equipment was decontaminated using a pressure washer and Liquinox detergent followed by a series of rinses using PFAS-free water over a constructed wooden and plastic sheeting decontamination pit that collected decontamination fluids. Decontaminated equipment was staged on clean plastic sheeting prior to use. Decontamination fluids were drummed as IDW and disposed off-Site. One equipment blank (EQB-1) that was collected from the lead DPT rod prior to installing TMW-2. Equipment blanks were collected from decontaminated DPT (EQB-7, EQB-8, EQB-9, and EQB-10) and sonic (EQB-13 and EQB-14) drill rods prior to soil borings and installation of permanent monitoring wells.

4.8 Investigation Derived Waste

Two aqueous drums of investigation derived waste (IDW) were generated during the June 2019 assessment event from decontamination activities and temporary monitoring well development and purge water. Forty-eight drums of IDW (20 drums of solid IDW, 15 drums of liquid IDW, and 13 drums containing a solid/liquid mixture) were generated during the February to March 2020 assessment event from decontamination activities, soil cuttings from drilling, and monitoring well development and purge water. The drums were labelled and staged on asphalt at a location approved by IRSC representatives. Field drum inventories are provided in **Appendix B**. IDW analytical results are provided in **Appendix C**. Final IDW manifests are provided in **Appendix D**.

During the June 2019 assessment event, one composite sample was collected from each of the IDW drums for waste characterization purposes. The composite sample was analyzed for volatile

organic compounds (USEPA Method 8260D), semi-volatile organic compounds (USEPA Method 8270D), the 8 Resource Conservation and Recovery Act metals (USEPA Method 6020A and 7473), and PFAS (USEPA Method 8321B). IDW analytical laboratory reports were provided to Universal Environmental Solutions, LLC (UES) for profiling and manifest completion. The two drums were removed for off-Site disposal by A&D Environmental Services on 1 October 2019.

During the February to March 2020 assessment event, one aqueous sample and one solid sample were collected from IDW drums for waste characterization purposes. The 2020 IDW samples were analyzed for similar constituents using similar analytical methods to the 2019 IDW samples except they were also analyzed for semi-volatile organic compounds (USEPA Method 8270E). The IDW analytical laboratory report was provided to UES for profiling and manifest completion. The 48 drums were removed for off-Site disposal by A&D Environmental Services on 6 May 2020.

5. CONCLUSIONS

During assessment activities conducted in 2019 and 2020, Geosyntec collected samples of Site media (groundwater, surface water, sediment, and soil) for laboratory analysis of PFAS constituents. The concentrations of PFOA and PFOS in groundwater and soil were screened against provisional CTLs, and the results from surface water and sediment were evaluated to identify potential exposure pathways and/or potential PFAS sources. The results indicated the following:

- Soil concentrations of PFOA and/or PFOS were above the provisional L-SCTLs at multiple depth intervals at 10 soil sample locations within the AFFF usage area and 3 locations along the retention area west of the AFFF usage area. The results indicate that PFOA and PFOS could be leaching from soil to groundwater at concentrations above provisional GCTLs and may represent potential sources at these locations.
- Groundwater concentrations of PFOA and PFOS from two temporary monitoring wells near the center of the grass-covered AFFF usage area were greater than provisional GCTLs;
- Groundwater concentrations of PFOA and/or PFOS were above provisional GCTLs in 13 monitoring wells installed within the 5 to 17 ft BLS interval and 3 monitoring well installed within the 38 to 50 ft BLS interval.
- Surface water concentrations of PFOA and PFOS within the retention area west of the AFFF usage area do not represent a potential exposure pathway based solely on the consumption of surface water.
- The upward vertical groundwater gradients adjacent to surface water features suggest groundwater may be flowing into surface water features.
- Sediment concentration of PFOS at one location (Sed-2) in the retention area west of the AFFF usage area is greater than the provisional soil L-SCTL and may represent a source of PFAS constituents that could leach to groundwater and/or surface water.

6. RECOMMENDATIONS

Geosyntec recommends the following:

- Collect additional soil samples to delineate the horizontal extent of PFAS adjacent to sample locations with concentrations exceeding the provisional L-SCTL;
- Collect additional sediment and co-located surface water samples to evaluate the presence or absence of PFAS in sediment and surface water bodies adjacent to sampling locations with groundwater or soil exceedances above provisional CTLs;
- Collect DPT groundwater samples in strategic locations to update the current horizontal and vertical groundwater data gaps across the area of environmental assessment; and
- Install additional monitoring wells to delineate the horizontal and/or vertical extent of PFAS concentrations exceeding the provisional GCTL.
- Install staff gages along Five Mile Creek and retention areas to better understand groundwater flow and groundwater/surface water interactions.

A work plan summarizing the proposed sampling activities will be submitted to FDEP under a separate cover.

7. REFERENCES

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TABLES



TABLE 1: FDOH WATER WELLS WITHIN A 1-MILE RADIUS
Indian River State College

Map ID	Florida Unique Well Identification	Range from Site (miles)	Total Depth (ft BLS)	Casing Length (feet)	Well Diameter (inches)	Status	Address
1	AAF4903	0.5 to 1	--	--	2	Active	1703 Totten Rd
2	AAF4904		--	--	2	Active	1702 Totten Rd
3	AAF4902		--	--	2	Active	1819 Totten Rd
4	AAF4905		--	--	2	Active	3700 Okeechobee Rd
5	AAF4909		--	--	2	Active	3701 Okeechobee Rd
6	AAF4910		--	--	2	Active	2103 S 37Th St
7	AAF4911		--	--	2	Active	2105 S 37Th St
8	AAF4994		--	--	2	Active	2214 S 39Th St
9	AAF4993		--	--	2	Active	2307 S 36Th St
10	AAF4992		--	--	2	Active	3209 S 36Th St
11	AAF4997		--	--	2	Active	3608 Arnold Rd
12	AAF4999		--	--	2	Active	3607 Arnold Rd
13	AAF4998		--	--	2	Active	3609 Arnold Rd
14	AAF5000		--	--	2	Active	3503 Arnold Rd
15	AAG3481		--	--	2	Active	3505 Arnold Rd
16	AAE2649		--	--	2	Active	2401 S 35Th St
17	AAE6141	0 to 0.5	--	--	2	Active	4075 Virginia Ave
18	AAE6140		--	--	2	Active	2304 S 41St St
19	AAF1214		--	--	2	InActive	2303 S 40Th St
20	AAF1213		--	--	2	InActive	2303 S 40Th St
21	AAF1215		--	--	2	Active	2312 S 41St St
22	AAF1216		--	--	2	Active	2316 S 41St St
23	AAF4996		--	--	2	Active	3803 Arnold Rd
24	AAE6142		--	--	2	Active	2412 S 41St St
25	AAE6143		--	--	2	Active	2418 S 41St St
26	AAK8173		--	--	--	Active	2505 Lazy Hammock Ln
27	AAK8171		--	--	--	Active	2603 Lazy Hammock Ln
28	AAK8172		--	--	--	Active	2607 Lazy Hammock Ln
29	AAR2372		--	--	--	Active	3415 Cortez Blvd
30	AAR2373		--	--	--	Active	3401 Cortez Blvd
31	AAK8182		--	--	--	Active	3305 Cortez Blvd
32	AAK8183		--	--	--	Active	3303 Cortez Blvd
33	AAR2374	0.5 to 1	--	--	--	Active	3209 Cortez Blvd
34	AAR2377		--	--	--	Active	3107 Cortez Blvd
35	AAK8184		--	--	--	Active	3007 Cortez Blvd
36	AAR2378		--	--	--	Active	3005 Cortez Blvd
37	AAK8185		--	--	--	Active	2805 Cortez Blvd
38	AAR2339		--	--	--	Active	2701 Cortez Blvd
39	AAR2338		--	--	--	Active	2700 S 26Th St
40	AAR2375		--	--	--	Active	2707 Pineview Dr
41	AAR2376		--	--	--	Active	2706 Pineview Dr

TABLE 1: FDOH WATER WELLS WITHIN A 1-MILE RADIUS
Indian River State College

Map ID	Florida Unique Well Identification	Range from Site (miles)	Total Depth (ft BLS)	Casing Length (feet)	Well Diameter (inches)	Status	Address
42	AAR2353	0.5 to 1	--	--	2	Active	2702 S 28Th St
43	AAR2368		--	--	--	Active	2704 S 28Th St
44	AAR2340		--	--	--	Active	2714 S 27Th St
45	AAR2354		--	--	--	Active	2707 S 28Th St
46	AAR2359		--	--	2	Active	2706 S 28Th St
47	AAR2345		--	--	--	Active	2710 S 28Th St
48	AAR2363		--	--	--	Active	2709 S 29Th St
49	AAR2362		105	85	2	Active	2710 S 29Th St
50	AAR2361		117	97	2	Active	2714 S 29Th St
51	AAR2355		--	--	--	Active	2715 S 29Th St
52	AAR2360		--	--	2	Active	2716 S 29Th St
53	AAR2364		--	--	--	Active	2719 S 29Th St
54	AAR2352		--	--	--	Active	2707 Grove Dr
55	AAR2350		--	--	2	Active	2902 Grove Dr
56	AAR2356		--	--	--	Active	2808 S 29Th St
57	AAR2346		--	--	--	Active	2812 S 29Th St
58	AAR2336		--	--	--	Active	2809 S 28Th St
59	AAR2337		--	--	--	Active	2808 S 28Th St
60	AAR2335		--	--	--	Active	2813 S 28Th St
61	AAR2334		--	--	2	Active	2812 S 28Th St
62	AAR2333		--	--	--	Active	2816 S 28Th St
63	AAR2332		--	--	2	Active	2730 Wildwood Ln
64	AAR2351		--	--	2	Active	2801 Grove Dr
65	AAR2365		--	--	2	Active	2803 Grove Dr
66	AAR2347		--	--	2	Active	2805 Grove Dr
67	AAR2349		--	--	2	Active	2905 Grove Dr
68	AAR2348		--	--	2	Active	2909 Grove Dr
69	AAR2367		85	75	2	Active	2908 Grove Dr
70	AAR2366		115	105	2	Active	2910 Grove Dr
71	AAK4494		--	--	2	Active	2950 Edwards Rd
72	AAF1296		--	--	2	Active	3049 Old Edwards Rd
73	AAG3477		--	--	2	Active	3017 Old Edwards Rd
74	AAF1294	--	--	2	Active	3091 Old Edwards Rd	
75	AAF1295	--	--	2	Active	3065 Old Edwards Rd	
76	AAF1288	--	--	2	Active	2981 Edwards Rd	
77	AAF1289	--	--	2	Active	3025 Edwards Rd	
78	AAF1287	--	--	2	Active	2949 Edwards Rd	
79	AAF1292	--	--	2	Active	3110 Old Edwards Rd	
80	AAG3497	--	--	2	Active	3114 Old Edwards Rd	
81	AAF1291	--	95	2	Active	3111 Old Edwards Rd	
82	AAG3495	--	--	2	Active	3118 Old Edwards Rd	

TABLE 1: FDOH WATER WELLS WITHIN A 1-MILE RADIUS
Indian River State College

Map ID	Florida Unique Well Identification	Range from Site (miles)	Total Depth (ft BLS)	Casing Length (feet)	Well Diameter (inches)	Status	Address
83	AAF1290	0.5 to 1	--	--	2	Active	3121 Old Edwards Rd
84	AAK8178	0 to 0.5	--	--	--	Active	3927 Kirby Loop Rd
85	AAK8179		--	--	--	Active	3933 Kirby Loop Rd
86	AAK8180		--	--	--	Active	4055 Kirby Loop Rd
87	AAK8181		--	--	--	Active	4061 Kirby Loop Rd
88	AAK8176		--	--	--	Active	2853 Yates Rd
89	AAK8175		--	--	2	Active	4315 Thousand Pines Dr
90	AAK8174		--	--	2	Active	4320 Thousand Pines Dr
91	AAK8177		--	--	--	Active	2990 Dame Rd
92	AAR2357		--	--	--	Active	4960 Sears St
93	AAR2358		--	--	2	Active	5061 Sears St
94	AAR2342		--	--	2	Active	2913 Middle Rd
95	AAR2341		--	--	--	Active	2920 Middle Rd
96	AAG3499		57	--	2	Active	4990 Happiness St
97	AAR2343		--	--	--	Active	5151 Happiness St
98	AAR2344	0.5 to 1	--	--	--	Active	3221 Live Oak Ln
99	AAF5054	0 to 0.5	--	--	2	Active	2608 Rolyat St
100	AAF5051		--	--	2	InActive	2607 Rolyat St
101	AAG3485		--	--	2	InActive	2605 Rolyat St
102	AAF5052		--	--	2	Active	2603 Rolyat St
103	AAF5053		--	--	2	Active	2601 Rolyat St
104	AAF5056		--	--	2	InActive	2607 Kerr St
105	AAG3486		--	--	2	Active	2605 Kerr St
106	AAF5057		--	--	2	Active	2603 Kerr St
107	AAK8170		--	--	2	Active	2602 Kerr St
108	AAF5058		--	--	2	Active	2515 Kerr St
109	AAK8169		--	--	2	Active	2511 Kerr St
110	AAF5059	--	--	2	Active	2509 Kerr St	
111	AAF5060	0 to 0.5	--	--	2	Active	2507 Kerr St
112	AAK8168		--	--	2	Active	2504 Kerr St
113	AAF5055	0.5 to 1	--	--	2	Active	2501 Rolyat St

Notes:

1. FDOH indicates Florida Department of Health.
2. ft BLS indicates feet below land surface.
3. -- indicates information not specified through FDOH Well Surveillance Program website.
4. Active indicates the well is used on a regular basis or will be used within a reasonable period of time (2 to 3 months).
5. Inactive indicates the well has not been regularly used within the past 6 to 12 months but is maintained in such a state that it could be used.

TABLE 2: SAMPLING LOCATIONS, MATRICES, ANALYTES, RATIONALE, AND CRITERIA
Indian River State College

Location ID	Sample ID	Matrix	Depth (ft BLS)	Drilling Method	Analyses	Rationale	Criteria
Soil Borings							
SB-1	SB-1 (2-4')	Soil	2-4	HA/DPT	PFAS	Delineation Sampling	Provisional Soil Cleanup Target Levels
	SB-1 (5-7')		5-7				
	SB-1 (8-10')		8-10				
SB-2	SB-2 (2-4')		5-7				
	SB-2 (5-7')		2-4				
	SB-2 (8-10')		8-10				
SB-3	SB-3 (0-0.5')		0-0.5				
	SB-3 (0.5-2')		0.5-2				
	SB-3 (2-4')		2-4				
	SB-3 (5-7')		5-7				
SB-4	SB-3 (8-10')		8-10				
	SB-4 (0-0.5')		0-0.5				
	SB-4 (0.5-2')		0.5-2				
	SB-4 (2-4')		2-4				
SB-5	SB-4 (5-7')		5-7				
	SB-4 (8-10')	8-10					
	SB-5 (0-0.5')	0-0.5					
	SB-5 (0.5-2')	0.5-2					
SB-6	SB-5 (2-4')	2-4					
	SB-5 (5-7')	5-7					
	SB-5 (8-10')	8-10					
	SB-6 (0-0.5')	0-0.5					
SB-7	SB-6 (0.5-2')	0.5-2					
	SB-6 (2-4')	2-4					
	SB-6 (5-7')	5-7					
	SB-6 (8-10')	8-10					
SB-8	SB-7 (0-0.5')	0-0.5					
	SB-7 (0.5-2')	0.5-2					
	SB-7 (2-4')	2-4					
	SB-7 (5-7')	5-7					
SB-9	SB-7 (8-10')	8-10					
	SB-8 (0-0.5')	0-0.5					
	SB-8 (0.5-2')	0.5-2					
	SB-8 (2-4')	2-4					
SB-10	SB-8 (5-7')	5-7					
	SB-8 (8-10')	8-10					
	SB-9 (0-0.5')	0-0.5					
	SB-9 (0.5-2')	0.5-2					
SB-11	SB-9 (2-4')	2-4					
	SB-9 (5-7')	5-7					
	SB-9 (8-10')	8-10					
	SB-10 (0-0.5')	0-0.5					
SB-12	SB-10 (0.5-2')	0.5-2					
	SB-10 (2-4')	2-4					
	SB-10 (5-7')	5-7					
	SB-10 (8-10')	8-10					
SB-13	SB-11 (0-0.5')	0-0.5					
	SB-11 (0.5-2')	0.5-2					
	SB-11 (2-4')	2-4					
	SB-11 (5-7')	5-7					
SB-14	SB-11 (8-10')	8-10					
	SB-12 (0-0.5')	0-0.5					
	SB-12 (0.5-2')	0.5-2					
	SB-12 (2-4')	2-4					
SB-15	SB-12 (5-7')	5-7					
	SB-12 (8-10')	8-10					
	SB-13 (0-0.5')	0-0.5					
	SB-13 (0.5-2')	0.5-2					
SB-16	SB-13 (2-4')	2-4					
	SB-13 (5-7')	5-7					
	SB-13 (8-10')	8-10					
	SB-14 (0-0.5')	0-0.5					
SB-17	SB-14 (0.5-2')	0.5-2					
	SB-14 (2-4')	2-4					
	SB-14 (5-7')	5-7					
	SB-14 (8-10')	8-10					
SB-18	SB-15 (0-0.5')	0-0.5					
	SB-15 (0.5-2')	0.5-2					
	SB-15 (2-4')	2-4					
	SB-15 (5-7')	5-7					
SB-19	SB-15 (8-10')	8-10					

TABLE 2: SAMPLING LOCATIONS, MATRICES, ANALYTES, RATIONALE, AND CRITERIA
Indian River State College

Location ID	Sample ID	Matrix	Depth (ft BLS)	Drilling Method	Analyses	Rationale	Criteria
SB-16	SB-16 (0-0.5')	Soil	0-0.5	HA/DPT	PFAS	Delineation Sampling	Provisional Soil Cleanup Target Levels
	SB-16 (0.5-2')		0.5-2				
	SB-16 (2-4')		2-4				
	SB-16 (5-7')		5-7				
	SB-16 (8-10')		8-10				
SB-17	SB-17 (0-0.5')		0-0.5				
	SB-17 (0.5-2')		0.5-2				
	SB-17 (2-4')		2-4				
	SB-17 (5-7')		5-7				
	SB-17 (8-10')		8-10				
SB-18	SB-18 (0-0.5')		0-0.5				
	SB-18 (0.5-2')		0.5-2				
	SB-18 (2-4')		2-4				
	SB-18 (5-7')		5-7				
	SB-18 (8-10')		8-10				
SB-19	SB-19 (0-0.5')		0-0.5				
	SB-19 (0.5-2')		0.5-2				
	SB-19 (2-4')		2-4				
	SB-19 (5-7')		5-7				
	SB-19 (8-10')		8-10				
SB-20	SB-20 (0-0.5')		0-0.5				
	SB-20 (0.5-2')		0.5-2				
	SB-20 (2-4')		2-4				
	SB-20 (5-7')		5-7				
	SB-20 (8-10')		8-10				
SB-21	SB-21 (0-0.5')		0-0.5				
	SB-21 (0.5-2')		0.5-2				
	SB-21 (2-4')		2-4				
	SB-21 (5-7')	5-7					
	SB-21 (8-10')	8-10					
SB-22	SB-22 (0-0.5')	0-0.5					
	SB-22 (0.5-2')	0.5-2					
	SB-22 (2-4')	2-4					
	SB-22 (5-7')	5-7					
	SB-22 (8-10')	8-10					
SB-23	SB-23 (0-0.5')	0-0.5					
	SB-23 (0.5-2')	0.5-2					
	SB-23 (2-4')	2-4					
	SB-23 (5-7')	5-7					
	SB-23 (8-10')	8-10					
SB-24	SB-24 (0-0.5')	0-0.5					
	SB-24 (0.5-2')	0.5-2					
	SB-24 (2-4')	2-4					
	SB-24 (5-7')	5-7					
	SB-24 (8-10')	8-10					
SB-25	SB-25 (0-0.5')	0-0.5					
	SB-25 (0.5-2')	0.5-2					
	SB-25 (2-4')	2-4					
	SB-25 (5-7')	5-7					
	SB-25 (8-10')	8-10					
SB-26	SB-26 (0-0.5')	0-0.5					
	SB-26 (0.5-2')	0.5-2					
	SB-26 (2-4')	2-4					
	SB-26 (5-7')	5-7					
	SB-26 (8-10')	8-10					
SB-27	SB-27 (0-0.5')	0-0.5					
	SB-27 (0.5-2')	0.5-2					
	SB-27 (2-4')	2-4					
	SB-27 (5-7')	5-7					
	SB-27 (8-10')	8-10					
SB-28	SB-28 (0-0.5')	0-0.5					
	SB-28 (0.5-2')	0.5-2					
	SB-28 (2-4')	2-4					
	SB-28 (5-7')	5-7					
	SB-28 (8-10')	8-10					
SS-1	SS-1 (0-1')	0-1	HA				Residential-Direct Exposure Provisional Soil Cleanup Target Level
	SS-1 (1-2')	1-2					
SS-2	SS-2 (0-1')	0-1					
	SS-2 (1-2')	1-2					
SS-3	SS-3 (0-1')	0-1					
	SS-3 (1-2')	1-2					
SS-4	SS-4 (0-1')	0-1					
	SS-4 (1-2')	1-2					

TABLE 2: SAMPLING LOCATIONS, MATRICES, ANALYTES, RATIONALE, AND CRITERIA
Indian River State College

Location ID	Sample ID	Matrix	Depth (ft BLS)	Drilling Method	Analyses	Rationale	Criteria		
SS-5	SS-5 (0-1')	Soil	0-1	HA	PFAS	Delineation Sampling	Residential-Direct Exposure Provisional Soil Cleanup Target Level		
	SS-5 (1-2')		1-2						
SS-6	SS-6 (0-1')		0-1						
	SS-6 (1-2')		1-2						
SS-7	SS-7 (0-1')		0-1						
	SS-7 (1-2')		1-2						
SS-8	SS-8 (0-1')		0-1						
	SS-8 (1-2')		1-2						
SS-9	SS-9 (0-1')		0-1						
	SS-9 (1-2')		1-2						
SS-8	SS-8 (0-1')		0-1						
	SS-8 (1-2')		1-2						
SS-9	SS-9 (0-1')		0-1						
	SS-9 (1-2')		1-2						
SS-10	SS-10 (0-1')		0-1						
	SS-10 (1-2')		1-2						
SS-11	SS-11 (0-1')		0-1						
	SS-11 (1-2')		1-2						
SS-12	SS-12 (0-1')		0-1						
	SS-12 (1-2')		1-2						
SS-13	SS-13 (0-1')	0-1							
	SS-13 (1-2')	1-2							
SS-14	SS-14 (0-1')	0-1							
	SS-14 (1-2')	1-2							
Sed-1	Sed-1 (0-1')	Sediment	0-1	Grab	PFAS	Delineation Sampling	N/A		
Sed-2	Sed-2 (0-1')		0-1						
Sed-3	Sed-3 (0-1')		0-1						
Sed-4	Sed-4 (0-1')		0-1						
Sed-5	Sed-5 (0-1')		0-1						
Sed-6	Sed-6 (0-1')		0-1						
Sed-7	Sed-7 (0-1')		0-1						
SW-1	SW-1	Surface Water	N/A	Grab	PFAS	Delineation Sampling	N/A		
SW-2	SW-2		N/A						
SW-3	SW-3		N/A						
	DUP-1		N/A						
SW-4	SW-4		N/A						
SW-5	SW-5		N/A						
SW-6	SW-6	N/A							
Monitoring Wells									
DEPMW-1 (5-15')	DEPMW-1 (5-15')	Groundwater	5-15 or 7-17	HSA	PFAS	Delineation Sampling	Provisional Groundwater Cleanup Target Levels		
	DEPMW-1 (5-15') DUP								
DEPMW-2 (7-17')	DEPMW-2 (7-17')								
DEPMW-3 (7-17')	DEPMW-3 (7-17')								
DEPMW-4 (7-17')	DEPMW-4 (7-17')								
DEPMW-5 (5-15')	DEPMW-5 (5-15')								
	DEPMW-5 (5-15') DUP								
DEPMW-6 (7-17')	DEPMW-6 (7-17')								
DEPMW-7 (5-15')	DEPMW-7 (5-15')								
DEPMW-8 (7-17')	DEPMW-8 (7-17')								
DEPMW-9 (7-17')	DEPMW-9 (7-17')								
DEPMW-10 (5-15')	DEPMW-10 (5-15')								
DEPMW-11 (5-15')	DEPMW-11 (5-15')								
DEPMW-12 (5-15')	DEPMW-12 (5-15')								
DEPMW-13 (40-50')	DEPMW-13 (40-50')							40-50 or 38-48	Sonic
DEPMW-14 (40-50')	DEPMW-14 (40-50')								
DEPMW-15 (40-50')	DEPMW-15 (40-50')								
DEPMW-16 (40-50')	DEPMW-16 (40-50')								
DEPMW-17 (40-50')	DEPMW-17 (40-50')								
DEPMW-18 (38-48')	DEPMW-18 (38-48')								
	DEPMW-18 (38-48') DUP								
DEPMW-19 (40-50')	DEPMW-19 (40-50')								
Temporary Monitoring Wells									
TMW-1	TMW1 (5-20')	Groundwater	5-20	DPT	PFAS	AFFF Use Areas	Provisional Groundwater Cleanup Target Level		
TMW-2	TMW-2 (5-20')		5-20						

TABLE 2: SAMPLING LOCATIONS, MATRICES, ANALYTES, RATIONALE, AND CRITERIA
Indian River State College

Location ID	Sample ID	Matrix	Depth (ft BLS)	Drilling Method	Analyses	Rationale	Criteria
Fire Fighting Foam Product							
Product	Centurion	Centurion Firefighting Foam	N/A	N/A	PFAS	Centurion Firefighting Foam currently stored at Facility	N/A
	FireAde	FireAde Firefighting Foam				FireAde Firefighting Foam currently stored at Facility	
	Training Foam	Training Foam				Training Foam currently stored at Facility	
Laboratory QA/QC Samples							
Equipment Blanks (ratio of 1:10)	EQB 1	Water	N/A		PFAS	Assess potential sources of contamination from DPT and HA sampling equipment	N/A
	EQB 2						
	EQB 3						
Equipment Blanks (ratio of 1:20)	EQB-4						
	EQB-5						
	EQB-6						
	EQB-7						
	EQB-8						
	EQB-9						
	EQB-10						
	EQB-11						
	EQB-12						
	EQB-13						
	EQB-14						
	EQB-15						
Field Reagent Blanks (1 per cooler)	FRB 1					Evaluate potential impact of sample cross-contamination	
	FRB 2						
	FRB 3						
	FRB-4 (labeled as DEPMW-18 (FRB))						
Investigation Derived Waste (IDW) Sample							
Drum Number	Sample ID	Matrix	IDW Source	Analyses	Rationale	Criteria	
1	IDW-1-Water	Water	Decontamination fluid and purge water	VOCs, SVOCs, RCRA metals, PFAS	Waste characterization	N/A	
2	IDW-2-Water			VOCs, SVOCs, PFAS			
14	IDW-4		Decontamination Water	VOCs, SVOCs, RCRA metals, PFAS			
5	IDW-5	Soil	Soil Cuttings				

Notes:

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. DPT indicates direct push technology. 2. ft BLS indicates feet below land surface. 3. SB and SS indicate soil boring. 4. Sed indicates sediment. 5. SW indicates surface water. 6. DUP indicates duplicate. 7. TMW indicates temporary monitoring well. 8. HA indicates hand auger. 9. HSA indicates hollow stem auger. 10. PFAS indicates per- and polyfluoroalkyl substances. | <ol style="list-style-type: none"> 11. N/A indicates not applicable. 12. QA/QC indicates quality assurance/quality control. 13. FRB indicates field reagent blank. 14. EQB indicates equipment blank. 15. AFFF indicates aqueous film forming foam. 16. IDW indicates investigation derived waste. 17. VOCs indicate volatile organic compounds. 18. SVOCs indicate semi-volatile organic compounds. 19. RCRA indicates Resource Conservation and Recovery Act. 20. Product drums were labeled with permanent marker on the top as "Fire-Fighting Foam" and on the side with a label as "Chlorohexidine Gluconate 20% Solution" |
|---|---|

TABLE 3: SOIL ANALYTICAL RESULTS FOR PFAS COMPOUNDS
Indian River State College

Sample Location	Sample ID	Sample Date	Sample Interval (ft BLS)	Concentration (µg/Kg)																					
				PFOS	PFOA	4:2 FTS	6:2 FTS	8:2 FTS	NEtFOSAA	NMeFOSAA	PFBS	PFDS	PFDA	PFDoA	PFHpS	PFHpA	PFHxS	PFHxA	PFNS	PFNA	PFPeS	PFPeA	PFTeA	PFTriA	PFUnA
			Provisional Leachability SCTL	7	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
			Provisional Residential SCTL	1,300	1,300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
			Provisional Industrial SCTL	25,000	25,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
SB-26	SB-26 (0-0.5)	2/10/2020	0 to 0.5	1.5	0.13 U	0.26 U	0.52 U	0.26 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.26 U	0.13 U	0.26 U	0.13 U	0.13 U	0.13 U	0.52 U	0.13 U	0.13 U	0.13 U
	SB-26 (0.5-2)		0.5 to 2	2.1	0.12 U	0.25 U	0.49 U	0.25 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.25 U	0.12 U	0.25 U	0.12 U	0.14 I	0.12 U	0.49 U	0.12 U	0.12 U	0.12 U
	SB-26 (2-4)		2 to 4	0.73 I	0.12 U	0.24 U	0.49 U	0.24 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.24 U	0.12 U	0.24 U	0.12 U	0.12 U	0.12 U	0.49 U	0.12 U	0.12 U	0.12 U
	SB-26 (5-7)	2/13/2020	5 to 7	0.76 I	0.12 U	0.24 U	0.49 U	0.24 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.24 U	0.12 U	0.24 U	0.12 U	0.12 U	0.12 U	0.49 U	0.12 U	0.12 U	0.12 U
	SB-26 (8-10)		8 to 10	0.25 U	0.13 U	0.25 U	0.51 U	0.25 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.25 U	0.13 U	0.25 U	0.13 U	0.13 U	0.13 U	0.51 U	0.13 U	0.13 U	0.13 U
SB-27	SB-27 (0-0.5)	2/10/2020	0 to 0.5	3.3	0.19 I	0.25 U	0.50 U	0.25 U	0.12 U	0.12 U	0.12 U	0.16 I	0.12 U	0.12 U	0.12 U	0.25 U	0.12 U	0.25 U	0.12 U	0.19 I	0.12 U	0.50 U	0.12 U	0.12 U	0.12 U
	SB-27 (0.5-2)		0.5 to 2	3.7	0.29 I	0.24 U	0.48 U	0.24 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.24 U	0.12 U	0.24 U	0.12 U	0.12 U	0.12 U	0.55 I	0.12 U	0.12 U	0.12 U
	SB-27 (2-4)		2 to 4	3.9	0.48 I	0.24 U	0.48 U	0.24 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.24 U	0.12 U	0.24 U	0.12 U	0.12 U	0.12 U	0.48 U	0.12 U	0.12 U	0.12 U
	SB-27 (5-7)	2/13/2020	5 to 7	2.0	0.14 I	0.24 U	0.48 U	0.24 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.24 U	0.12 U	0.24 U	0.12 U	0.12 U	0.12 U	0.48 U	0.12 U	0.12 U	0.12 U
	SB-27 (8-10)		8 to 10	1.1	0.12 U	0.25 U	0.50 U	0.25 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.25 U	0.12 U	0.25 U	0.12 U	0.12 U	0.12 U	0.50 U	0.12 U	0.12 U	0.12 U
SB-28	SB-28 (0.5-2)	2/12/2020	0.5 to 2	3.0	0.23 I	0.23 U	0.46 U	0.23 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.23 U	0.12 U	0.23 U	0.12 U	0.12 U	0.12 U	0.46 U	0.36 I	0.12 U	0.12 U	
	SB-28 (2-4)		2 to 4	4.3	0.22 I	0.23 U	0.46 U	0.23 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.23 U	0.11 U	0.23 U	0.11 U	0.11 U	0.11 U	0.46 U	0.11 U	0.11 U	0.11 U
	SB-28 (5-7)		5 to 7	1.2	0.25 I	0.22 U	0.43 U	0.22 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.22 U	0.22 I	0.22 U	0.11 U	0.11 U	0.11 U	0.43 U	0.11 U	0.11 U	0.11 U
	SB-28 (8-10)		8 to 10	1.7	0.34 I	0.25 U	5.2	0.25 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.41 I	0.12 U	1.0	0.12 U	0.26 I	0.12 U	1.3 I	0.12 U	0.12 U	0.12 U

Notes:

1. Results and screening criteria are presented in micrograms per kilogram (µg/kg).
2. ft BLS indicates feet below land surface.
3. U indicates that the compound was analyzed for but not detected (the laboratory method detection limit (MDL) is shown).
4. I indicates the result is between the laboratory MDL and the practical quantitation limit.
5. V indicates the sample was detected in both sample and method blank.
6. Gray shaded, bold text indicates an exceedance of the Florida Department of Environmental Protection Provisional Leachability Soil Cleanup Target Level (SCTL).
7. "-" indicates no screening criteria.
8. PFAS indicates per- and polyfluoroalkyl substances.

Analyte	Acronym
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA
4:2 Fluorotelomer sulfonate	4:2 FTS
6:2 Fluorotelemer sulfonate	6:2 FTS
8:2 Fluorotelemer sulfonate	8:2 FTS
N-ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA
Perfluorobutanesulfonic acid	PFBS
Perfluorodecanesulfonic acid	PFDS
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDoA
Perfluoroheptanesulfonic acid	PFHpS
Perfluoroheptanoic acid	PFHpA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluorononanesulfonic acid	PFNS
Perfluorononanoic acid	PFNA
Perfluoropentanesulfonic acid	PFPeS
Perfluoropentanoic acid	PFPeA
Perfluorotetradecanoic acid	PFTeA
Perfluoroundecanoic acid	PFUnA

TABLE 4: WELL CONSTRUCTION DETAILS
Indian River State College

Well ID	Date Installed	Installation Method	Type	Top of Casing Elevation (ft NAVD 88)	Total Depth (ft BLS)	Screened Interval (ft BLS)	Well Diameter (inches)	Lithology of Screened Interval
DEPMW-1 (5-15')	2/12/2020	HSA	Permanent	12.77	15	5 - 15	2	Silty sand
DEPMW-2 (7-17')	2/13/2020			12.76				
DEPMW-3 (7-17')				12.08	17	7 - 17		
DEPMW-4 (7-17')	2/15/2020			13.87				
DEPMW-5 (5-15')	2/12/2020			11.83	15	5 - 15		
DEPMW-6 (7-17')				11.60				
DEPMW-7 (5-15')	2/13/2020			12.90	15	5 - 15		
DEPMW-8 (7-17')				13.45				17
DEPMW-9 (7-17')	2/12/2020			12.61	15	5 - 15		
DEPMW-10 (5-15')	2/13/2020			12.43				
DEPMW-11 (5-15')				11.06				
DEPMW-12 (5-15')				12.74				
DEPMW-13 (40-50')	3/3/2020	Sonic	Permanent	12.71	50	40 - 50	Sand, limestone	
DEPMW-14 (40-50')	3/4/2020			11.25				
DEPMW-15 (40-50')				13.99				
DEPMW-16 (40-50')	3/2/2020			11.54				
DEPMW-17 (40-50')	3/4/2020			13.47	48	38 - 48		
DEPMW-18 (38-48')	3/3/2020			12.52				
DEPMW-19 (40-50')	3/4/2020			12.84				
TMW-1 (5-20')	6/5/2019			DPT	Temporary	NM		20
TMW-2 (5-20')								

Notes:

1. ft indicates feet.
2. ft BLS indicates feet below land surface.
3. HSA indicates hollow stem auger.
4. DPT indicates direct push technology.
5. ft NAVD 88 indicates relative to ft North American Vertical Datum 1988.
6. NM indicates not measured.

TABLE 5: GROUNDWATER ELEVATION SUMMARY
Indian River State College

Well ID	DEPMW-1 (5-15')			DEPMW-2 (7-17')			DEPMW-3 (7-17')			DEPMW-4 (7-17')			DEPMW-5 (5-15')		
Diameter (inches)	2			2			2			2			2		
Total Depth (ft BTOC)	15			17			17			17			13		
Screen Interval (ft BTOC)	5-15			7-17			7-17			7-17			5-15		
TOC Elevation (ft NAVD)	12.77			12.76			12.08			13.87			11.83		

DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
3/9/2020	2.94	9.83	--	2.28	10.48	--	1.79	10.29	--	4.60	9.27	--	3.93	7.90	--

Well ID	DEPMW-6 (7-17')			DEPMW-7 (5-15')			DEPMW-8 (7-17')			DEPMW-9 (7-17')			DEPMW-10 (5-15')		
Diameter (inches)	2			2			2			2			2		
Total Depth (ft BTOC)	13			13			13			60.0			120.0		
Screen Interval (ft BTOC)	7-17			5-15			7-17			7-17			5-15		
TOC Elevation (ft NAVD)	11.60			12.90			13.45			12.61			12.43		

DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
3/9/2020	4.10	7.50	--	3.83	9.07	--	1.99	11.46	--	4.62	7.99	--	4.49	7.94	--

Well ID	DEPMW-11 (5-15')			DEPMW-12 (5-15')			DEPMW-13 (40-50')			DEPMW-14 (40-50')			DEPMW-15 (40-50')		
Diameter (inches)	2			2			2			2			2		
Total Depth (ft BTOC)	13			13			60.0			120.0			55.0		
Screen Interval (ft BTOC)	5-15			5-15			40-50			40-50			40-50		
TOC Elevation (ft NAVD)	11.06			12.74			12.71			11.25			13.99		

DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
3/9/2020	4.17	6.89	--	3.54	9.20	--	3.66	9.05	--	2.97	8.28	--	4.50	9.49	--

Well ID	DEPMW-16 (40-50')			DEPMW-17 (40-50')			DEPMW-18 (40-50')			DEPMW-19 (40-50')		
Diameter (inches)	2			2			2			2		
Total Depth (ft BTOC)	13			13			60.0			120.0		
Screen Interval (ft BTOC)	40-50			40-50			40-50			40-50		
TOC Elevation (ft NAVD)	11.54			13.47			12.52			12.84		

DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
3/9/2020	3.96	7.10	--	3.02	9.72	--	4.61	8.10	--	2.47	8.78	--

Notes:

1. DTW indicates depth to groundwater measured in feet below top of casing (ft BTOC).
2. ELEV indicates groundwater elevation in feet relative to feet North American Vertical Datum 1988 (ft NAVD 88).
3. ft BLS indicates feet below land surface.
4. Top of casing (TOC) elevations are relative to ft NAVD 88.

TABLE 6: GROUNDWATER ANALYTICAL RESULTS FOR PFAS COMPOUNDS
Indian River State College

Sample Location	Field Sample ID	Sample Date	Sample Interval	Concentration (ng/L)																						
				PFOS	PFOA	PFOA + PFOS	4:2 FTS	6:2 FTS	8:2 FTS	NEtFOSAA	NMeFOSAA	PFBS	PFDS	PFDA	PFDoA	PFHpS	PFHpA	PFHxS	PFHxA	PFNS	PFNA	PFPeS	PFPeA	PFTeA	PFTriA	PFUnA
Provisional GCTL				70	70	70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
DEPMW-1	DEPMW-1 (5-15')	3/3/2020	5-15	760	74	834	2.0 U	26	2.0 U	0.40 U	0.40 U	21	0.40 U	2.2 I	1.0 U	17	150 J	240	120	0.40 U	43	26	330	0.40 U	0.40 UJ	1.0 U
	DUP			890	74	964	2.0 U	27	2.0 U	0.40 U	0.40 U	22	0.40 U	2.9 I	1.0 U	16	160 J	230	130	0.40 U	48	27	340	0.40 U	0.40 UJ	1.0 U
DEPMW-2	DEPMW-2 (7-17')	3/3/2020	7-17	500	34	534	2.0 U	26	2.0 U	0.40 U	0.40 U	41	0.40 U	1.0 U	1.0 U	8.3	97 J	170	460	0.40 U	15	29	620	0.40 U	0.40 UJ	1.0 U
DEPMW-3	DEPMW-3 (7-17')	3/3/2020	7-17	11,000	1,900	12,900	9.4	20,000	200 U	0.40 U	0.40 U	770	0.40 U	2.2 I	1.0 U	620	4,000	11,000	9,300	0.40 U	230	1,500	10,000	0.40 U	0.40 U	1.1 I
DEPMW-4	DEPMW-4 (7-17')	3/5/2020	7-17	420	18	438	2.0 U	4.0 U	2.0 U	0.40 U	0.40 U	3.4	0.40 U	1.0 U	1.0 U	4.3	18	15	12	0.40 U	1.3 I	2.7	10 I	0.40 U	0.40 U	1.0 U
DEPMW-5	DEPMW-5 (5-15')	3/4/2020	5-15	1,700	430	2,130	2.0 U	1,300	2.0 U	0.40 U	0.40 U	140	0.40 U	24	1.0 U	51 I	860	4,400	1,200	0.40 U	62	300	1,500	0.40 U	0.40 U	1.0 U
	DUP			1,400	390 I	1,790 I	2.0 U	1,300	79	0.40 U	0.40 U	160	0.40 U	22	1.0 U	60 I	960	5,100	1,200	0.40 U	56	340	1,500	0.40 U	0.40 U	1.0 U
DEPMW-6	DEPMW-6 (7-17')	3/4/2020	7-17	4,100	450	4,550	2.9 I	3,900	2.0 U	0.40 U	0.40 U	280	0.40 U	1.0 U	1.0 U	60	1,800	2,800	3,600	0.40 U	95	690	3,900	0.40 U	0.40 U	1.0 U
DEPMW-7	DEPMW-7 (5-15')	3/4/2020	5-15	380	420	800	2.4 I	5,900	2.0 U	0.40 U	0.40 U	92	0.40 U	1.0 U	1.0 U	12	1,500	240	4,200	0.40 U	58	26	5,600	0.40 U	0.40 U	1.1 I
DEPMW-8	DEPMW-8 (7-17')	3/3/2020	7-17	190	12	202	2.0 U	4.0 U	2.0 U	0.40 U	0.40 U	5.0	0.40 U	1.0 U	1.0 U	1.7	6.5 I	8.9	6.5 I	0.40 U	1.0 U	2.3	9.0 I	0.40 U	0.40 U	1.0 U
DEPMW-9	DEPMW-9 (7-17')	3/4/2020	7-17	540	110	650	2.0 U	26	2.5 I	0.40 U	0.40 U	34	0.40 U	1.0 U	1.0 U	13	330	380	210	0.40 U	14	50	180	0.40 U	0.58 I	1.0 U
DEPMW-10	DEPMW-10 (5-15')	3/3/2020	5-15	710	15	725	2.0 U	4.0 U	2.0 U	0.40 U	0.40 U	38	0.40 U	1.0 U	1.0 U	3.4	59	67	46	0.40 U	1.7 I	6.6	54	0.40 U	0.40 U	1.0 U
DEPMW-11	DEPMW-11 (5-15')	3/4/2020	5-15	410	26	436	2.0 U	4.0 U	2.0 U	0.40 U	0.40 U	15	0.40 U	1.0 U	1.0 U	17	20	7.5 I	0.40 U	1.0 U	6.5	10 I	0.40 U	0.40 U	1.0 U	
DEPMW-12	DEPMW-12 (5-15')	3/3/2020	5-15	23	3.8 I	26.8 I	2.0 U	4.0 U	2.0 U	0.40 U	0.40 U	5.5	0.40 U	1.0 U	1.0 U	0.47 I	2.3 I	7.1	2.0 U	0.40 U	1.0 U	0.66 I	4.0 U	0.40 U	0.40 U	1.0 I
DEPMW-13	DEPMW-13 (40-50')	3/9/2020	40-50	4.6 I	4.9	9.5 I	2.0 U	4.0 UJ	2.0 U	0.40 U	0.40 U	3.8	0.40 U	1.0 U	1.0 U	0.54 I	2.0 U	9.0	2.0 U	0.40 U	1.0 U	4.8	4.0 U	0.40 U	0.40 U	1.0 UJ
DEPMW-14	DEPMW-14 (40-50')	3/9/2020	40-50	2.0 U	1.1 I	2.1 U	2.0 U	4.0 UJ	2.0 U	0.40 U	0.40 U	0.40 U	0.40 U	1.0 U	1.0 U	0.40 U	2.0 U	0.93 I	2.0 U	0.40 U	1.0 U	0.40 U	4.0 U	0.40 U	0.40 U	1.0 UJ
DEPMW-15	DEPMW-15 (40-50')	3/10/2020	40-50	56	24	80	2.0 U	4.0 UJ	2.0 U	0.40 U	0.40 U	8.7	0.40 U	1.0 U	1.0 U	2.8	6.0 I	25	3.6 I	0.40 U	1.0 U	9.5	4.0 U	0.40 U	0.40 U	1.0 UJ
DEPMW-16	DEPMW-16 (40-50')	3/10/2020	40-50	75	17	92	2.0 U	4.8 IJ	2.0 U	0.40 U	0.40 U	3.1	0.40 U	1.0 U	1.0 U	2.2	5.5 I	13	2.4 I	0.40 U	1.0 U	3.1	4.0 U	0.40 U	0.40 U	1.0 UJ
DEPMW-17	DEPMW-17 (40-50')	3/9/2020	40-50	54	8.7	62.7	2.0 U	4.0 U	2.0 U	0.40 U	0.40 U	5.3	0.40 U	1.0 U	1.0 U	3.1	3.1 I	17	2.0 U	0.40 U	1.0 U	6.4	4.0 U	0.40 U	0.40 U	1.0 I
DEPMW-18	DEPMW-18 (38-48')	3/10/2020	38-48	72	23	95	2.0 U	4.0 UJ	2.0 U	0.40 U	0.40 U	3.6	0.40 U	1.0 U	1.0 U	2.1	2.8 I	8.2	2.0 U	0.40 U	1.0 U	2.2	4.0 U	0.40 U	0.40 U	1.0 UJ
	DUP			61	28	89	2.0 U	4.0 UJ	2.0 U	0.40 U	0.40 U	3.2	0.40 U	1.0 U	1.0 U	1.9	3.8 I	8.6	2.0 U	0.40 U	1.0 U	2.5	4.0 U	0.40 U	0.40 U	1.0 UJ
DEPMW-19	DEPMW-19 (40-50')	3/9/2020	40-50	54	11	65	2.0 U	4.0 U	2.0 U	0.40 U	0.40 U	4.0	0.40 U	1.0 U	1.0 U	2.7	2.5 I	13	2.0 U	0.40 U	1.0 U	5.6	4.0 U	0.40 U	0.40 U	1.0 I
TMW-1	TMW-1 (5-20')	6/5/2019	5-20	3,900	560	4,460	NA	NA	NA	NA	NA	310	0.50 U	0.29 U	0.51 U	120	860	2,300	2,600	NA	240	NA	3,300	0.27 U	1.2 U	1.0 U
TMW-2	TMW-2 (5-20')	6/5/2019	5-20	760	130	890	NA	NA	NA	NA	NA	48	0.29 U	0.37 I	0.50 U	23	240	560	260	NA	27	NA	300	0.26 U	1.2 U	1.0 U

Notes:

- Results and screening criteria are presented in nanograms per liter (ng/L).
- PFOA + PFOS indicates the summation of PFOA and PFOS concentrations.
- Blue shaded, bold text indicates an exceedance of the Florida Department of Environmental Protection Provisional Groundwater Cleanup Target Level (GCTL).
- indicates no applicable cleanup target level.
- U indicates material was analyzed for but not detected. The reported value is the method detection limit (MDL) for the sample analyzed.
- I indicates the reported value is between the laboratory MDL and the laboratory practical quantitation limit.
- J indicates estimated value and/or the analysis did not meet the quality control criteria.
- PFAS indicates per- and polyfluoroalkyl substances.

Analyte	Acronym
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA
4:2 Fluorotelomer sulfonate	4:2 FTS
6:2 Fluorotelomer sulfonate	6:2 FTS
8:2 Fluorotelomer sulfonate	8:2 FTS
N-ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA
Perfluorobutanesulfonic acid	PFBS
Perfluorodecane sulfonic acid	PFDS
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDoA
Perfluoroheptanesulfonic acid	PFHpS
Perfluoroheptanoic acid	PFHpA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluorononanesulfonic acid	PFNS
Perfluorononanoic acid	PFNA
Perfluoropentanesulfonic acid	PFPeS
Perfluoropentanoic acid	PFPeA
Perfluorotetradecanoic acid	PFTeA
Perfluorotridecanoic acid	PFTriA
Perfluoroundecanoic acid	PFUnA

TABLE 7: SURFACE WATER ANALYTICAL RESULTS FOR PFAS COMPOUNDS
Indian River State College

Sample Location	Field Sample ID	Sample Date	Concentration (ng/L)																						
			PFOS	PFOA	PFOA + PFOS	4:2 FTS	6:2 FTS	8:2 FTS	NEtFOSAA	NMeFOSAA	PFBS	PFDS	PFDA	PFDoA	PFHpS	PFHpA	PFHxS	PFHxA	PFNS	PFNA	PFPeS	PFPeA	PFTeA	PFTriA	PFUnA
SW-1	SW-1	6/5/2019	230	160	390	NA	NA	NA	NA	NA	52	0.36 I	63	1.8	10	470	450	590	NA	83	NA	840	0.27 U	1.2 U	15
SW-2	SW-2	6/5/2019	69	57	126	NA	NA	NA	NA	NA	7.1	0.30 U	4.8	0.51 U	2.2	79	71	79	NA	18	NA	110	0.27 U	1.2 U	1.2 I
SW-3	SW-3	6/5/2019	21	4.1	25.1	NA	NA	NA	NA	NA	7.4	0.30 U	0.29 U	0.51 U	0.64 I	4.9	21	11	NA	1.1 I	NA	12	0.27 U	1.2 U	1.0 U
	DUP-1	6/5/2019	22	4.5	26.5	NA	NA	NA	NA	NA	5.6	0.30 U	0.29 U	0.51 U	0.74 I	4.6	14	10	NA	1.1 I	NA	12	0.27 U	1.2 U	1.0 U
SW-4	SW-4	2/11/2020	78	72	150	2.8 U	17 I	7.2 I	0.56 U	0.56 U	8.2	0.56 U	10	1.4 U	2.4	68	87	47	0.56 U	29	7.5	130	0.56 U	0.56 U	2.1 I
SW-5	SW-5	2/11/2020	88	70	158	2.3 U	6.3 I	2.5 I	0.45 U	0.45 U	6.2	0.45 U	3.4 I	1.1 U	2.3	59	74	44	0.45 U	15	5.1	100	0.45 U	0.45 U	1.1 U
SW-6	SW-6	2/13/2020	33	61	94	2.1 U	67	67	0.42 U	0.42 U	21	0.42 U	15	1.4 I	0.69 I	76	14	100	0.42 U	44	1.0 I	170	0.42 U	0.42 U	3.2 I

Notes:

1. Results are presented in nanograms per liter (ng/L).
2. Surface water screening levels are under development.
3. PFOA + PFOS indicates the summation of PFOA and PFOS concentrations.
4. U indicates material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
5. I indicates result is between the laboratory method detection limit and the laboratory practical quantitation limit.
6. PFAS indicates per- and polyfluoroalkyl substances.

Analyte	Acronym
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA
4:2 Fluorotelomer sulfonate	4:2 FTS
6:2 Fluorotelomer sulfonate	6:2 FTS
8:2 Fluorotelomer sulfonate	8:2 FTS
N-ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA
Perfluorobutanesulfonic acid	PFBS
Perfluorodecanesulfonic acid	PFDS
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDoA
Perfluoroheptanesulfonic acid	PFHpS
Perfluoroheptanoic acid	PFHpA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluorononanesulfonic acid	PFNS
Perfluorononanoic acid	PFNA
Perfluoropentanesulfonic acid	PFPeS
Perfluoropentanoic acid	PFPeA
Perfluorotetradecanoic acid	PFTeA
Perfluorotridecanoic acid	PFTriA
Perfluoroundecanoic acid	PFUnA

TABLE 8: SEDIMENT ANALYTICAL RESULTS FOR PFAS COMPOUNDS
Indian River State College

Sample Location	Field Sample ID	Sample Date	Sample Interval (ft BLS)	Concentration (µg/Kg)																					
				PFOS	PFOA	4:2 FTS	6:2 FTS	8:2 FTS	NEtFOSAA	NMeFOSAA	PFBS	PFDS	PFDA	PFDoA	PFHpS	PFHpA	PFHxS	PFHxA	PFNS	PFNA	PFPeS	PFPeA	PFTeA	PFTriA	PFUnA
Sed-1	SED-1(0-1')	6/5/2019	0 to 1	2.0	0.13 I	NA	NA	NA	NA	NA	0.041 I	0.053 I	0.40	0.12 I	0.045 U	0.11 I	0.16 I	0.16 I	NA	0.13 I	NA	0.26	0.069 U	0.065 U	0.87
Sed-2	SED-2(0-1')	6/5/2019	0 to 1	11	1.4	NA	NA	NA	NA	NA	0.051 I	0.42	3.3	2.1	0.15 I	1.4	1.3	1.6	NA	1.3	NA	2.5	0.42	0.37 I	3.8
Sed-3	SED-3(0-1')	6/5/2019	0 to 1	1.1	0.11 I	NA	NA	NA	NA	NA	0.031 U	0.048 U	0.31	0.083 U	0.043 U	0.16 I	0.17 I	0.24 I	NA	0.068 I	NA	0.30	0.067 U	0.063 U	0.056 I
Sed-4	Sed-4 (0-1)	2/11/2020	0 to 1	5.2	0.24 I	0.28 U	0.56 U	0.28 U	0.14 U	0.14 U	0.14 U	0.14 U	0.42 I	0.14 U	0.14 U	0.28 U	0.29 I	0.28 U	0.14 U	0.39 I	0.14 U	0.56 U	0.14 U	0.14 U	0.30 I
Sed-5	Sed-5 (0-1)	2/11/2020	0 to 1	2.6	0.14 U	0.29 U	0.58 U	0.29 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.29 U	0.18 I	0.29 U	0.14 U	0.17 I	0.14 U	0.58 U	0.14 U	0.14 U	0.14 U
Sed-6	Sed-6	2/11/2020	0 to 1	4.4	1.5	0.40 I	3.2	0.33 I	0.41 I	0.57 I	0.48 I	0.15 U	3.6	2.2	0.15 U	2.2	0.47 I	3.6	0.19 I	1.5	0.15 U	15	0.15 U	0.15 U	2.4
Sed-7	Sed-7 (0-1)	2/13/2020	0 to 1	1.5	0.71	0.29 U	0.57 U	0.35 I	0.14 U	0.14 U	0.14 U	0.14 U	0.51 U	0.27 I	0.14 U	0.43 I	0.14 U	0.40 I	0.14 U	0.32 I	0.14 U	0.88 I	0.14 U	0.14 U	0.23 I

Notes:

1. Results are presented in micrograms per kilogram (µg/Kg).
2. Sample depths are presented in feet below land surface (ft BLS).
3. U indicates material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
4. I indicates result is between the laboratory method detection limit and the laboratory practical quantitation limit.
5. V indicates the sample was detected in both sample and method blank.
6. Sed indicates sediment.
7. PFAS indicates per- and polyfluoroalkyl substances.

Analyte	Acronym
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanoic acid	PFOA
4:2 Fluorotelomer sulfonate	4:2 FTS
6:2 Fluorotelomer sulfonate	6:2 FTS
8:2 Fluorotelomer sulfonate	8:2 FTS
N-ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA
Perfluorobutanesulfonic acid	PFBS
Perfluorodecanesulfonic acid	PFDS
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDoA
Perfluoroheptanesulfonic acid	PFHpS
Perfluoroheptanoic acid	PFHpA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluorononanoic acid	PFNA
Perfluoropentanesulfonic acid	PFPeS
Perfluoropentanoic acid	PFPeA
Perfluorotetradecanoic acid	PFTeA
Perfluorotridecanoic acid	PFTriA
Perfluoroundecanoic acid	PFUnA

TABLE 9: FIREFIGHTING FOAM ANALYTICAL RESULTS FOR PFAS COMPOUNDS

Indian River State College

Sample Location	Field Sample ID	Sample Date	PFOS	PFOA	NEtFOSAA	NMeFOSAA	PFBS	PFDA	PFDoA	PFHpA	PFHxS	PFHxA	PFNA	PFTeA	PFTriA	PFUnA
Centurion	CENTURION	6/5/2019	48 U	24 UJ	24 UJ	24 U	24 U	24 UJ	24 U	24 U	24 U	440	24 UJ	24 UJ	24 UJ	24 UJ
Fireade	FIREADE	6/5/2019	48 U	24 U	24 UJ	24 U	24 U	24 U	24 U	24 U	24 U	440	24 U	24 U	24 U	24 U
Training Foam	TRAINING FOAM	6/5/2019	50 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U

Notes:

1. Results are presented in micrograms per kilogram (µg/Kg).
2. U indicates material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
3. J indicates estimated value and/or the analysis did not meet the quality control criteria.
4. PFAS indicates per- and polyfluoroalkyl substances.

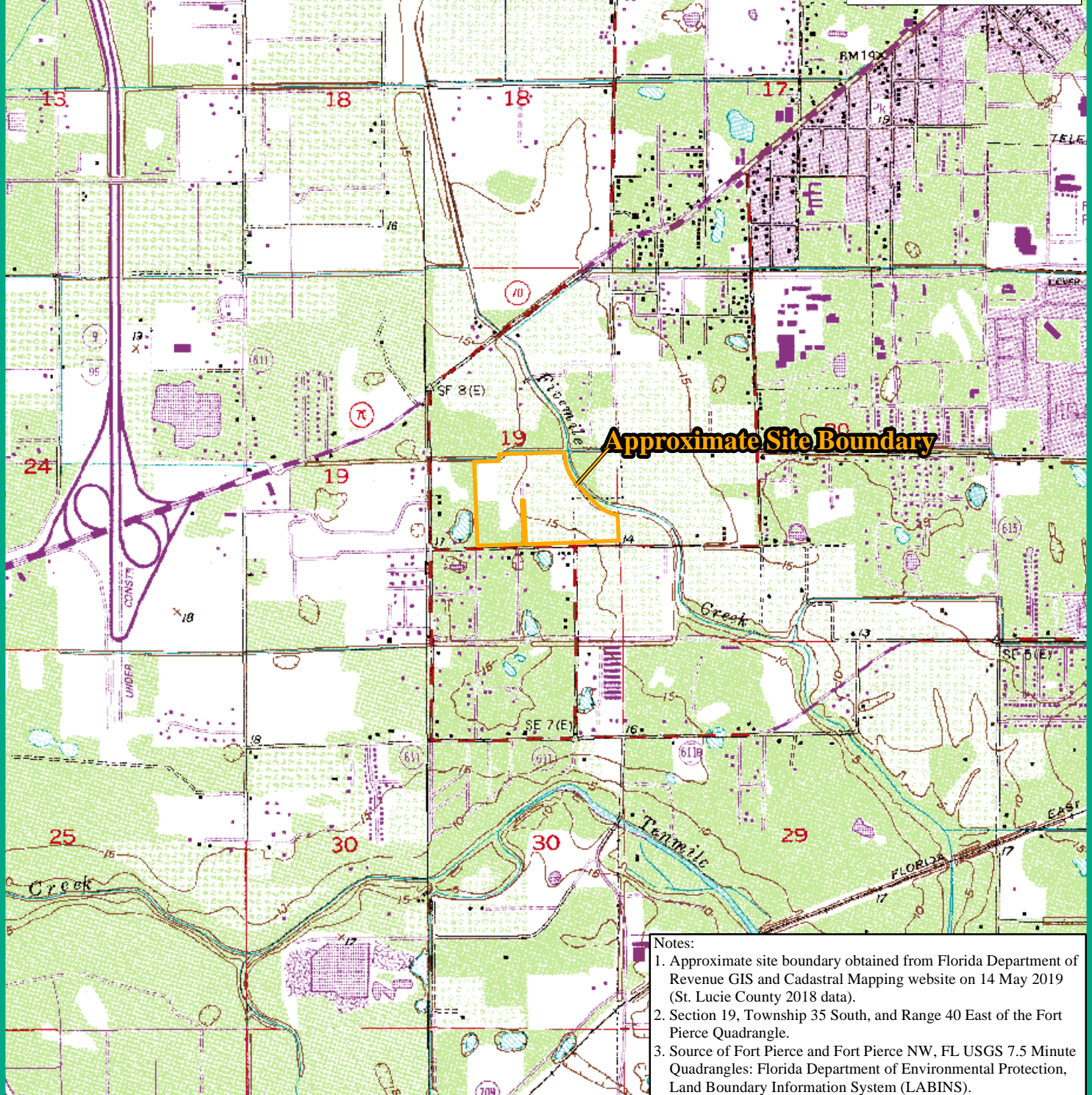
Analyte	Acronym
Perfluorooctanesulfonic acid	PFOS
Perfluorooctanic acid	PFOA
N-ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA
Perfluorobutanesulfonic acid	PFBS
Perfluorodecanoic acid	PFDA
Perfluorododecanoic acid	PFDoA
Perfluoroheptanoic acid	PFHpA
Perfluorohexanesulfonic acid	PFHxS
Perfluorohexanoic acid	PFHxA
Perfluorononanoic acid	PFNA
Perfluorotetradecanoic acid	PFTeA
Perfluorotridecanoic acid	PFTriA
Perfluoroundecanoic acid	PFUnA

FIGURES



Fort Pierce NW, FLA
 27080-D4-TF-024
 1949
 Photorevised 1983
 DMA 4938 IV NW - Series V847

Fort Pierce, FLA
 27080-D3-TF-024
 1949
 Photorevised 1983
 DMA 4938 IV NW - Series V847



- Notes:
1. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
 2. Section 19, Township 35 South, and Range 40 East of the Fort Pierce Quadrangle.
 3. Source of Fort Pierce and Fort Pierce NW, FL USGS 7.5 Minute Quadrangles: Florida Department of Environmental Protection, Land Boundary Information System (LABINS).

Figure 1
USGS Site Topographic Map
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County,
Florida



2,000
 Feet



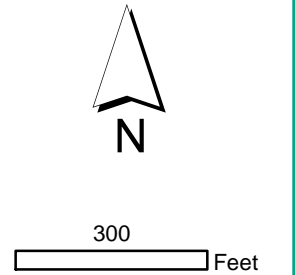
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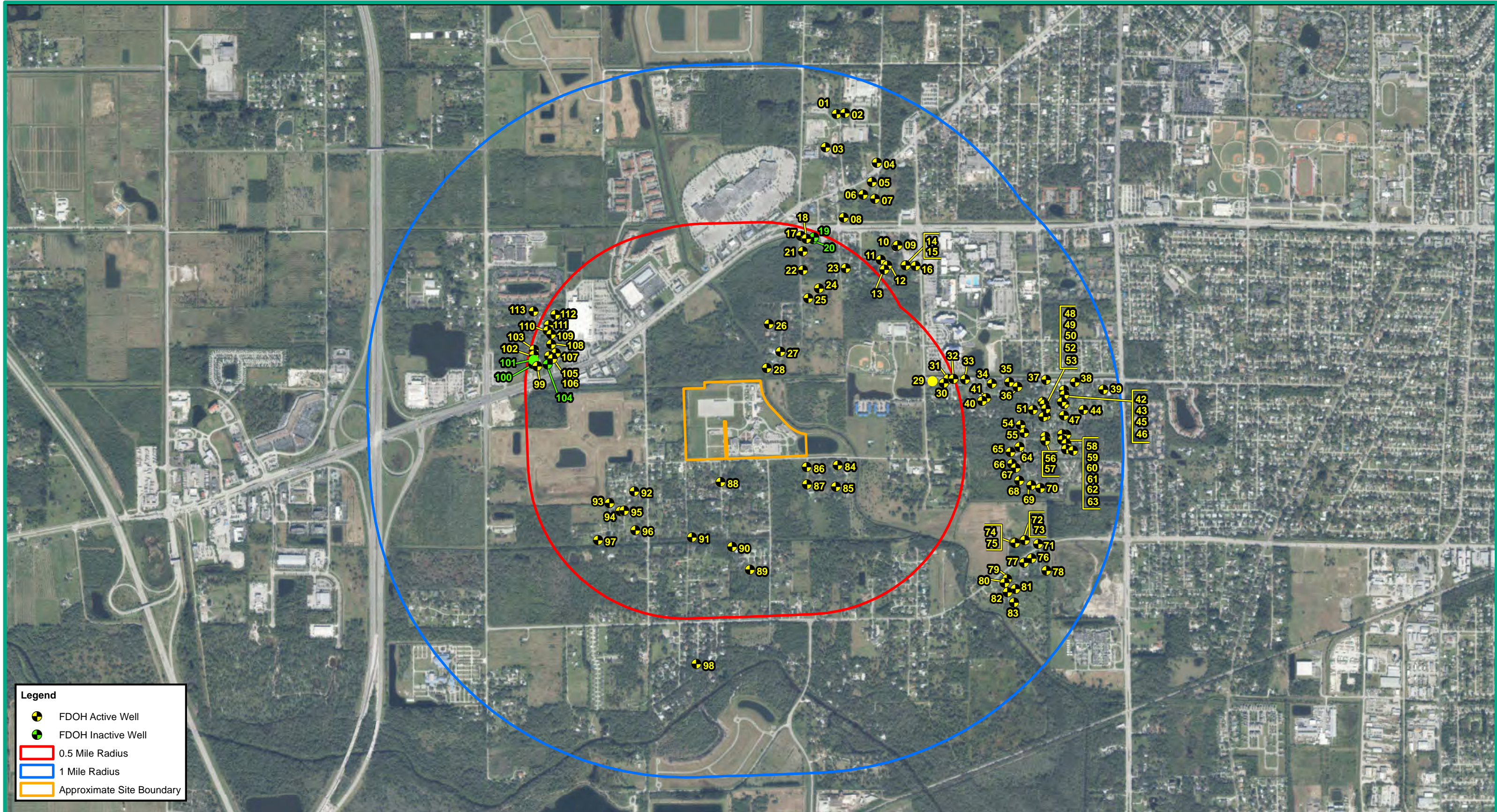


Figure 2
Site Vicinity Map
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:
1. AFFF indicates aqueous film forming foam.
2. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
3. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

Date: May 14, 2020





Legend






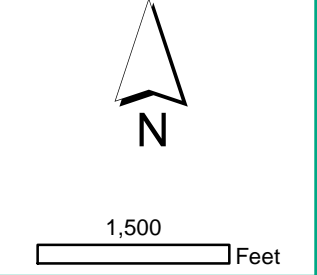
-  FDOH Active Well
-  FDOH Inactive Well
-  0.5 Mile Radius
-  1 Mile Radius
-  Approximate Site Boundary

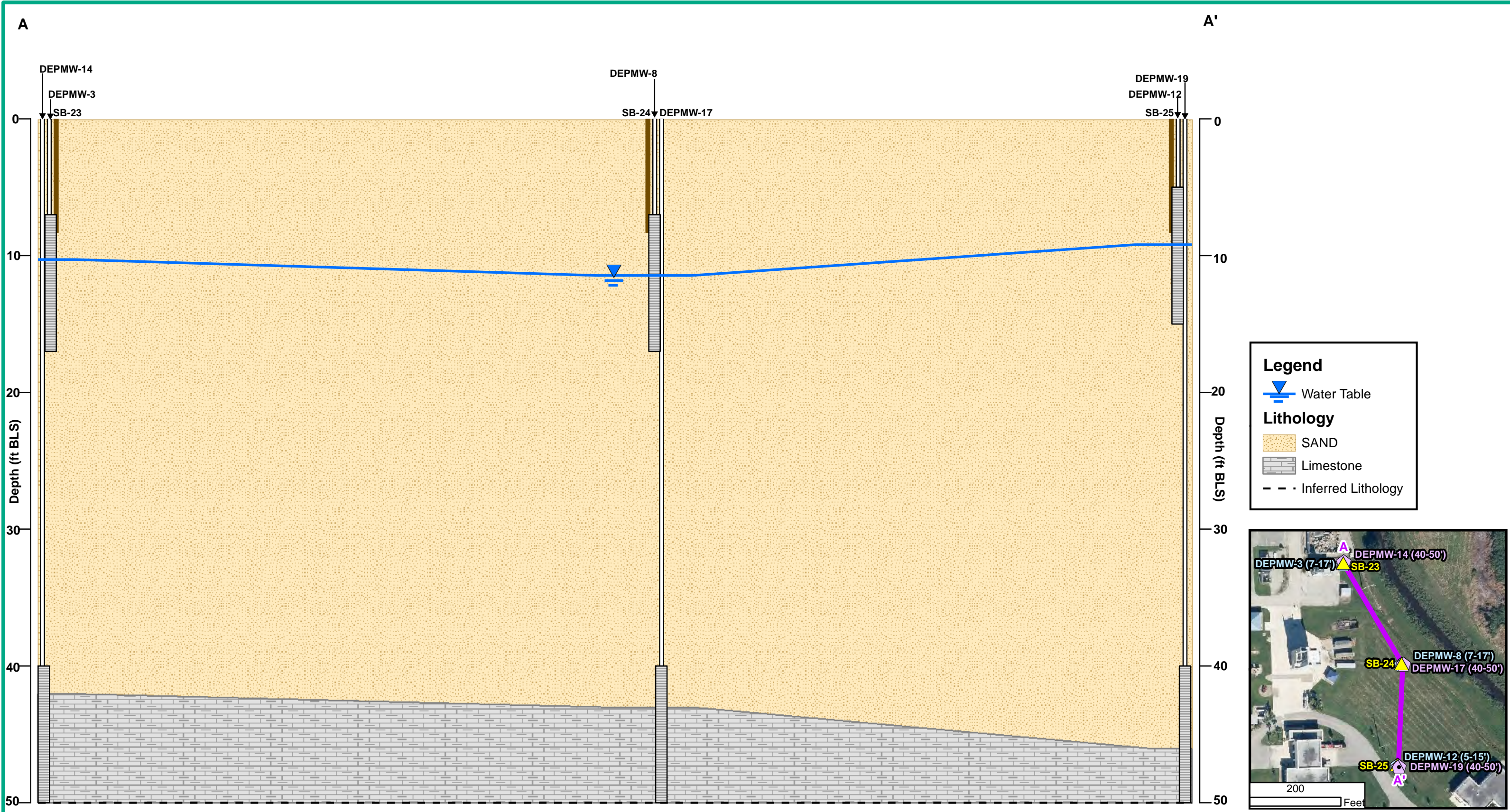
Figure 3
Water Wells within a 1-mile Radius
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Source of Florida Department of Health (FDOH) wells: well surveillance program data download dated 13 April 2020.
2. Active indicates the well is used on a regular basis or will be used within a reasonable period of time (2-3 months).
 Inactive indicates the well has not been regularly used within the past 6-12 months but is maintained in such a state that it could be used.
3. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
4. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

Date: May 14, 2020



Legend

Water Table

Lithology

SAND

Limestone

Inferred Lithology

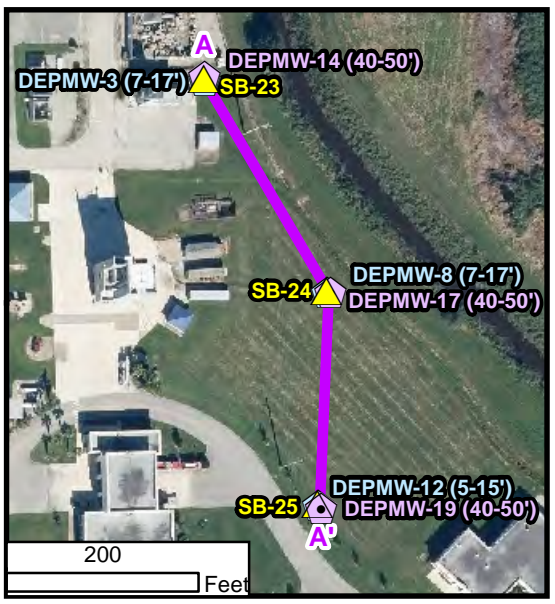
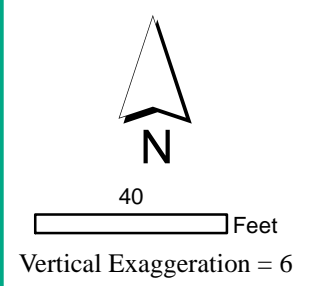
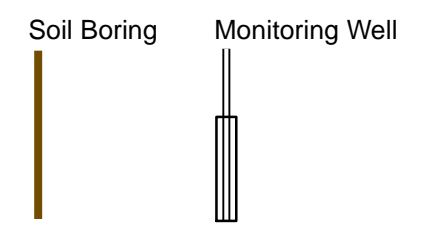
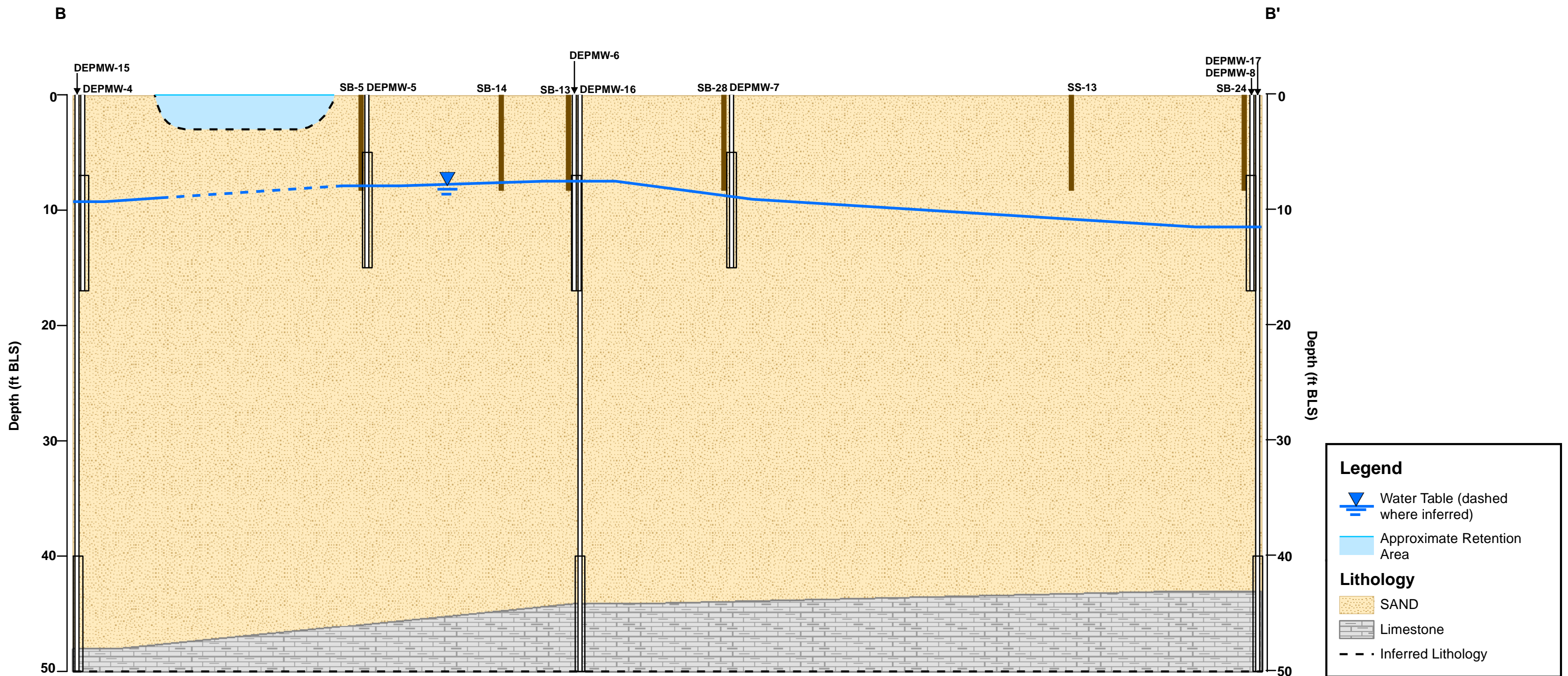


Figure 4
Cross Section A-A'
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:
 1. ft BLS indicates feet below land surface.
 2. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website

Date: May 14, 2020





Legend

- Water Table (dashed where inferred)
- Approximate Retention Area

Lithology

- SAND
- Limestone
- Inferred Lithology

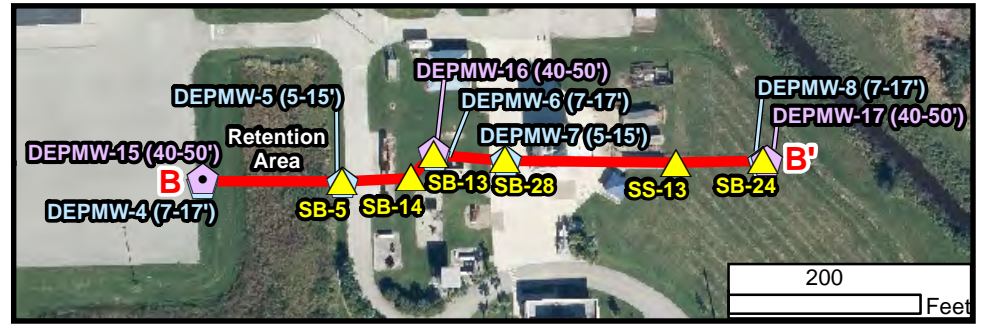
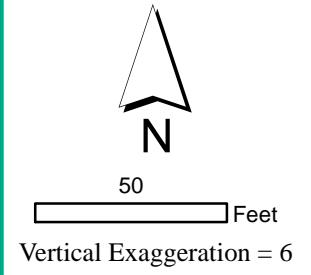
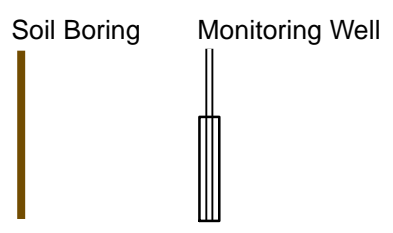


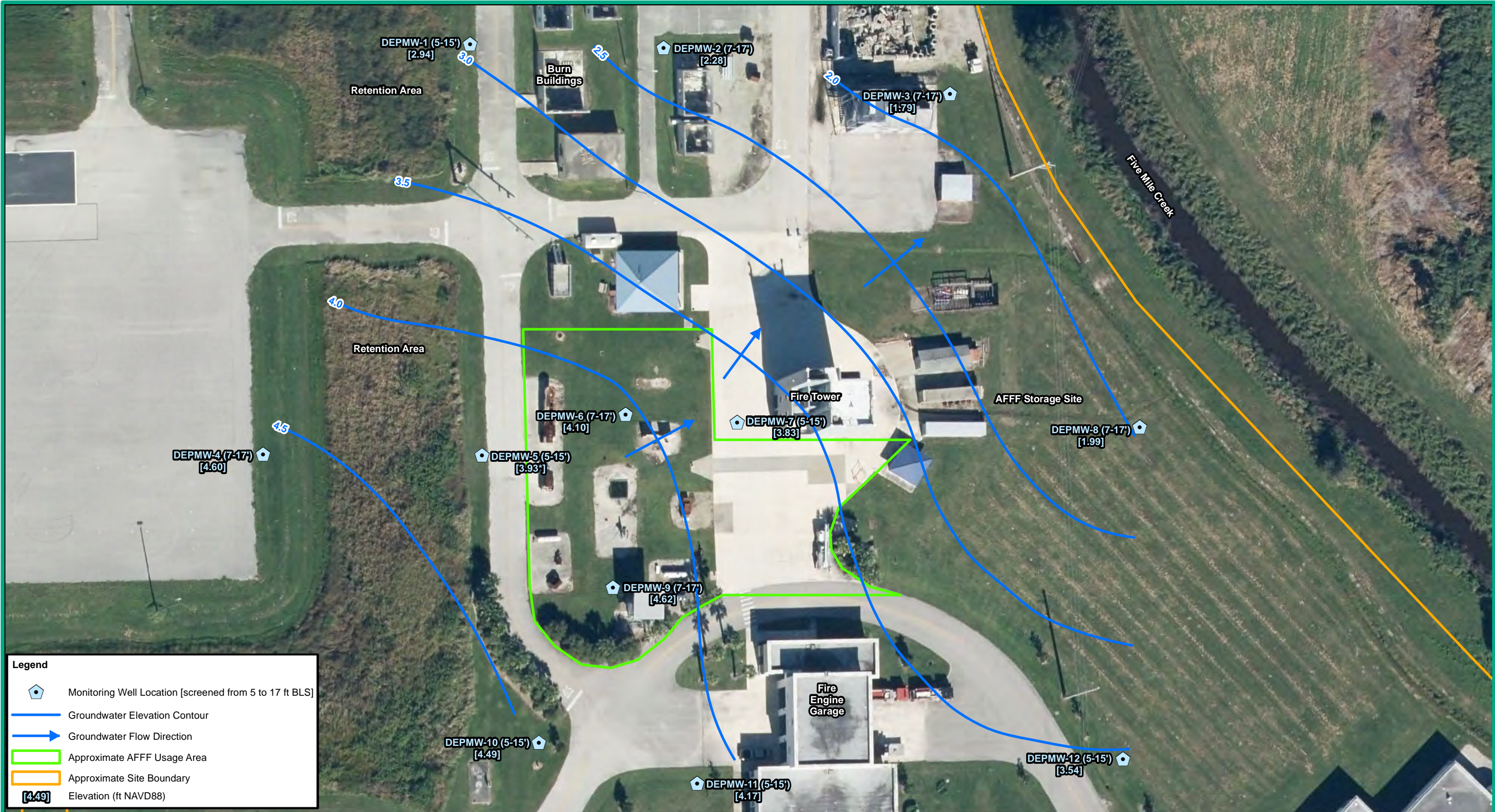
Figure 5
Cross Section B-B'
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. ft BLS indicates feet below land surface.
2. The depth and width of the retention area are approximate.
3. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website

Date: May 14, 2020







Legend

- Monitoring Well Location [screened from 38 to 50 ft BLS]
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Approximate AFFF Usage Area
- Approximate Site Boundary
- Elevation (ft NAVD88)

Figure 7
Groundwater Elevation Contour Map
from 38 to 50 ft BLS
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

- Notes:**
1. NAVD88 indicates North American Vertical Datum 1988.
 2. ft BLS indicates feet below land surface.
 3. Depth-to-water measurements were collected on 9 March 2020.
 4. AFFF indicates aqueous film forming foam.
 5. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
 6. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.



Date: May 14, 2020

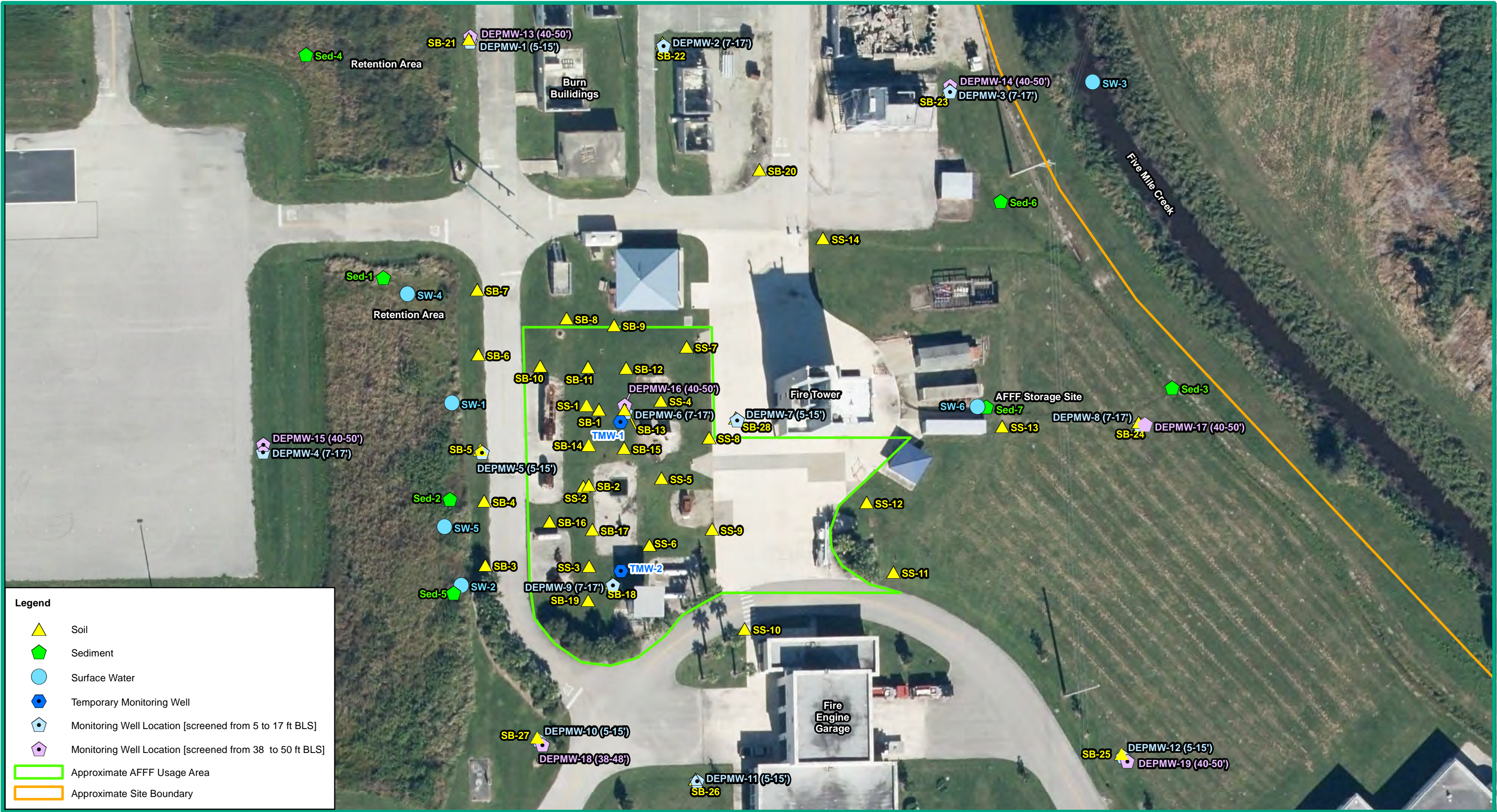
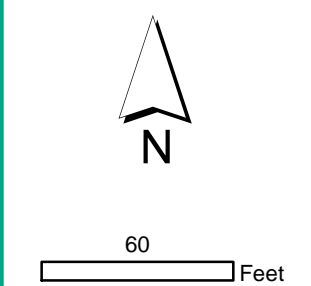


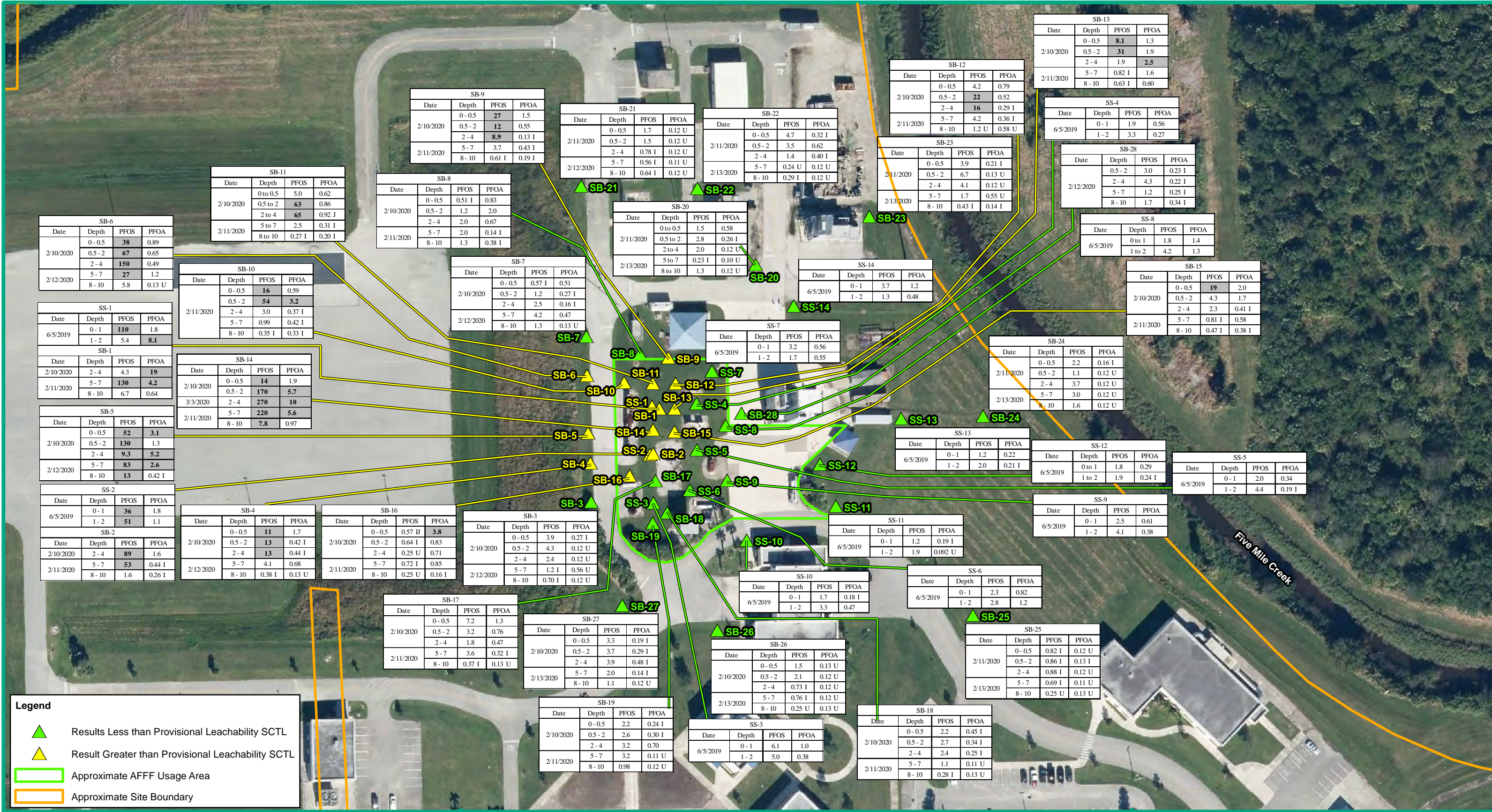
Figure 8
Sampling Locations
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

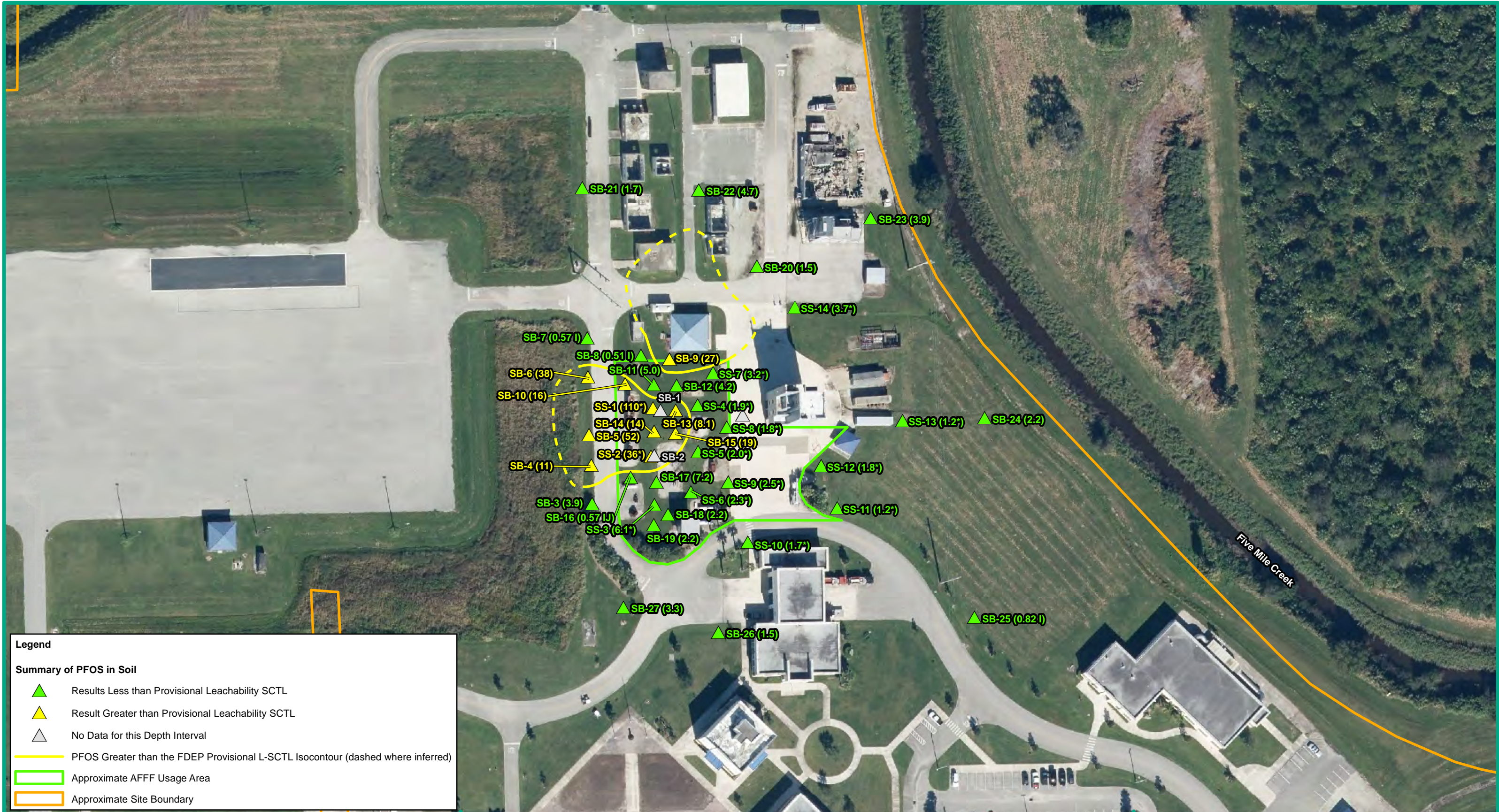
Notes:

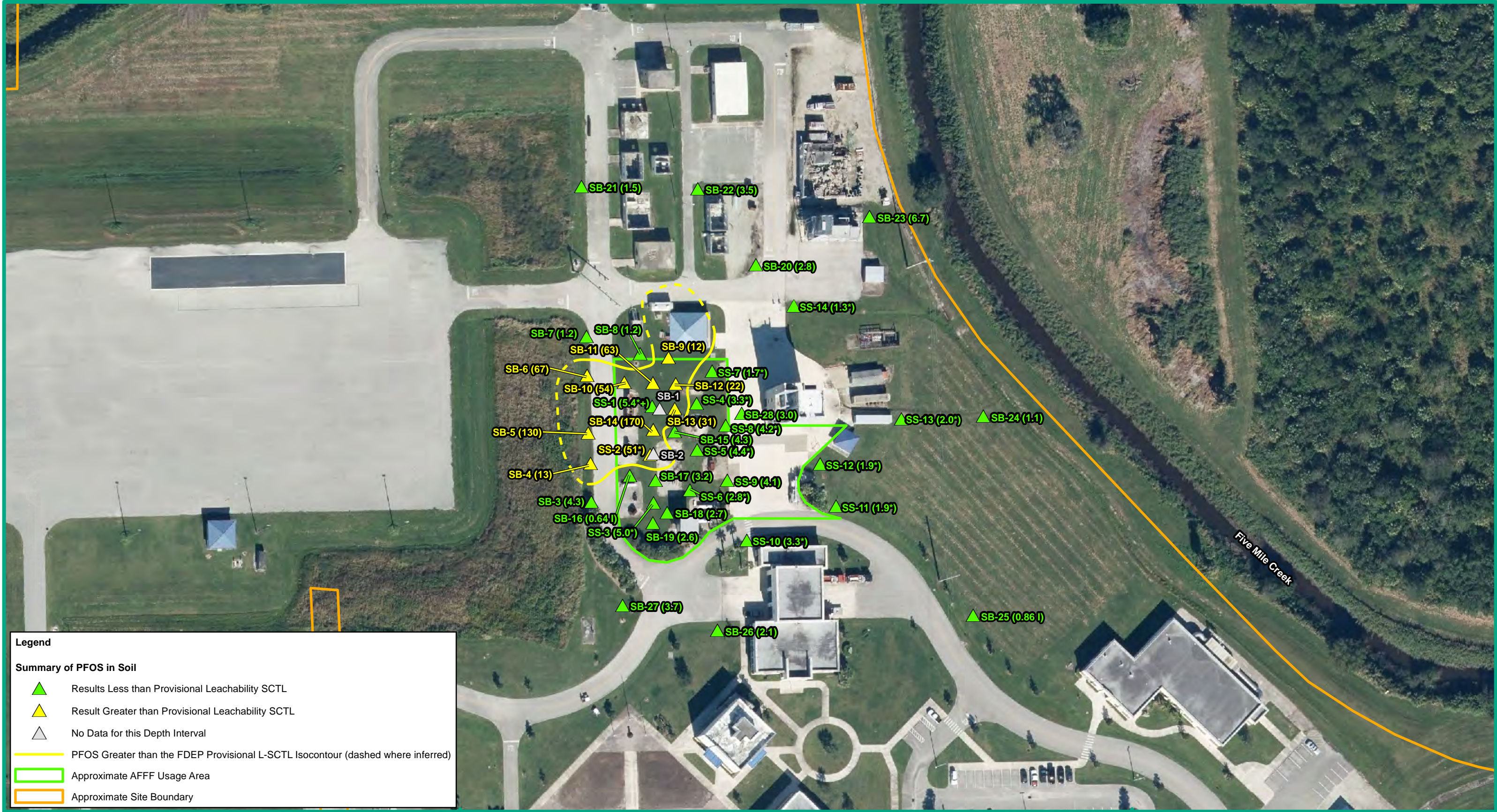
1. AFFF indicates aqueous film forming foam.
2. ft BLS indicates feet below land surface.
3. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
4. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.



Date: May 14, 2020







Legend

Summary of PFOS in Soil

- ▲ Results Less than Provisional Leachability SCTL
- ▲ Result Greater than Provisional Leachability SCTL
- ▲ No Data for this Depth Interval
- PFOS Greater than the FDEP Provisional L-SCTL Isocontour (dashed where inferred)
- Approximate AFFF Usage Area
- Approximate Site Boundary

Figure 11
PFOS Results in Soil from 0.5 to 2 ft BLS
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Results and screening criteria are presented in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
2. I indicates result is between the laboratory method detection limit (MDL) and the laboratory practical quantitation limit.
3. * indicates location was collected during 2019 preliminary assessment activities from 1 to 2 feet (ft) below land surface (BLS).
4. + indicates not used to generate contour.
5. SCTL indicates soil cleanup target level.
6. AFFF indicates aqueous film forming foam.
7. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
8. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

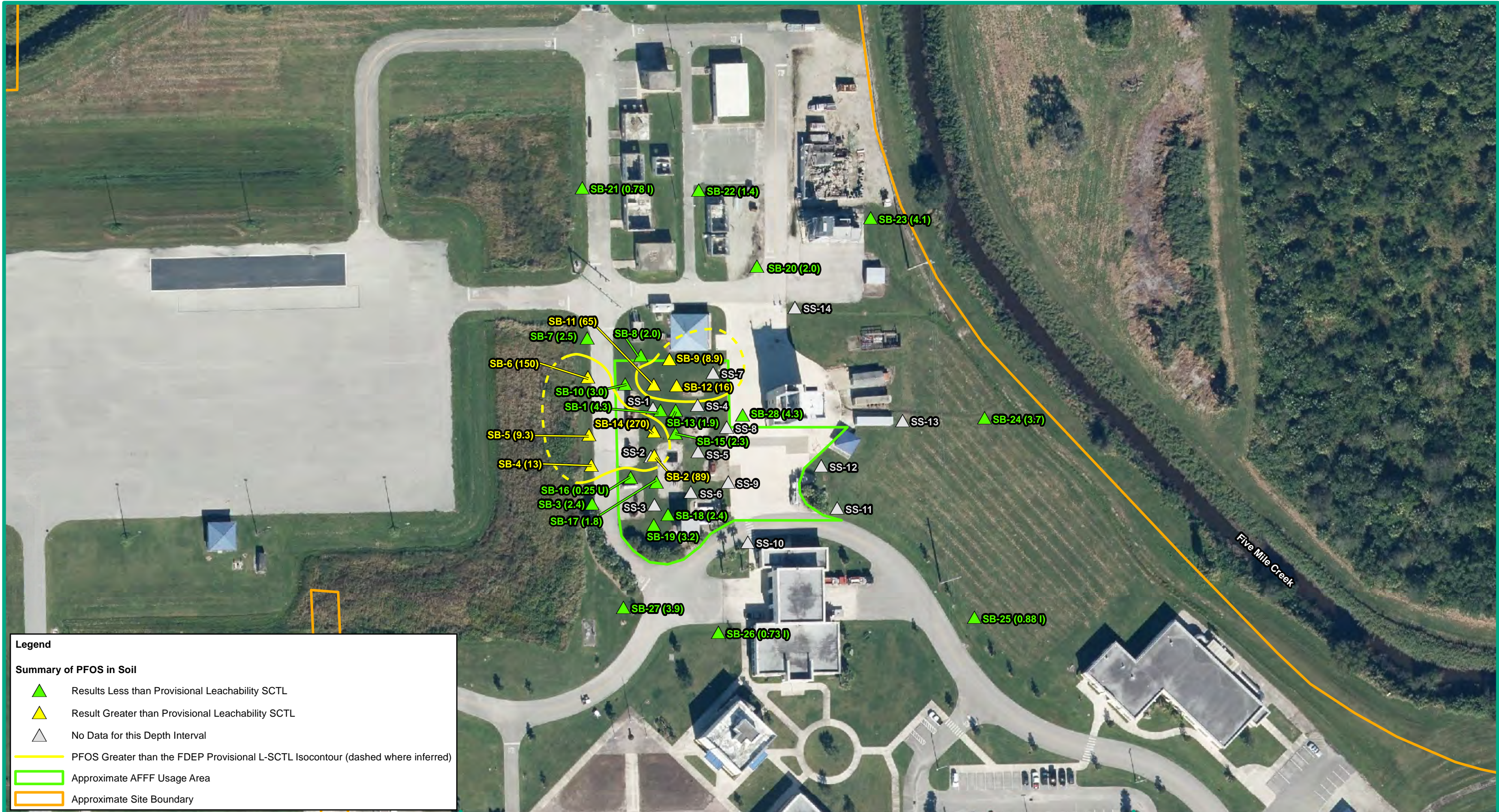
Provisional Cleanup Target Level	Perfluorooctanesulfonic acid (PFOS)
Leachability SCTL	7
Residential SCTL	1,300
Industrial SCTL	25,000

N

100 Feet



Date: May 14, 2020



Legend

Summary of PFOS in Soil

- ▲ Results Less than Provisional Leachability SCTL
- ▲ Result Greater than Provisional Leachability SCTL
- ▲ No Data for this Depth Interval
- PFOS Greater than the FDEP Provisional L-SCTL Isocontour (dashed where inferred)
- Approximate AFFF Usage Area
- Approximate Site Boundary

Figure 12
PFOS Results in Soil from 2 to 4 ft BLS
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Results and screening criteria are presented in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
2. I indicates result is between the laboratory method detection limit (MDL) and the laboratory practical quantitation limit.
3. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
4. ft BLS indicates feet below land surface.
5. SCTL indicates soil cleanup target level.
6. AFFF indicates aqueous film forming foam.
7. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
8. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

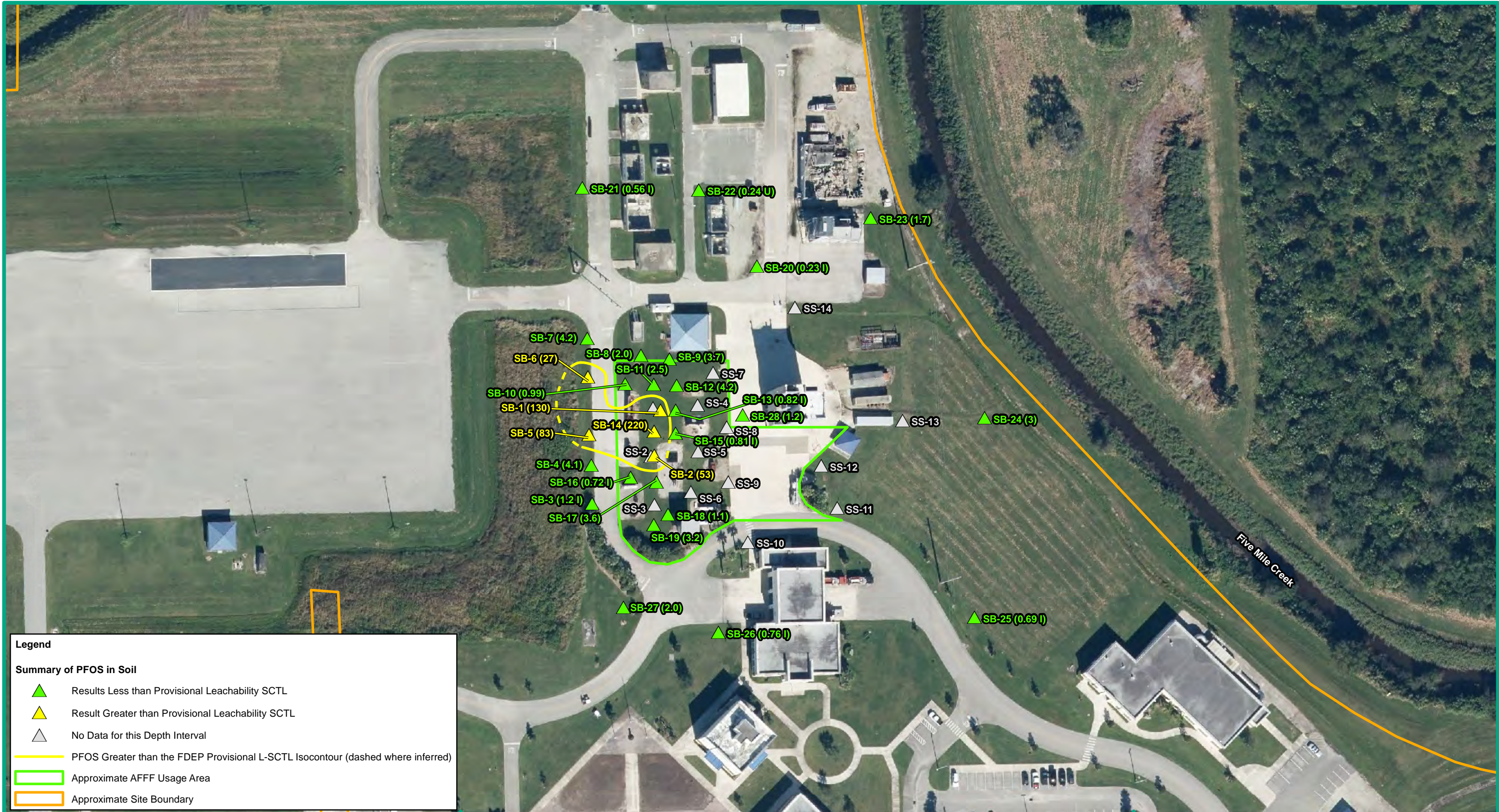
Provisional Cleanup Target Level	Perfluorooctanesulfonic acid (PFOS)
Leachability SCTL	7
Residential SCTL	1,300
Industrial SCTL	25,000

N

100 Feet



Date: May 14, 2020



Legend

Summary of PFOS in Soil

- ▲ Results Less than Provisional Leachability SCTL
- ▲ Result Greater than Provisional Leachability SCTL
- ▲ No Data for this Depth Interval
- PFOS Greater than the FDEP Provisional L-SCTL Isocontour (dashed where inferred)
- ▭ Approximate AFFF Usage Area
- ▭ Approximate Site Boundary

Figure 13
PFOS Results in Soil from 5 to 7 ft BLS
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Results and screening criteria are presented in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
2. I indicates result is between the laboratory method detection limit (MDL) and the laboratory practical quantitation limit.
3. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
4. ft BLS indicates feet below land surface.
5. SCTL indicates soil cleanup target level.
6. AFFF indicates aqueous film forming foam.
7. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
8. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

Provisional Cleanup Target Level	Perfluorooctanesulfonic acid (PFOS)
Leachability SCTL	7
Residential SCTL	1,300
Industrial SCTL	25,000

N

100 Feet



Date: May 14, 2020



Legend

Summary of PFOS in Soil

- ▲ Results Less than Provisional Leachability SCTL
- ▲ Result Greater than Provisional Leachability SCTL
- ▲ No Data for this Depth Interval
- PFOS Greater than the FDEP Provisional L-SCTL Isocontour (dashed where inferred)
- Approximate AFFF Usage Area
- Approximate Site Boundary

Figure 14
PFOS Results in Soil from 8 to 10 ft BLS
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Results and screening criteria are presented in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
2. I indicates result is between the laboratory method detection limit (MDL) and the laboratory practical quantitation limit.
3. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
4. ft BLS indicates feet below land surface.
5. SCTL indicates soil cleanup target level.
6. AFFF indicates aqueous film forming foam.
7. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
8. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

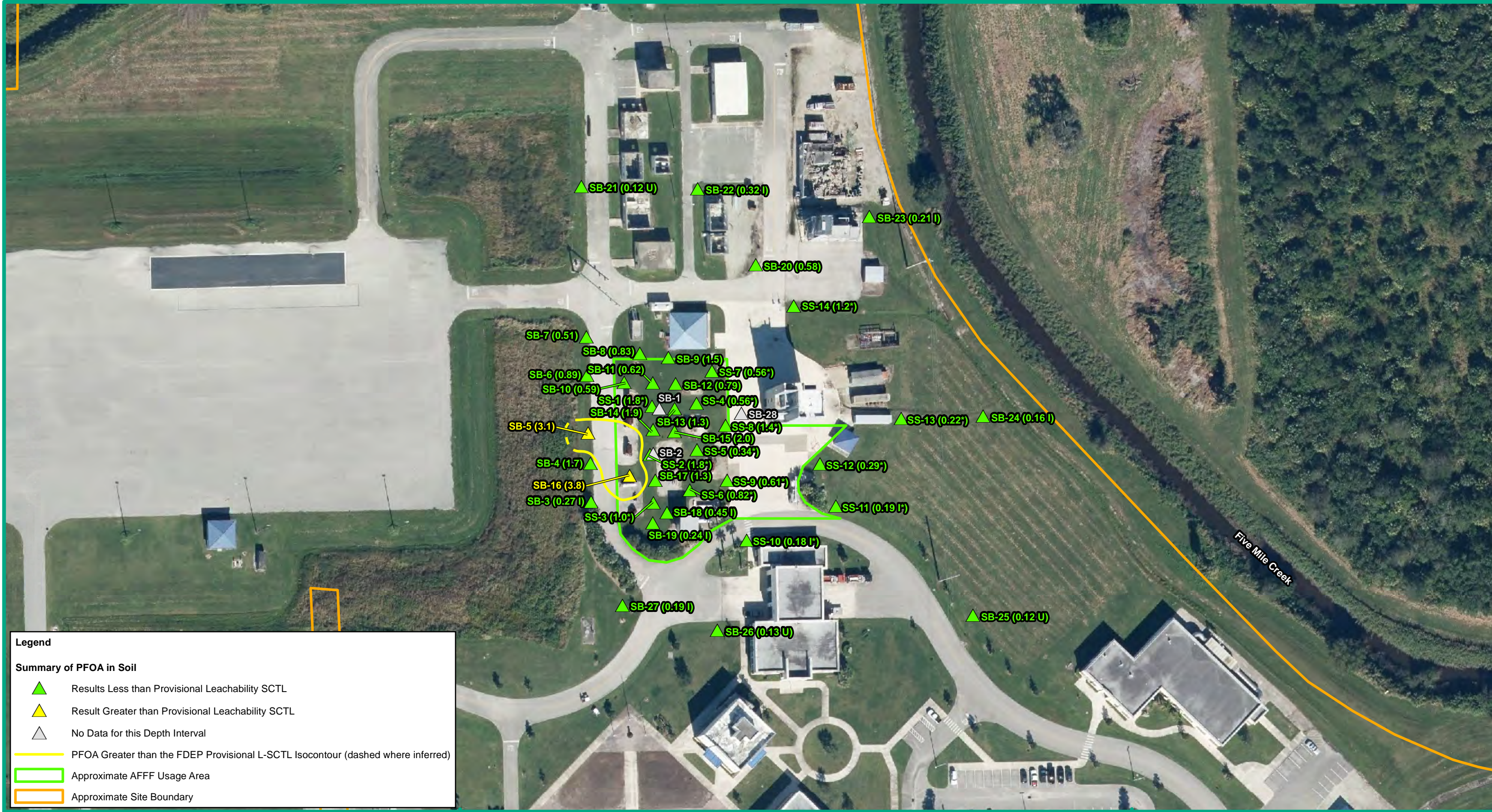
Provisional Cleanup Target Level	Perfluorooctanesulfonic acid (PFOS)
Leachability SCTL	7
Residential SCTL	1,300
Industrial SCTL	25,000

N

100 Feet



Date: May 14, 2020



Legend

Summary of PFOA in Soil

- ▲ Results Less than Provisional Leachability SCTL
- ▲ Result Greater than Provisional Leachability SCTL
- △ No Data for this Depth Interval
- PFOA Greater than the FDEP Provisional L-SCTL Isocontour (dashed where inferred)
- Approximate AFFF Usage Area
- Approximate Site Boundary

Figure 15
PFOA Results in Soil from 0 to 0.5 ft BLS
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Results and screening criteria are presented in micrograms per kilogram (µg/Kg).
2. I indicates result is between the laboratory method detection limit (MDL) and the laboratory practical quantitation limit.
3. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
4. * indicates location was collected during 2019 preliminary assessment activities from 0 to 1 feet (ft) below land surface (BLS).
5. SCTL indicates soil cleanup target level.
6. AFFF indicates aqueous film forming foam.
7. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
8. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

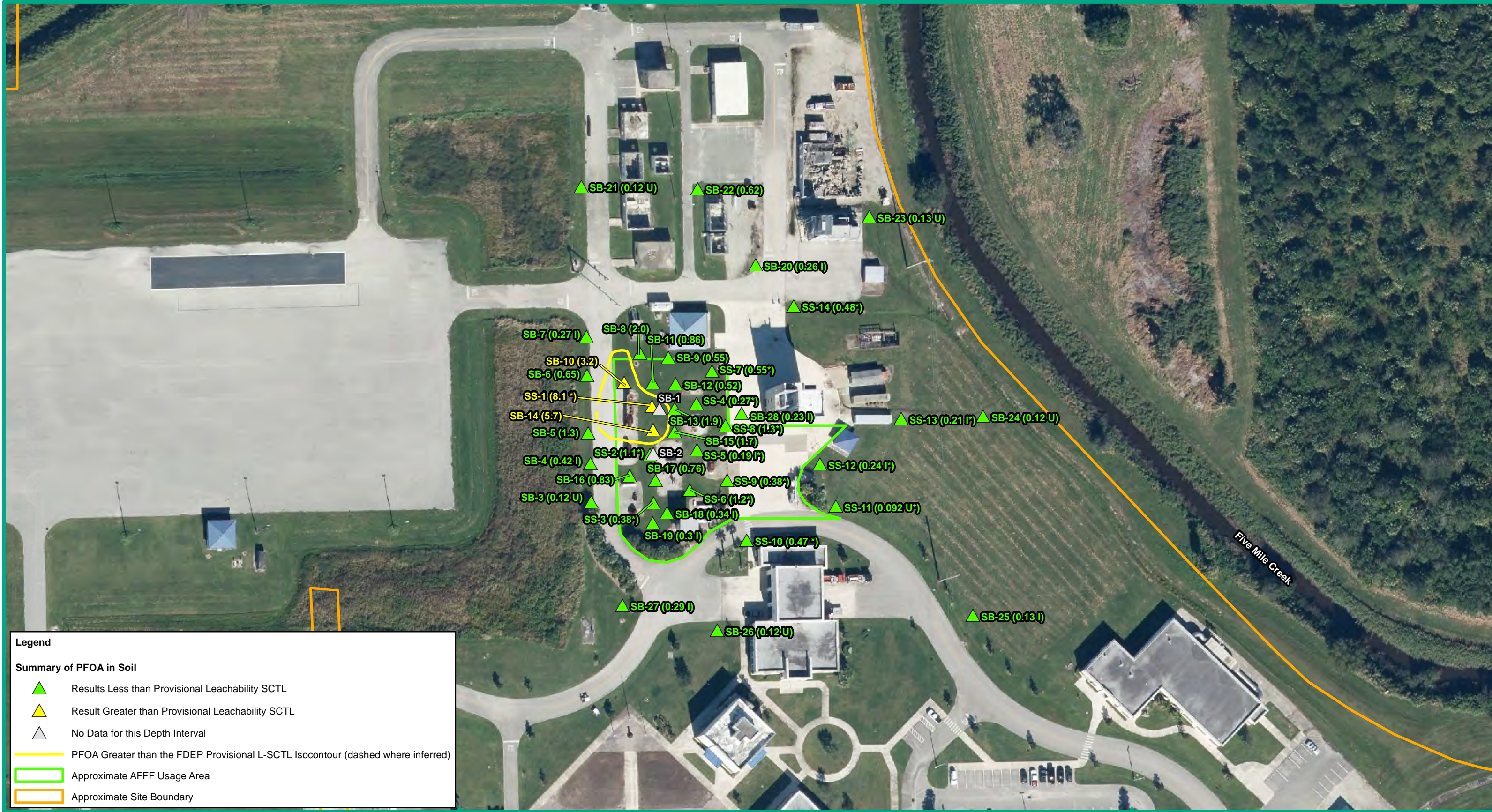
Provisional Cleanup Target Level	Perfluorooctanoic acid (PFOA)
Leachability SCTL	2
Residential SCTL	1,300
Industrial SCTL	25,000

N

100 Feet



Date: May 14, 2020



Legend

Summary of PFOA in Soil

- ▲ Results Less than Provisional Leachability SCTL
- ▲ Result Greater than Provisional Leachability SCTL
- ▲ No Data for this Depth Interval
- PFOA Greater than the FDEP Provisional L-SCTL Isocontour (dashed where inferred)
- Approximate AFFF Usage Area
- Approximate Site Boundary

Figure 16
PFOA Results in Soil from 0.5 to 2 ft BLS
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Results and screening criteria are presented in micrograms per kilogram (µg/Kg).
2. I indicates result is between the laboratory method detection limit (MDL) and the laboratory practical quantitation limit.
3. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
4. * indicates location was collected during 2019 preliminary assessment activities from 1 to 2 feet (ft) below land surface (BLS).
5. SCTL indicates soil cleanup target level.
6. AFFF indicates aqueous film forming foam.
7. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
8. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

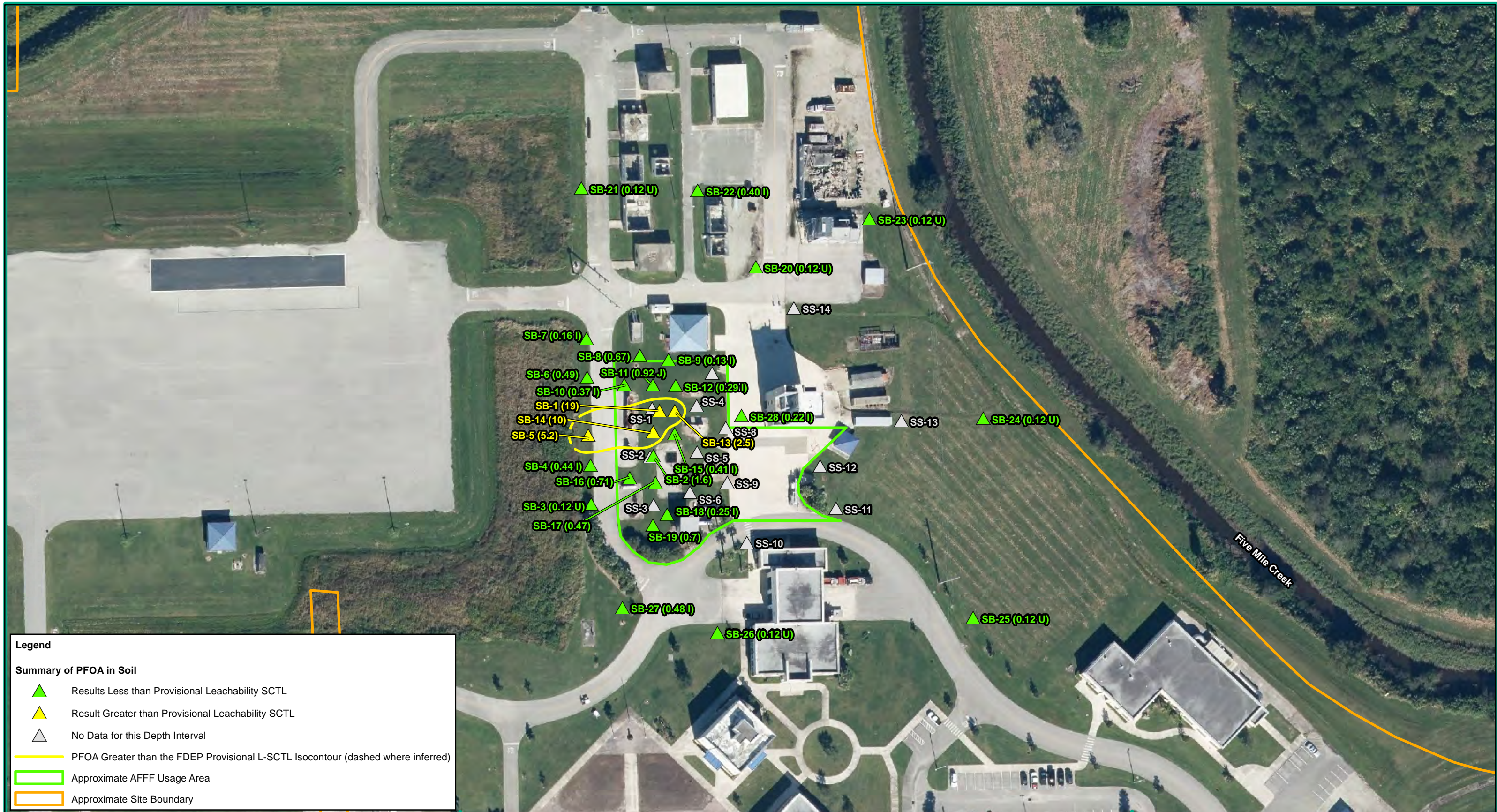
Provisional Cleanup Target Level	Perfluorooctanoic acid (PFOA)
Leachability SCTL	2
Residential SCTL	1,300
Industrial SCTL	25,000

N

100 Feet



Date: May 14, 2020



Legend

Summary of PFOA in Soil

- ▲ Results Less than Provisional Leachability SCTL
- ▲ Result Greater than Provisional Leachability SCTL
- ▲ No Data for this Depth Interval
- PFOA Greater than the FDEP Provisional L-SCTL Isocontour (dashed where inferred)
- ▭ Approximate AFFF Usage Area
- ▭ Approximate Site Boundary

Figure 17
PFOA Results in Soil from 2 to 4 ft BLS
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Results and screening criteria are presented in micograms per kilogram ($\mu\text{g}/\text{kg}$).
2. I indicates result is between the laboratory method detection limit (MDL) and the laboratory practical quantitation limit.
3. J indicates estimated value and/or the analysis did not meet the quality control criteria.
4. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
5. ft BLS indicates feet below land surface.
6. SCTL indicates soil cleanup target level.
7. AFFF indicates aqueous film forming foam.
8. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
9. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

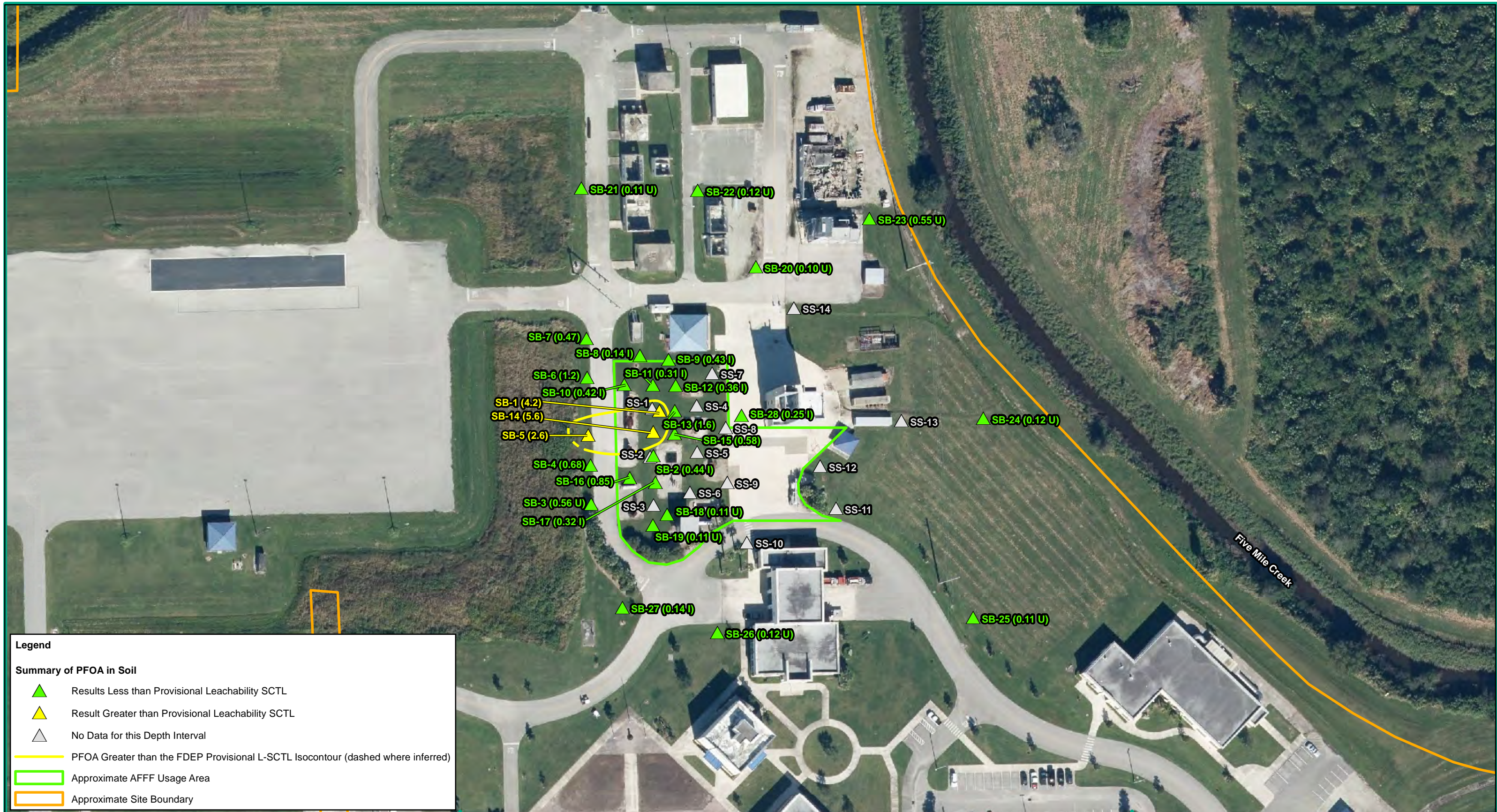
Provisional Cleanup Target Level	Perfluorooctanoic acid (PFOA)
Leachability SCTL	2
Residential SCTL	1,300
Industrial SCTL	25,000

N

100 Feet



Date: May 14, 2020



Legend

Summary of PFOA in Soil

- ▲ Results Less than Provisional Leachability SCTL
- ▲ Result Greater than Provisional Leachability SCTL
- △ No Data for this Depth Interval
- PFOA Greater than the FDEP Provisional L-SCTL Isocontour (dashed where inferred)
- ▭ Approximate AFFF Usage Area
- ▭ Approximate Site Boundary

Figure 18
PFOA Results in Soil from 5 to 7 ft BLS
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Results and screening criteria are presented in micograms per kilogram (µg/Kg).
2. I indicates result is between the laboratory method detection limit (MDL) and the laboratory practical quantitation limit.
3. J indicates estimated value and/or the analysis did not meet the quality control criteria.
4. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
5. ft BLS indicates feet below land surface.
6. SCTL indicates soil cleanup target level.
7. AFFF indicates aqueous film forming foam.
8. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
9. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

Provisional Cleanup Target Level	Perfluorooctanoic acid (PFOA)
Leachability SCTL	2
Residential SCTL	1,300
Industrial SCTL	25,000

N

100 Feet



Date: May 14, 2020



Legend

Summary of PFOA in Soil

- ▲ Results Less than Provisional Leachability SCTL
- ▲ Result Greater than Provisional Leachability SCTL
- △ No Data for this Depth Interval
- Approximate AFFF Usage Area
- Approximate Site Boundary

Figure 19
PFOA Results in Soil from 8 to 10 ft BLS
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Results and screening criteria are presented in micograms per kilogram ($\mu\text{g}/\text{Kg}$).
2. I indicates result is between the laboratory method detection limit (MDL) and the laboratory practical quantitation limit.
3. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
4. ft BLS indicates feet below land surface.
5. SCTL indicates soil cleanup target level.
6. AFFF indicates aqueous film forming foam.
7. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
8. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

Provisional Cleanup Target Level	Perfluorooctanoic acid (PFOA)
Leachability SCTL	2
Residential SCTL	1,300
Industrial SCTL	25,000

N

100 Feet



Date: May 14, 2020

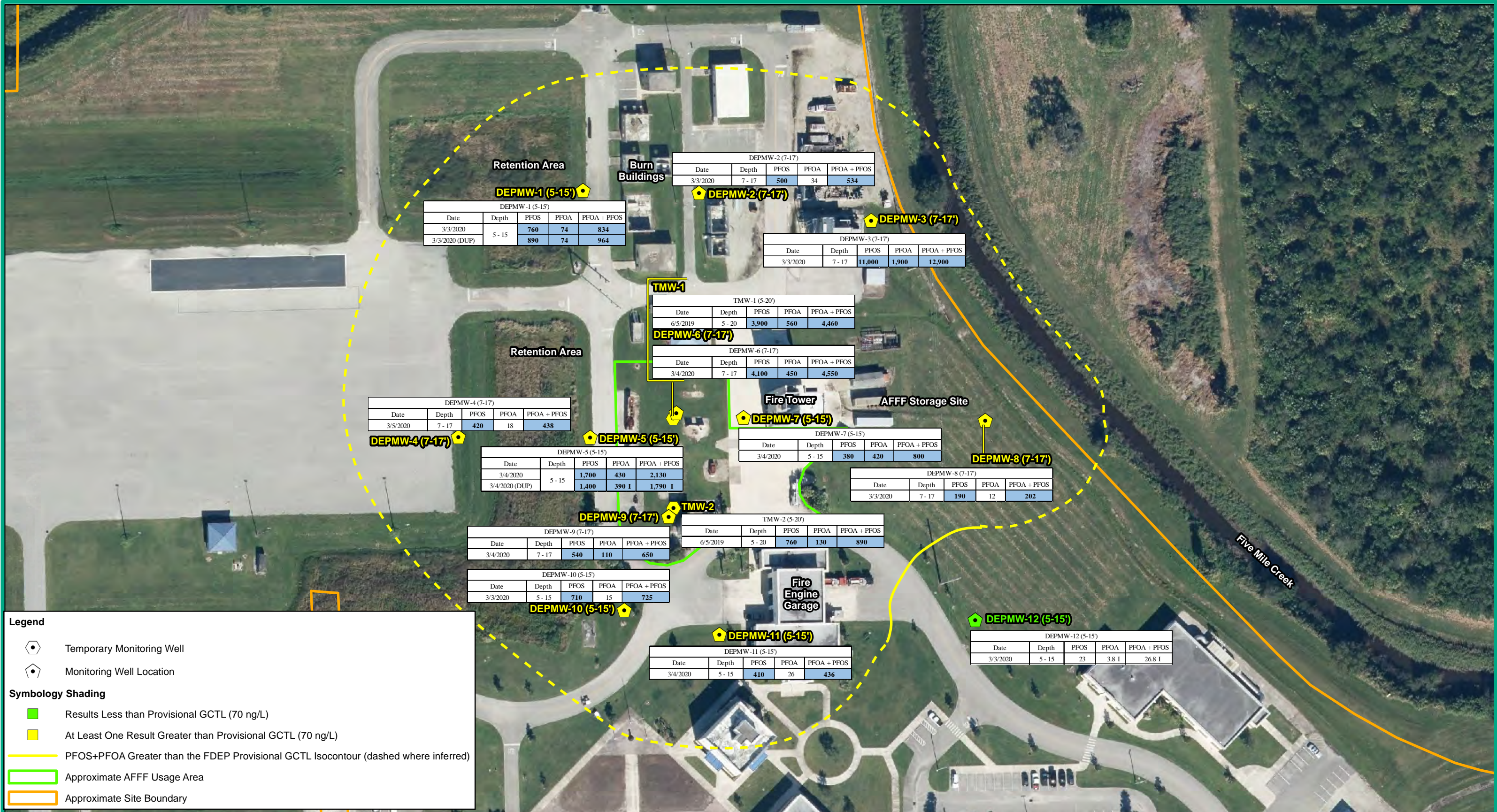
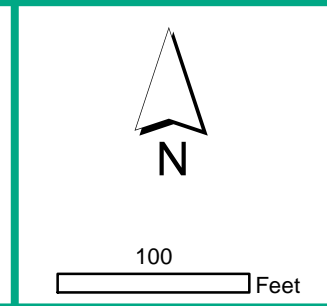




Figure 21
Summary of Analytical Results in Groundwater
from 38 to 50 ft BLS
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Results are provided in nanogramer per liter (ng/L).
2. Depth is provided in feet below land surface (ft BLS).
3. I indicates result is between the laboratory method detection limit and the laboratory practical quantitation limit.
4. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
5. DUP indicates duplicate sample.
6. TMW indicates temporary monitoring well.
7. PFOS + PFOA indicates the summation of perfluorooctanesulfonic acid (PFOS) and perfluorooctanic acid (PFOA).
8. Blue shaded, bold text indicates an exceedance of the Florida Department of Environmental Protection provisional groundwater cleanup target level (GCTL) of 70 ng/L.
9. Contours were generated using the summation concentration of PFOS + PFOA. The higher concentration between a sample and its duplicate was utilized.
10. AFFF indicates aqueous film forming foam.
11. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
12. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.



Date: May 14, 2020

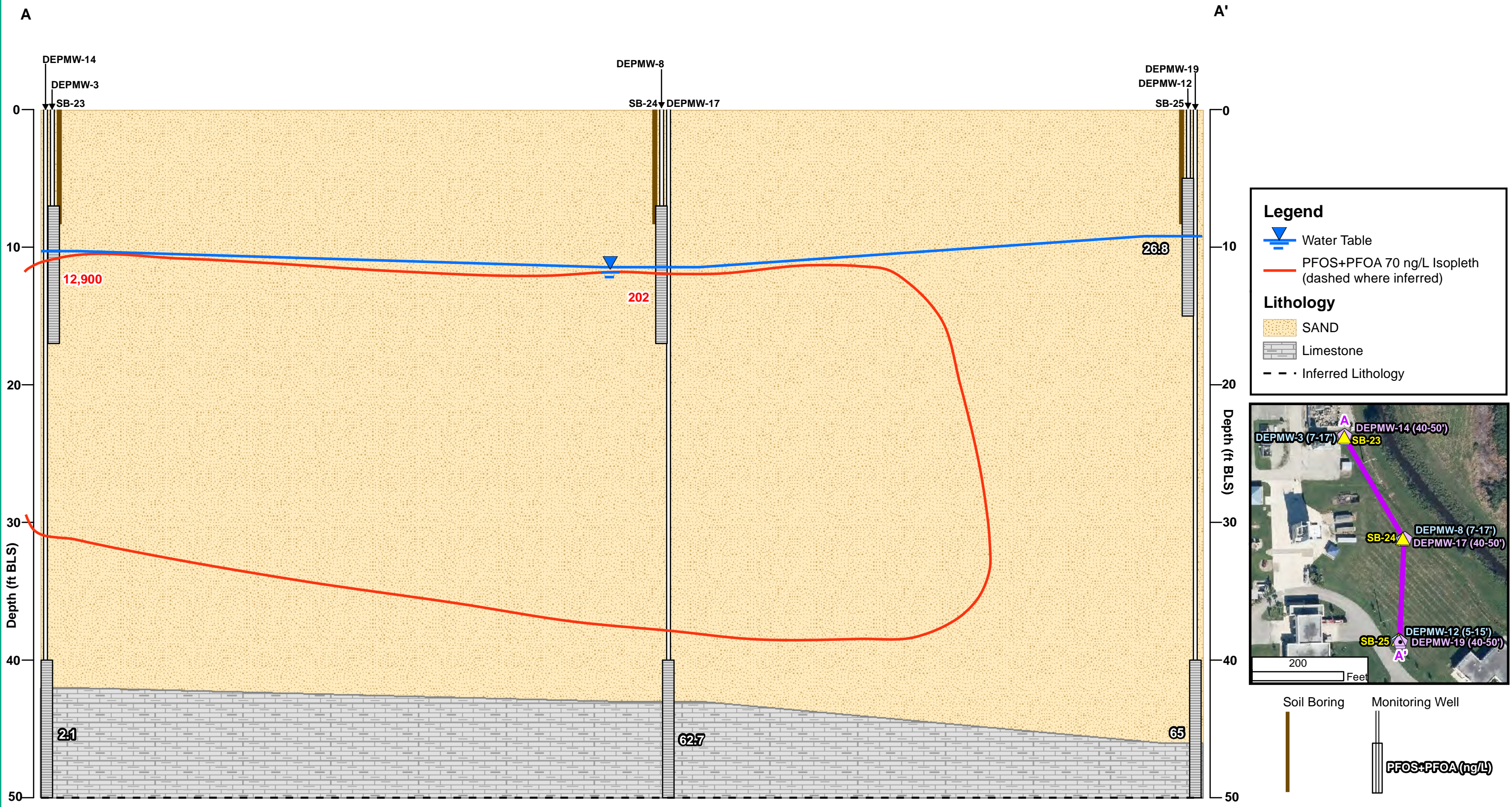
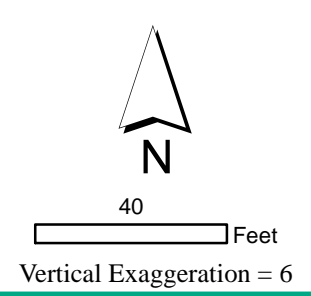


Figure 22
Vertical Extent of PFOS and PFOA
in Groundwater from A-A'
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

- Notes:**
1. ft BLS indicates feet below land surface.
 2. Results are provided in nanograms per liter (ng/L).
 3. Analytical results are shown for the summation of perfluorooctanesulfonic acid (PFOS) and perfluorooctanic acid (PFOA).
 4. The Florida Department of Environmental Protection provisional groundwater cleanup target level (GCTL) for the summation of PFOS and PFOA is 70 ng/L.
 5. Contours were generated using the summation concentration of PFOS + PFOA. The highest concentration between a sample and its duplicate was utilized.
 6. Red text indicates result is greater than the PFOS+PFOA GCTL.
 7. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.



Date: May 14, 2020

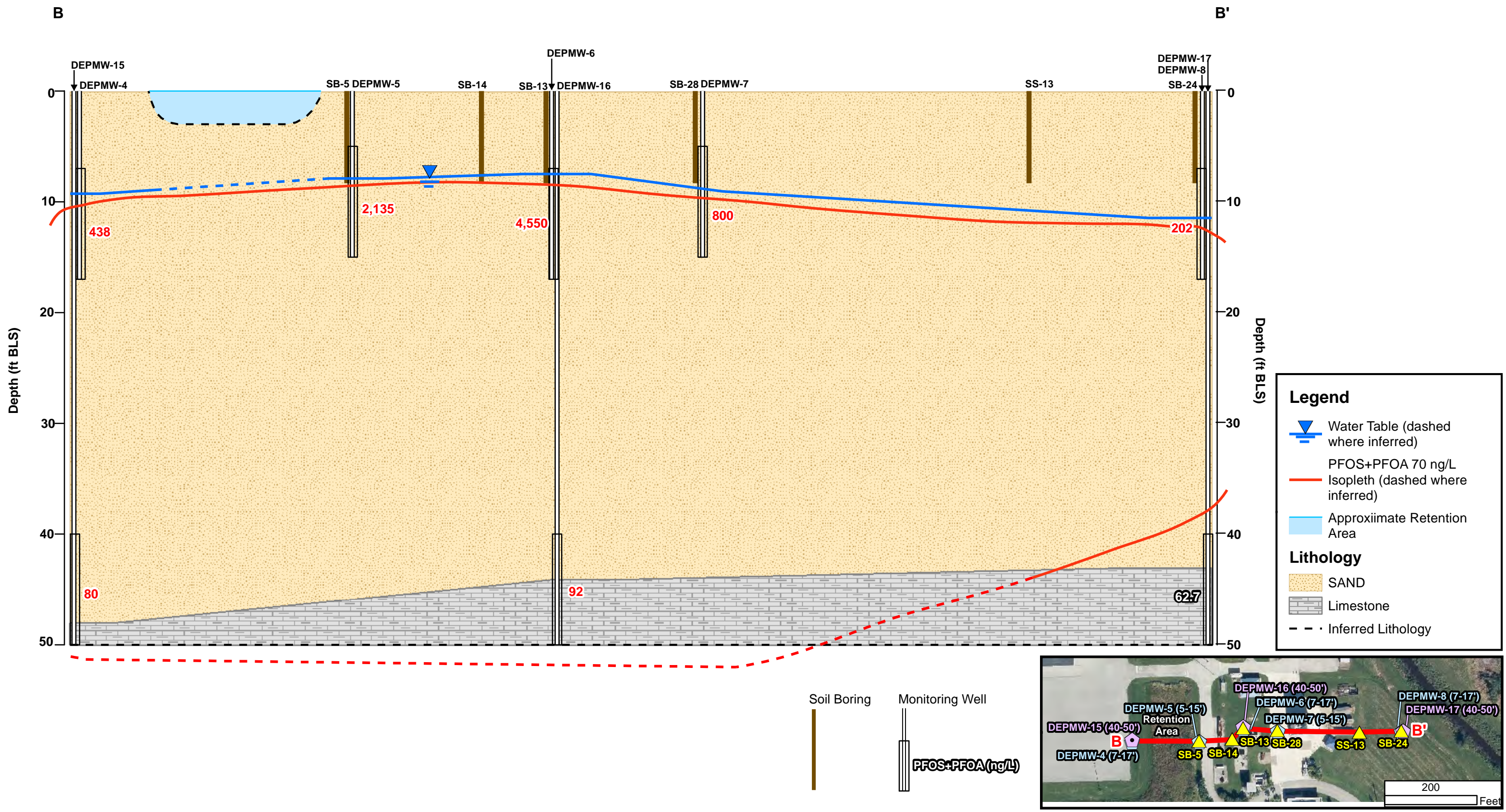
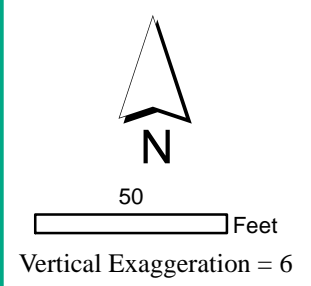


Figure 23
Vertical Extent of PFOS and PFOA
in Groundwater from B-B'
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

- ft BLS indicates feet below land surface.
- Results are provided in nanograms per liter (ng/L).
- Analytical results are shown for the summation of perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA).
- The Florida Department of Environmental Protection provisional groundwater cleanup target level (GCTL) for the summation of PFOS and PFOA is 70 ng/L.
- Contours were generated using the summation concentration of PFOS + PFOA. The highest concentration between a sample and its duplicate was utilized.
- Red text indicates result is greater than the PFOS+PFOA GCTL.
- The depth and width of the retention area are approximate.
- Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.



Date: May 14, 2020

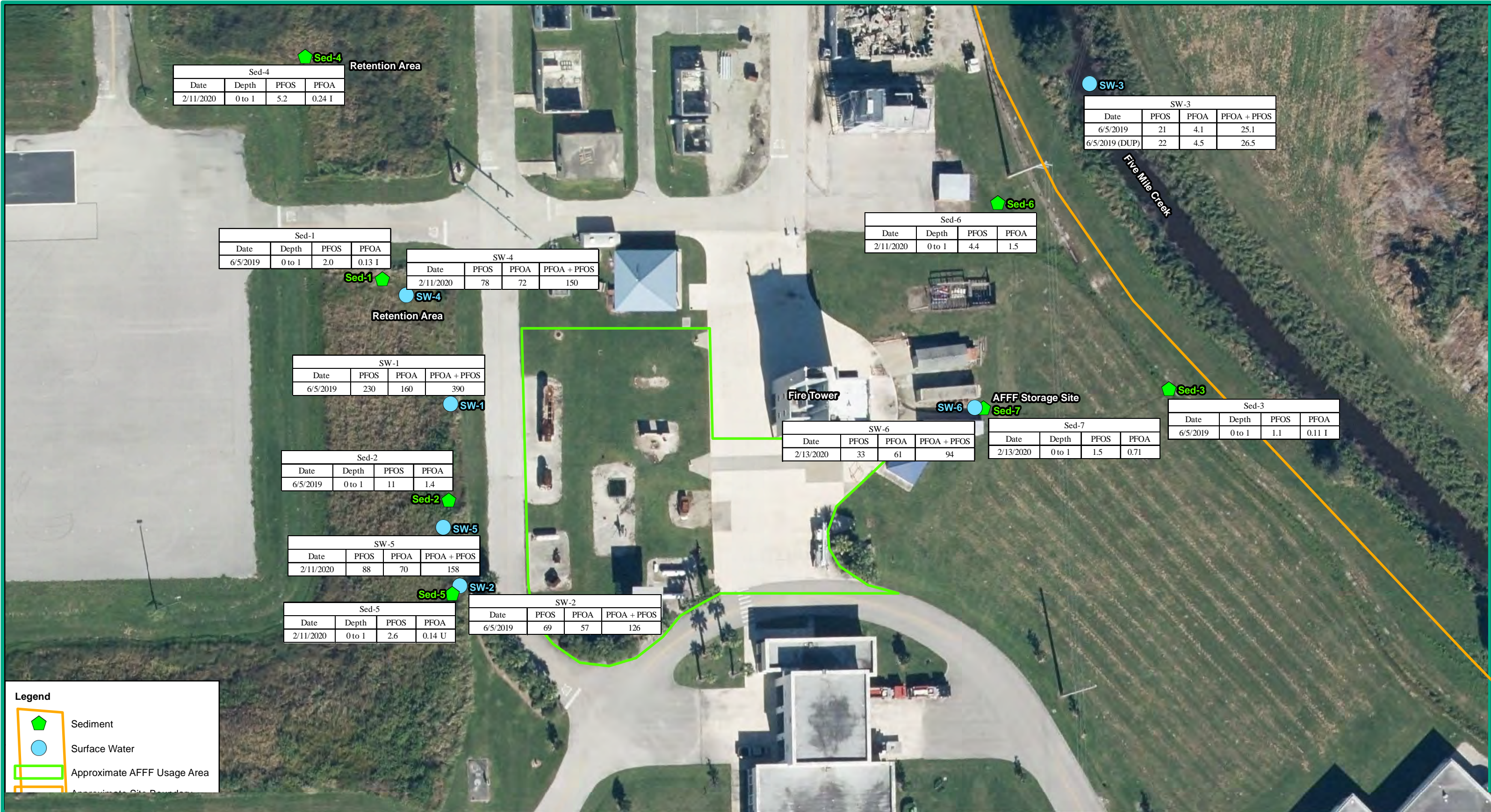
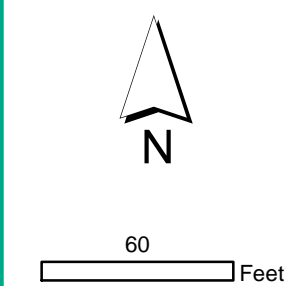


Figure 24
Summary of Analytical Results in Sediment and Surface Water
Indian River State College
4600 Kirby Loop Road
Fort Pierce, St. Lucie County, Florida

Notes:

1. Surface water results are provided in nanograms per liter (ng/L). Sediment results are provided in micrograms per kilogram (µg/Kg).
2. Depth is provided in feet below land surface (ft BLS).
3. I indicates result is between the laboratory method detection limit(MDL) and the laboratory practical quantitation limit.
4. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
5. DUP indicates duplicate sample.
6. PFOS + PFOA indicates the summation of perfluorooctanesulfonic acid (PFOS) and perfluorooctanic acid (PFOA).
7. Provisional cleanup target levels have not been established for sediment or surface water.
8. Approximate site boundary obtained from Florida Department of Revenue GIS and Cadastral Mapping website on 14 May 2019 (St. Lucie County 2018 data).
9. Source of 2017 aerial: Florida Department of Transportation Aerial Photo Look Up System website.



Date: May 14, 2020

APPENDIX A
University of Florida Letters for Provisional
Cleanup Target Levels

April 16, 2018

Brian Dougherty, PhD
Program Manager
District and Business Support Program
Division of Waste Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Development of alternative soil cleanup target levels for PFOA and PFOS

Dear Dr. Dougherty:

At your request, we have developed alternative soil cleanup target levels (ASCTLs) for perfluorooctanoic acid (PFOA; CAS# 335-67-1) and perfluorooctane sulfonate (PFOS; CAS# 1763-23-1). PFOA and PFOS are perfluoroalkyl substances (PFASs). PFASs are used to make products resistant to stains, grease, and water. Before production was phased out at the end of 2015, PFOA was used in carpets, leathers, textiles, upholstery, and as a waterproofing or stain-resistant agent (USEPA, 2016a). In 2002, the only major US manufacturer of PFOS agreed to phase out production. However, PFOA and PFOS degrade slowly and are persistent in the environment. Most contamination by PFOA and PFOS is a result of releases from manufacturing sites, industrial sites, fire training areas, and waste sites where these chemicals were disposed (USEPA, 2016a & 2016b). Derivation of the ASCTLs for each chemical is described below.

Perfluorooctanoic Acid (PFOA)

The United States Environmental Protection Agency (USEPA) summarized toxicity studies for PFOA in the Drinking Water Health Advisory for PFOA (USEPA, 2016a). For reference dose (RfD) development, several candidate studies and health effect endpoints were evaluated (Perkins et al., 2004; Lau et al., 2006; Wolf et al., 2007; White et al., 2009; DeWitt et al., 2008; Butenhoff et al., 2004). A total of six candidate RfDs were considered based upon endpoints including increased liver weight and necrosis in rats, decreased pup weight from gestational exposure in mice, immunosuppression in mice, reduced ossification and accelerated male puberty in offspring of mice, and reduced body weight and increased kidney weight (relative and absolute) in rats. For each animal toxicity study, human equivalent average serum PFOA concentrations were derived using a pharmacokinetic model by Wambaugh et al. (2013). An oral reference dose (RfD) was derived for each human equivalent no observed adverse effect level (NOAEL) or lowest observed adverse effect level (LOAEL) using study-specific uncertainty factors. Three endpoints resulted in a RfD of 2E-05 mg/kg-d (the lowest calculated RfD). Among these, reduced ossification of the proximal phalanges and accelerated puberty in offspring from treated dams in the study by Lau et al. (2006) were selected as the critical

effect(s). Other studies producing the same or similar RfD values are considered supportive. Data were not considered adequate to derive a reference concentration (RfC) for inhalation exposure.

In the Lau et al. (2006) study, pregnant CD-1 mice were dosed with 1, 3, 5, 10, 20, or 40 mg/kg PFOA by oral gavage daily from gestational day 1 to 17. Decreased ossification of pup (both sexes) proximal phalanges and accelerated preputial separation were seen at 1 mg/kg PFOA. The USEPA calculated a human equivalent point of departure of 5.3E-03 mg/kg-d for these endpoints. An uncertainty factor of 300 (3 for extrapolation from animal to human, 10 for extrapolation from LOAEL to NOAEL, and 10 for sensitive individuals) was applied to derive an oral RfD of 2E-05 mg/kg-d. Greater than 95% of PFOA is absorbed by the gastrointestinal tract (ATSDR, 2015). Therefore, a gastrointestinal absorption factor of 1 was used to extrapolate the toxicity to other routes of exposure.

PFOA is also carcinogenic and has been shown to be tumorigenic in the liver, testes, and pancreas of rats. In humans, there is epidemiological evidence for an association between serum PFOA and kidney and testicular tumors (USEPA, 2016a). The USEPA developed an oral cancer slope factor of 7E-02 per mg/kg-d based on the development of testicular tumors in rats. They concluded that the drinking water health advisory based on non-cancer effects was protective for the cancer endpoint. We also calculated ASCTLs based on the oral cancer slope factor of 7E-02 per mg/kg-d (ASCTLs not shown). These ASCTLs were higher than those protective of non-cancer endpoints confirming that ASCTLs based on non-cancer effects are protective of the cancer endpoint.

Direct exposure ASCTLs for residential and commercial/industrial scenarios were calculated using the formula presented in Figure 5 of Chapter 62-777, Florida Administrative Code (F.A.C.). The equation is shown in Figure 1. Default assumptions listed in Table 1 were taken from OSWER Directive 9200.1-120 (USEPA, 2014) and Table 3 of Chapter 62-777, F.A.C. Chemical-specific parameters are presented in Table 2. **The residential ASCTL for PFOA is 1.3 mg/kg and the commercial/industrial ASCTL is 25 mg/kg.** A leachability ASCTL was derived using the formula presented in Figure 8 of Chapter 62-777, FAC. The equation is shown in Figure 2 and inputs are listed in Table 1. **The ASCTL for leachability to groundwater is 0.004 mg/kg** (based on an alternative groundwater cleanup target level of 0.1 µg/L provided to you in a letter dated April 12, 2017).

Perfluorooctane Sulfonate (PFOS)

The USEPA summarized toxicity studies for PFOS in the Drinking Water Health Advisory for PFOS (USEPA, 2016b). Six candidate studies and seven endpoints were identified for the derivation of an RfD for PFOS (Seacat et al., 2002 & 2003; Luebker et al., 2005a & 2005b; Butenhoff et al, 2009; Lau et al., 2003). Candidate endpoints included: 1) increased liver weight and histopathology, decreased body weight, and thyroid hormone disturbances in monkeys; 2) increased liver weight and histopathology, and increased liver enzymes and blood urea nitrogen in serum in male rats; 3) decreased body weight of rat pups; 4) another study showing decreased body weight in rat pups; 5) decreased maternal body weight, gestation length, and pup survival in rats; 6) developmental neurotoxicity in rats; and 7) decreased pup survival and decreased maternal and pup body weight in rats. For each animal toxicity study, human equivalent average serum PFOS concentrations were derived using a pharmacokinetic model by Wambaugh et al. (2013). An oral RfD was derived for each human equivalent NOAEL or LOAEL using study-specific uncertainty factors. Data were not considered adequate to derive a

reference concentration (RfC) for inhalation exposure. The USEPA selected reduced pup weight from a two-generation study in rats as the critical effect. Low body weight was considered to be a marker for developmental effects, including effects that may not be manifested until later in life. This effect is considered relevant to humans because PFOS has been measured in the blood of newborns, in breast milk, and in blood of older children.

The developmental toxicity study by Luebker et al. (2005a) resulted in a RfD of 2E-05 mg/kg-d (the lowest calculated RfD). In this study, male and female rats were dosed with 0, 0.1, 0.4, 1.6, or 3.2 mg/kg-d by gavage from six weeks prior to mating, during mating, and, for females, through gestation and lactation across two generations. Rat pup weight was significantly decreased at 1.6 mg/kg-d PFOS in the F1 generation. The USEPA calculated a human equivalent point of departure of 5.1E-04 mg/kg-d based on decreased rat pup weight in the F1 generation. An uncertainty factor of 30 (3 for extrapolation from animal to human and 10 for sensitive subpopulations) was applied to derive an oral RfD of 2E-05 mg/kg-d. No data are available regarding the gastrointestinal absorption of PFOS. Therefore, a gastrointestinal absorption factor of 1 was used to extrapolate the toxicity to other routes of exposure.

There is also suggestive evidence that PFOS is carcinogenic in humans based on chronic studies in rats that result in liver and thyroid adenomas. However, the tumor data lack a dose-response relationship and could not be used by the USEPA to develop a cancer slope factor. Therefore, the critical effect for PFOS is developmental toxicity.

Direct exposure ASCTLs for residential and commercial/industrial scenarios were calculated using the formula presented in Figure 5 of Chapter 62-777, Florida Administrative Code (F.A.C.). The equation is shown in Figure 1. Default assumptions listed in Table 1 were taken from OSWER Directive 9200.1-120 (USEPA, 2014) and Table 3 of Chapter 62-777, F.A.C. Chemical-specific parameters are presented in Table 2. **The residential ASCTL for PFOS is 1.3 mg/kg and the commercial/industrial ASCTL is 25 mg/kg.** A leachability ASCTL was derived using the formula presented in Figure 8 of Chapter 62-777, FAC. The equation is shown in Figure 2 and inputs are listed in Table 1. **The ASCTL for leachability to groundwater is 0.01 mg/kg** (based on an alternative groundwater cleanup target level of 0.1 µg/L provided to you in a letter dated April 12, 2017).

As with the PFOA and PFOS alternative groundwater cleanup target levels (AGCTLs) provided to you previously, these ASCTLs have been calculated using default equations and exposure assumptions from Chapter 62-777, F.A.C. (the ASCTLs also include updated exposure assumptions from OSWER Directive 9200.1-120). Recently, the USEPA and a number of states have modified their calculation of PFOA and PFOS criteria based upon the critical effects, which are developmental in nature, and/or the availability of serum concentration data for these chemicals. For example, the USEPA Health Advisories for PFOA and PFOS in drinking water are based upon a water consumption rate for a lactating woman to protect the breast fed infant rather than a standard adult drinking water consumption rate. This higher rate of consumption leads to a lower acceptable drinking water concentration (0.07 µg/L rather than 0.1 µg/L calculated with Chapter 62-777 F.A.C. assumptions). New Jersey and Minnesota have both used serum concentration data rather than the USEPA oral reference dose to derive acceptable concentrations of PFOA and PFOS in drinking water that are lower than the USEPA Health Advisories. The Minnesota approach specifically targets serum concentrations in the breast fed infant. Other than a general protection of children when developing SCTLs, Florida has not typically tailored calculation of cleanup target levels (CTLs) to address sensitive life stages when they have been identified. With increased attention to the issue of sensitive life stages in the context of PFOA and PFOS exposure, the Florida Department of Environmental

Protection (FDEP) may want to consider as a general matter when and to what extent sensitive life stages should be addressed in CTL development.

Please let us know if you have any questions regarding the development of these ASCTLs.

Sincerely,



Leah D. Stuchal, Ph.D.



Stephen M. Roberts, Ph.D.

References:

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Figure 1 – Equation for Developing Acceptable Soil Cleanup Target Levels for Non-Carcinogens:

$$SCTL = \frac{THI \times BW \times AT}{EF \times ED \times FC \times \left[\left(\frac{1}{RfD_o} \times IR_o \times 10^{-6} kg/mg \times RBA \right) + \left(\frac{1}{RfD_a} \times SA \times AF \times DA \times 10^{-6} kg/mg \right) \right]}$$

Figure 2 – Equation for the Determination of SCTLs Based on Leachability:

$$SCTL (mg/kg) = GCTL(\mu g/L) \times CF(mg/\mu g) \times DF \times \left[K_{oc} \times f_{oc} + \frac{\theta_w + \theta_a \times H'}{\rho_b} \right]$$

Table 1 - Default values for the direct contact and leachability equations

Symbol	Definition (units)	Receptor	Default
BW	Body weight (kg)	child	15
		worker	80
IR _o	Ingestion rate, oral (mg/day)	child	200
		worker	50
EF	Exposure frequency (days/yr)	child	350
		worker	250
ED	Exposure duration (years)	child	6
		worker	25
SA	Surface area exposed (cm ² /day)	child	2373
		worker	3527
AT	Averaging time (days) (non-carcinogens)	child	2190
		worker	9125
AF	Adherence factor (mg/cm ²)	child	0.2
		worker	0.12
IR _i	Inhalation rate (m ³ /day)	child	8.1
		worker	20
DA	Dermal absorption (unitless) (organics)		0.1
PEF	Particulate emission factor (m ³ /kg)		1.24×10 ⁹
TR	Target risk (unitless)		1×10 ⁻⁶
CF	Conversion factor (µg/mg)		1000
DAF	Dilution attenuation factor (unitless)		20
f _{oc}	Fraction organic carbon in soil (g/g)		0.002
Θ _w	Water-filled soil porosity (L _{water} /L _{soil})		0.3
Θ _a	Air-filled soil porosity (L _{air} /L _{soil})		0.13
ρ _β	Dry soil bulk density (g/cm ³)		1.5
ω	Average soil moisture content (g _{water} /g _{soil})		0.2 (20%)
η	Total soil porosity (L _{pore} /L _{soil})		0.43
ρ _σ	Soil particle density (g/cm ³)		2.65
CF	Conversion factor (µg/mg)		1000

Table 2 – Chemical-specific parameters for PFOA and PFOS

Chemical-Specific Variable	PFOA		PFOS	
	Value	Source	Value	Source
RfD _o	2E-05 mg/kg-day	USEPA	2E-05 mg/kg-day	USEPA
RfD _d	2E-05 mg/kg-day	extrapolated	2E-05 mg/kg-day	extrapolated
RfD _i	2E-05 mg/kg-day	extrapolated	2E-05 mg/kg-day	extrapolated
Diffusivity in air	2.3E-02 cm ² /s	calculated	1.7E-02 cm ² /s	calculated
Diffusivity in water	5.8E-06 cm ² /s	calculated	4.2E-06 cm ² /s	calculated
Molecular weight	414.09 g/mol	HSDB	500.13 g/mol	HSDB
Density	1.792 g/cm ³	HSDB	1.25 g/cm ³	Chemicaland21
Henry's Law Constant	Not measurable	EPIWIN	Not measurable	EPIWIN
log K _{ow}	4.81	HSDB	4.49	EPIWIN
K _{oc}	655.1 L/kg	EPIWIN	2562 L/kg	EPIWIN

USEPA – United States Environmental Protection Agency

HSDB – Hazardous Substances Data Bank

EPIWIN – Estimation Programs Interface for Windows v4.1.1

August 16, 2018

Leah J. Smith
District and Business Support Program
Division of Waste Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Calculation of an AGCTL for PFOA/PFOS protective of sensitive lifestages

Dear Ms. Smith:

We have developed an alternative groundwater cleanup target level (AGCTL) for perfluorooctanoic acid (PFOA; CAS# 335-67-1) and perfluorooctane sulfonate (PFOS; CAS# 1763-23-1) protective of sensitive lifestages/receptors. We previously developed AGCTLs for PFOA and PFOS in letters to the Florida Department of Environmental Protection (FDEP) dated April 12, 2017. These AGCTLs incorporated updated toxicity values based on the USEPA Drinking Water Health Advisories for PFOA and PFOS (USEPA, 2016a & 2016b) and updated exposure parameters for adults listed in the 2011 Exposure Factors Handbook (USEPA, 2011). At that time, we were requested to use a drinking water ingestion rate applicable to a generic adult receptor, which is the approach used in the development of groundwater cleanup target levels (GCTLs) in Chapter 62-777, F.A.C. The resulting GCTL for both PFOA and PFOS was 0.1 µg/L.

The critical effects for both of these chemicals are developmental effects. For PFOA, the critical effects are decreased ossification of pup (both sexes) proximal phalanges and accelerated preputial separation. For PFOS, the critical effect is decreased pup weight in the F₁ generation. The F₁ generation is the first generation of pups born after parental exposure. Exposure usually takes place while pups are in utero and may last through lactation and weaning. Because the critical effects are development endpoints, adverse effects can result from short-term exposure during critical periods of development. The 90th percentile drinking water ingestion rate for lactating women (0.054 L/kg-d; USEPA, 2011) is used by the USEPA in the development of their drinking water criterion due to the potential increased susceptibility from higher drinking water rates during pregnancy and lactation (USEPA 2016a & 2016b). From a toxicological standpoint, it is more appropriate to use a drinking water ingestion rate applicable to the most sensitive lifestage/receptor in the development of a cleanup target level, than a default drinking water rate for an adult.

At your request, we have calculated AGCTLs for PFOA and PFOS protective of sensitive lifestages based on the 90th percentile drinking water ingestion rate of 0.054 L/kg-d for lactating women. For developmental effects, AGCTLs of 0.07 µg/L were derived for both PFOA and PFOS using the formula in Figure 2 of Chapter 62-777, FAC. The AGCTLs for these two

chemicals are identical because their oral reference doses are also identical (2E-05 mg/kg-d). The calculation and exposure assumptions used are shown in Figure 1 below. Because of the similarity in adverse effects and potency of these chemicals, the USEPA recommends that, where PFOA and PFOS are co-located, the sum of the concentrations of these chemicals should be compared to the drinking water criterion (USEPA, 2016a & 2016b). Therefore, **the sum of PFOA and PFOS concentrations should be compared to the AGCTL of 0.07 µg/L.**

In deriving these AGCTLs, we note that the Agency for Toxic Substances and Disease Registry (ATSDR) has recently released for public comment a draft toxicological profile for perfluoroalkyl chemicals, including PFOA and PFOS. The proposed Minimal Risk Levels for PFOA and PFOS are an order of magnitude lower than their USEPA reference doses, prompting discussion within the scientific and regulatory community whether the USEPA reference doses should be re-visited and perhaps revised downward. We recommend following this discussion closely and making further modifications to the AGCTLs if warranted. Please let us know if you have any questions regarding the development of this AGCTL.

Sincerely,



Leah D. Stuchal, Ph.D.



Stephen M. Roberts, Ph.D.

References:

USEPA (2011) *Exposure Factors Handbook: 2011 Edition*. United States Environmental Protection Agency, National Center for Environmental Assessment, Office of Research and Development, Washington, DC.

USEPA (2016a) *Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA)*. United States Environmental Protection Agency, Office of Water, Washington, DC.

USEPA (2016b) *Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS)*. United States Environmental Protection Agency, Office of Water, Washington, DC.

Figure 1 – Equation for the derivation of a GCTL for PFOA and PFOS

$$GCTL (\mu g/L) = \frac{RfD_o \times RSC \times CF}{WC}$$

where:

Parameter	Definition	Value
GCTL	Groundwater cleanup target level (μg/L)	--
RfDo	Reference dose (mg/kg-d)	2E-05
RSC	Relative source contribution	0.2
CF	Conversion factor (μg/mg)	1000
WC	Water consumption (L/kg-d)	0.054

January 3, 2019

Leah J. Smith
District and Business Support Program
Division of Waste Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Leachability SCTLs for PFOA and PFOS based on the alternative GCTL of 0.07 µg/L

Dear Ms. Smith:

At your request, we have calculated leachability soil cleanup target levels (SCTLs) for perfluorooctanoic acid (PFOA; CAS# 335-67-1) and perfluorooctane sulfonate (PFOS; CAS# 1763-23-1) based on the alternative groundwater cleanup target level (AGCTL) of 0.07 µg/L for the protection of sensitive lifestages. The leachability SCTLs were calculated using the equation in Figure 5 of Chapter 62-777, F.A.C. Chemical-specific properties used in the calculation were taken from our letter regarding the calculation of SCTLs for PFOA and PFOS (dated April 16, 2018). Based on these parameters, **the leachability SCTL for PFOA is 0.002 mg/kg and the leachability SCTL for PFOS is 0.007 mg/kg**. Please let us know if you have any questions regarding these calculations.

Sincerely,



Leah D. Stuchal, Ph.D.



Stephen M. Roberts, Ph.D.

APPENDIX B

Field Forms



Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location IRSC Project/Task Number FR3598

Type of Work _____ Date 6/5/19

Field Personnel Munger, Langteau, Batcher

Contractors Geotek, PDS

Time	Notes:
0530	Audrey Batcher (AB) leaves CW in personal vehicle
0840	AB arrives @ IRSC. Dennis Jensen (DJ-PDFP) onsite.
0900	Geotek, Zack + Amy (Geosyntec) arrive onsite.
0905	AB delivers tailgate safety meeting
0915	Move vehicles towards burn tower in designated area per Michalek Kemp (IRSC staff)
0920	ZM and DJ begin marking sample locations, AL begins instrument calibration, + AB sets up HFA decon station
0940	PDS arrives onsite.
0950	Tailgate safety w/ PDS (Lee + Laime)
1000	PDS begins setting up decon pit + cleaning equipment. AB and ZM begin taking SW and red samples
1115	Bud (Geotek) completes locates. Leave site. AB/ZM begin collecting soil samples. PDS sets up @ TMW-2. - DJ takes AFFF product samples from shed
1230-1245	lunch break
1345-1430	PDS lunch break, AL sampled TMW-2(5-20') @ 1415
1445	ZM and AB complete HFA soil borings.

Audrey B
6/5/19

Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location IRSC Project/Task Number FR3598

Type of Work _____ Date 6/5/19

Field Personnel Munger, Langteau, Butler

Contractors Geosyntec + PDS

Time Notes:

1530

TMW-1 (5-20') sampled

1610

PDS finishes staging IDW and pulling TMWs.

1600

DJ takes another APPF product sample

1615

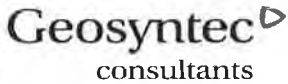
PDS offsite

FIB and AL double check sample containers + COC.

ZM finishes IDW samples.

Audrey Frost

Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location Fort Pierce FL Project/Task Number FR3598
 Type of Work PFAS Assessment Date 6/5/19
 Field Personnel ZMunger, A. Belzer, A. Langteau, Dennis, PDS, Geotek
 Contractors PDS, Geotek

Time	Notes:
0645	Zachary Munger (ZM) + Audrey Belzer ^{Amy Langteau (AL)} load up Geosyntec field vehicle + depart Titusville Office
0855	ZM + AL arrive at Indian River State College (site), Audrey Belzer (AB), Dennis (FDEP), + Bud (Geotek) on site. AB conduct tailgate safety meeting
0900	Set up decon area. Mike Kemp (IRSC Fire Training) introduce himself and offers facilities as needed. ZM + Dennis mark sampling locations. AL calibrate field instruments. AB begin deconting hand augers. Bud perform utility locate
0945	Drillers on site, unload rig and build decon pit ZM, AB, AL begin collecting surface water + sediment samples. ZM + AB collect soil samples
1120	Bud leave site
1125	Begin installing TMW-2
1245	Begin installing TMW-1
1330	AL begin well sampling
1515	ZM + AB finish soil sampling. ZM collect GPS points
1600	ZM collect drum samples. Drillers leave site
1700	ZM, AB, AL, Dennis leave site

Zachary Munger 6/5/19

Water Quality Instrument Calibration Form

Project/Site: Indian River State College (IRSC)

Project #: FR3598

Field Personnel: A. Langston

Water Quality Meter - Model/Serial#: YSI 556 / 06K1082AM

Turbidimeter - Model/Serial#: Hach 2000 / 15600041572

Dissolved Oxygen (FDEP SOP FT 1500)	Date	Time	Temp (°C)	Saturation (mg/L)*	Reading (mg/L)	Reading (%)	Pass or Fail
Acceptance Criteria: +/- 0.3 mg/L							
CAL ICV CCV	6/5/19	0933	28.6	7.745	7.82	101.0	P F
CAL ICV CCV	6/6/19	0840	21.8	8.777	8.87	100.9	P F
CAL ICV CCV							P F
CAL ICV CCV							P F
Specific Conductance (FDEP SOP FT 1200)	Date	Time	Standard Lot #	Standard Exp. Date	Standard (mS/cm)	Reading (mS/cm)	Pass or Fail
Specific Conductance Probe Cleaned? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
Acceptance Criteria: +/- 5%							
CAL ICV CCV	6/5/19	0957	96A622	1/20	1.413	1.409	P F
CAL ICV CCV	6/6/19	0902	"	"	"	1.398	P F
CAL ICV CCV							P F
CAL ICV CCV							P F
pH (FDEP SOP FT 1100)	Date	Time	Standard Lot #	Standard Exp. Date	Standard (SU)	Reading (SU)	Pass or Fail
Acceptance Criteria: +/- 0.2 SU							
CAL ICV CCV	6/5/19	0938	86J877	10/20	7.0	7.15	P F
CAL ICV CCV	↓	0943	96A602	1/21	4.0	4.15	P F
CAL ICV CCV	↓	0949	86J1015	10/20	10.0	9.84	P F
CAL ICV CCV	6/6/19	0845	86J877	10/20	7.0	7.02	P F
CAL ICV CCV	↓	0850	96A602	1/21	4.0	4.19	P F
CAL ICV CCV	↓	0856	86J1015	10/20	10.0	9.81	P F
ORP (FDEP SOP N/A)	Date	Time	Standard Lot #	Standard Exp. Date	Standard (mV @ Temp °C)	Reading (mV)	Pass or Fail
Dissolved Oxygen Membrane Changed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
Geosyntec Acceptance Criteria: +/- 5%							
CAL ICV CCV	6/5/19	0954	96B139	11/19	238	217.1	P F
CAL ICV CCV	6/6/19	0859	96A139	11/19	238	252.9	P F
CAL ICV CCV							P F
CAL ICV CCV							P F

Turbidity 0.1-10 NTU	Date	Standard (NTU)	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 10%				
CAL ICV CCV	6/5/19	10.0	10.2	P F
CAL ICV CCV	6/6/19	10.0	10.5	P F
CAL ICV CCV				P F
CAL ICV CCV				P F
Turbidity 11-40 NTU	Date	Standard (NTU)	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 8%				
CAL ICV CCV	6/5/19	20.0	20.4	P F
CAL ICV CCV	6/6/19	20.0	20.2	P F
CAL ICV CCV				P F
CAL ICV CCV				P F
Turbidity 41-100 NTU	Date	Standard (NTU)	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 6.5%				
CAL ICV CCV	6/5/19	100	101	P F
CAL ICV CCV	6/6/19	100	105	P F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F
Turbidity >100 NTU	Date	Standard (NTU)	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 5%				
CAL ICV CCV	6/5/19	800	798	P F
CAL ICV CCV	6/6/19	800	799	P F
CAL ICV CCV				P F
CAL ICV CCV				P F

Notes:

CAL = Initial Calibration

ICV = Initial Calibration Verification

CCV = Continuing Calibration Verification

* See Table FS 2200-2 on the back of this form

Allow adequate time for the dissolved oxygen sensor to equilibrate during air calibration

Calibrate specific conductance using at least two standards that bracket the range of expected sample readings (unless readings <0.1 mS/cm is acceptable)

Calibrate pH using at least two standards (typ. pH 4 and 7) that bracket the range of expected sample readings; always start with pH 7; add a third calibration point if needed

If parameter fails to calibrate within SOP acceptance criteria then append sample results with a "J" qualifier

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: TMW-1		Site Name: IRSC		FDEP Facility I.D. Number:	Well Install Date(s): 6/5/19
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input checked="" type="checkbox"/> Above Grade (AG) <input type="checkbox"/> Flush-to-Grade			Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input checked="" type="checkbox"/> Remediation or Other (describe) Temporary shallow monitoring well		Well Install Method: DPT
If AG, list feet of riser above land surface:					Surface Casing Install Method: N/A
Borehole Depth (feet): 20	Well Depth (feet): 20	Borehole Diameter (inches):	Manhole Diameter (inches): N/A	Well Pad Size: N/A feet by N/A feet	
Riser Diameter and Material: 1" PVC		Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-T threaded <input type="checkbox"/> Other (describe)	Riser Length: 7 feet from 5 feet to +2 feet (above ground)		
Screen Diameter and Material: 1" PVC pre-packed		Screen Slot Size: 0.010"	Screen Length: 15 feet from 5 feet to 20 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches): N/A	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches): N/A	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches): N/A	3 rd Surface Casing Length: 15 feet from 20 feet to 5 feet		
Filter Pack Material and Size: 20/30 silica sand	Prepacked Filter Around Screen (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Filter Pack Length: 6 feet from 6 feet to 6 feet		
Filter Pack Seal Material and Size:	N/A - temporary monitoring well		Filter Pack Seal Length: 6 feet from 6 feet to 6 feet		
Surface Seal Material:	N/A - temporary monitoring well		Surface Seal Length: 6 feet from 6 feet to 6 feet		

WELL DEVELOPMENT DATA			
Well Development Date: 6/5/19		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)	
Development Pump Type (check): <input checked="" type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): 7.6 ft BLS	
Pumping Rate (gallons per minute): 1.14	Maximum Drawdown of Groundwater During Development (feet): N/A	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 24	Development Duration (minutes): 21	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: grey + cloudy		Water Appearance (color and odor) At End of Development: clear	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
-Temporary monitoring well location that was installed, developed, sampled, and removed within 24 hours start time: 1313 end time: 1334

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: TMW-2		Site Name: IRSC		FDEP Facility I.D. Number: —	Well Install Date(s): 6/5/19
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input checked="" type="checkbox"/> Above Grade (AG) <input type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input checked="" type="checkbox"/> Remediation or Other (describe) Temporary shallow monitoring well		Well Install Method: DPT	
If AG, list feet of riser above land surface:				Surface Casing Install Method: N/A	
Borehole Depth (feet): 20	Well Depth (feet): 20	Borehole Diameter (inches):	Manhole Diameter (inches): N/A	Well Pad Size: N/A feet by N/A feet	
Riser Diameter and Material: 1" PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)			Riser Length: 7 feet from 5 feet to +2 feet (above ground)	
Screen Diameter and Material: 1" PVC pre-packed		Screen Slot Size: 0.010"		Screen Length: 15 feet from 5 feet to 20 feet	
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches): N/A (CW)		1 st Surface Casing Length: _____ feet from _____ feet to _____ feet	
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches): N/A		2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet	
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches): N/A		3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet	
Filter Pack Material and Size: 20/30 silica sand	Prepacked Filter Around Screen (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Filter Pack Length: 15 feet from 20 feet to 5 feet		
Filter Pack Seal Material and Size:	N/A - temporary monitoring well		Filter Pack Seal Length: 0 feet from 0 feet to 0 feet		
Surface Seal Material:	N/A - temporary monitoring well		Surface Seal Length: 0 feet from 0 feet to 0 feet		

WELL DEVELOPMENT DATA			
Well Development Date: 6/5/19		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)	
Development Pump Type (check): <input checked="" type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): 10.50	
Pumping Rate (gallons per minute): 1.5	Maximum Drawdown of Groundwater During Development (feet): N/A		Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 29	Development Duration (minutes): 19	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: grey & cloudy		Water Appearance (color and odor) At End of Development: clear	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
-Temporary monitoring well location that was installed, developed, sampled, and removed within 24 hours start time: 1224 end time: 1243

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Historical AFFF Use Areas	SS-1	SS-1 (0-1')	6/5/19 1410	Soil	0-1	HA	Brown v. fine-fine SAND, loose, dry, abundant roots, earthy odor, up to 10% fines
		SS-1 (1-2')	6/5/19 1412		1-2		Dark brown v. fine-fine SAND, loose, dry moist, no odor, up to 10% fines
	SS-2	SS-2 (0-1')	6/5/19 1356		0-1		Gray-brown v. fine-fine SAND, loose, dry, abundant roots, earthy odor, up to 10% fines
		SS-2 (1-2')	6/5/19 1359		1-2		Light gray v. fine-fine SAND, loose, dry, trace roots, trace fines, no odor
	SS-3	SS-3 (0-1')	6/5/19 1336		0-1		Brown-gray v. fine-fine SAND, loose, dry, trace roots, earthy odor, up to 10% fines
		SS-3 (1-2')	6/5/19 1339		1-2		Yellow-brown silty SAND, v. fine-fine SAND, loose, dry; no odor
	SS-4	SS-4 (0-1')	6/5/19 1420		0-1		Gray v. fine-fine SAND, loose, dry, trace roots, earthy odor, up to 10% fines
		SS-4 (1-2')	1423		1-2		Light gray silty SAND, loose, v. fine-fine grain, dry, trace roots

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Historical AFFF Use Areas	SS-5	SS-5 (0-1')	6/5/19 1452	Soil	0-1	HA	Gray v-fine-fine SAND, loose, moist, trace roots, no odor
		SS-5 (1-2')	6/5/19 1455		1-2		Yellow-gray silty SAND, loose, moist, v-fine-fine grain, trace roots
	SS-6	SS-6 (0-1')	6/5/19 1326		0-1		Brown silty SAND, v-fine-fine grain, loose dry, no odor, abundant roots, charcoal fragments
		SS-6 (1-2')	6/5/19 1329		1-2		Brown silty SAND, v-fine-fine grain, loose, dry, earthy odor, abundant roots
	SS-7	SS-7 (0-1')	6/5/19 1430		0-1		Brown v-fine-fine SAND, loose, dry, no odor, trace roots, up to 10% fines
		SS-7 (1-2')	6/5/19 1433		1-2		Light gray silty SAND, loose, dry, no odor, trace roots.
	SS-8	SS-8 (0-1')	6/5/19 1443		0-1		Brown, fine-fine SAND, loose, dry, earthy odor, abundant roots, up to 10% fines, trace gravel
		SS-8 (1-2')	6/5/19 1445		1-2		Yellow-gray v-fine-fine SAND, loose, dry, earthy odor, trace roots, up to 10% fines

**Table 1: Sampling Work Plan
Indian River State College**

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Historical AFFF Use Areas	SS-9	SS-9 (0-1')	6/5/19 1315	Soil	0-1	HA	Brown fine-med SAND, loose, moist, no odor, trace roots, fines up to 10%.
		SS-9 (1-2')	6/5/19 1318		1-2		Yellow-brown silty SAND, loose, fine-med grain, loose, moist, no odor
	SS-10	SS-10 (0-1')	6/5/19 1226		0-1		Brown silty SAND, v fine-fine grain, loose, moist, no odor
		SS-10 (1-2')	6/5/19 1229		1-2		Gray-brown v fine-fine SAND, loose, moist, no odor, fines up to 10%
	SS-11	SS-11 (0-1')	6/5/19 1210		0-1		Gray-brown v fine-med SAND, loose; moist, fines up to 10%; no odor
		SS-11 (1-2')	6/5/19 1214		1-2		Brown v fine-fine SAND, loose, moist, fines up to 10%, no odor
	SS-12	SS-12 (0-1')	6/5/19 1159		0-1		Brown v fine-fine SAND, loose, dry, earthy odor, up to 10% fines
		SS-12 (1-2')	6/5/19 1158		1-2		Brown silty SAND, v fine-fine grain, loose dry; no odor

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Historical AFFF Use Areas	SS-13	SS-13 (0-1')	6/5/19 1130	Soil	0-1	HA	Brown silty SAND; v loose, dry, v fine-fine grain; abundant roots; no odor
		SS-13 (1-2')	6/5/19 1135		1-2		Brown-gray silty SAND, v loose, dry, v fine-fine grain; no odor
	SS-14	SS-14 (0-1')	6/5/19 1505		0-1		Dark brown v fine-fine SAND, loose, wet, trace roots, fines up to 10's, no odor
		SS-14 (1-2')	6/5/19 1506		1-2		Brown-gray v fine-fine SAND, loose, wet, fines up to 10's, no odor
Historical AFFF Use Areas	Sed-1	Sed-1 (0-1')	6/5/19 1044	Sediment	0-1	HA	Gray-brown v fine-med SAND, v loose, wet, trace fines, abundant roots + organic matter; no odor
	Sed-2	Sed-2 (0-1')	6/5/19 1038		0-1		Gray-brown v fine-med SAND, v loose, wet, silty sand intervals, abundant roots + organic matter; no odor
	Sed-3	Sed-3 (0-1')	6/5/19 1118		0-1		Gray-brown silty SAND, v fine-fine grain, v loose, wet, abundant grass + roots; no odor
	SW-1	SW-1	6/5/19 1108	Surface Water	N/A	Grab	
		SW-3 DUP 1	1108		N/A		
	SW-2	SW-2			N/A		
	SW-3	SW-3	6/5/19 1108		N/A		

**Table 1: Sampling Work Plan
Indian River State College**

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Temporary Monitoring Wells							
Historical AFFF Use Areas	TMW-1	TMW1 (5-20')		Groundwater	5-20	DPT	
		DUP 2 (5-20')			5-20		
	TMW-2	TMW-2 (5-20')			5-20		
IDW Sample							
Waste Characterization	Drum 1	IDW-1-Water	6/5/19 1600	Water	N/A	N/A	VOCs, SVOCs, RCRA Metals, PFAS
Laboratory QA/QC Samples							
Assess potential sources of contamination from DPT and HA sampling equipment	Equipment Blanks (ratio of 1:10)	EQB 1		Water	N/A		
		EQB 2					
		EQB 3					
Evaluate potential impact of sample cross-contamination	Field Reagent Blanks (1 per cooler)	FRB 1					
		FRB 2					
		FRB 3					

Notes:

1. DPT indicates direct push technology.
2. ft BLS indicates feet below land surface.
3. SS indicates soil boring.
4. Sed indicates sediment.
5. SW indicates surface water.
6. TMW indicates temporary well.
7. HA indicates hand auger.
8. PFAS indicates per- and polyfluoroalkyl substances
9. N/A indicates not applicable.
10. DUP indicates duplicate.
11. EQB indicates equipment blank.
12. FRB indicates field reagent blank.
13. AFFF indicates aqueous film forming foam.

1DW-2-water 6/5/19 1615

**Table 1: Sampling Work Plan
Indian River State College**

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments	
Historical AFFF Use Areas	SS-13	SS-13 (0-1')		Soil	0-1	HA		
		SS-13 (1-2')			1-2			
	SS-14	SS-14 (0-1')			0-1			
		SS-14 (1-2')			1-2			
Historical AFFF Use Areas	Sed-1	Sed-1 (0-1')		Sediment	0-1	HA		
	Sed-2	Sed-2 (0-1')			0-1			
	Sed-3	Sed-3 (0-1')			0-1			
	SW-1	SW-1	1015		Surface Water	N/A	Grab	Ⓢ moved south (see map)
		DUPT				N/A		1015
	SW-2	SW-2	1040			N/A		moved south (see map)
	SW-3	SW-3	1108			N/A		moved north (see map)

SW-3 | DUP-1 |

DUP-1 taken @ SW-3

6/5/19
Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Temporary Monitoring Wells							
Historical AFFF Use Areas	TMW-1	TMW1 (5-20')	1530	Groundwater	5-20	DPT	NO DUP taken
		DUP 2 (5-20')			5-20		
	TMW-2	TMW-2 (5-20')	1415		5-20		4 sample containers
IDW Sample							
Waste Characterization	Drum 1	IDW-1-Water		Water	N/A	N/A	VOCs, SVOCs, RCRA Metals, PFAS
Laboratory QA/QC Samples							
Assess potential sources of contamination from DPT and HA sampling equipment	Equipment Blanks (ratio of 1:10)	EQB-1	(AL)	Water	N/A		
		EQB-2	1308				off HA used @ SS-9(0-1')
		EQB 3	1350				off HA used @ SS-2(0-1')
Evaluate potential impact of sample cross-contamination	Field Reagent Blanks (1 per cooler)	FRB 1	1515				taken @ TMW-1
		FRB 2	1522				@ HA decon station
		FRB 3					

Notes:

- 1 DPT indicates direct push technology
- 2 ft BLS indicates feet below land surface
- 3 SS indicates soil boring
- 4 Sed indicates sediment
- 5 SW indicates surface water
- 6 TMW indicates temporary well
- 7 HA indicates hand auger
- 8 PFAS indicates per- and poly fluoroalkyl substances
- 9 N/A indicates not applicable
- 10 DUP indicates duplicate
- 11 EQB indicates equipment blank
- 12 FRB indicates field reagent blank
- 13 AFFF indicates aqueous film forming foam

**Table 1: Sampling Work Plan
Indian River State College**

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Temporary Monitoring Wells							
Historical AFFF Use Areas	TMW-1	TMW1 (5-20')		Groundwater	5-20	DPT	
		DUP 2 (5-20')			5-20		
	TMW-2	TMW-2 (5-20')			5-20		
IDW Sample							
Waste Characterization	Drum 1	IDW-1-Water		Water	N/A	N/A	VOCs, SVOCs, RCRA Metals, PFAS
Laboratory QA/QC Samples							
Assess potential sources of contamination from DPT and HA sampling equipment	Equipment Blanks (ratio of 1:10)	EQB 1	<i>G/S/A 115</i>	Water	N/A		<i>from inside DPT rod going into TMW-2</i>
		EQB 2					
		EQB 3					
Evaluate potential impact of sample cross-contamination	Field Reagent Blanks (1 per cooler)	FRB 1					
		FRB 2					
		FRB 3					

Notes:

1. DPT indicates direct push technology.
2. ft BLS indicates feet below land surface.
3. SS indicates soil boring.
4. Sed indicates sediment
5. SW indicates surface water.
6. TMW indicates temporary well
7. HA indicates hand auger.
8. PFAS indicates per- and polyfluoroalkyl substances.
9. N/A indicates not applicable
10. DUP indicates duplicate.
11. EQB indicates equipment blank.
12. FRB indicates field reagent blank.
13. AFFF indicates aqueous film forming foam

Project: <u>IKSC</u>	Date: <u>2/10/20</u>
Project No.: <u>FR3598B</u>	Task No.: <u>02/04</u>
Contractors: <u>None</u>	

Work Performed	
Well Installation: _____	Sampling Soil: _____
Soil Borings: <u>X</u> _____	Sampling SW/Sediment: _____
DPT: _____	Sampling Monitor Wells: _____
Well Inventory: _____	Sampling Hazardous Waste: _____
Other: _____	Sampling Drums: _____

Observations/Issues of Concern
0530 Zackary Munger (ZM) load up Geosyntec field vehicle + depart Titusville office
0700 ZM arrive at Indian River State College (site). FDEP (Brandie Stringer + Bobby Williams) + Josh Uvardy on site. FDEP discuss field activities with site personnel
0725 Ryan Jostlyn + Geostek on site. ZM conduct tailgate safety meeting. ZM, RJ, + Geostek mark locations
0815 Geostek mark utilities. Geosyntec decon sampling equipment, then begin soil sampling at cleared locations
1145 Geostek finish marking utilities and leave site. ZM, RJ, JU, + FDEP leave site for lunch
1235 Geosyntec staff back on site. Decon sampling equipment. FDEP back on site
1300 Resume soil sampling activities
1700 Geosyntec + FDEP secure site + leave

Plans/Future Activities
continue soil sampling activities

[Signature] 2/10/2020
Signature/Date

Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location IRSC Project/Task Number FR3598B

Type of Work soil borings Date 2/11/2020

Field Personnel ZMunyer, JR Jarlyn, J Uardy

Contractors PDS

Time	Notes:
------	--------

0645	(Zack Munyer, Ryan Jarlyn, + Josh Uardy) Geosyntec staff load up field vehicles + depart hotel
------	---

0700	Geosyntec arrive at Indian River State College (site) FOEP (Brandie Stringer + Bobby Williams) on site. ZM conduct tailgate safety meeting, then resume soil sampling activities
------	--

0830	PDS drillers on site. Drillers set up decon pit + unload equipment; then begin DPT soil borings
------	---

1215	Break for lunch
------	-----------------

1300	Back on site, resume soil sampling
------	------------------------------------

1545	Josh Uardy leave site
------	-----------------------

1605	Drillers + FOEP leave site
------	----------------------------

1615	ZM + RJ leave site
------	--------------------

[Signature] 2/11/2020

Field Activities Record Form



Project Name Indian River State College (IRSC)
 Site Location IRSC Project/Task Number FR3598B
 Type of Work soil borings + MW installs Date 2/12/2020
 Field Personnel ZMunger, R Jostyn, M Simmons
 Contractors PDS

Time	Notes:
0645	Geosyntec staff (Zack Munger + Ryan Jostyn) load up field vehicles + depart + hotel
0700	Geosyntec arrive at Indian River State College (site) Drillers on site
0710	FDEP (Brandie Stringer + Bobby Williams) on site. FJ conduct final site safety meeting
0800	Resume soil sampling activities
0845	Begin installing DEP MW-7
0915	Drill Rig w/ malfunction. Meg Simons on site. Drillers repair winch
1030	Begin installing DEP MW-6
1050	Begin developing DEP MW-7
1130	Begin installing DEP MW-9
1225	Break for lunch
1320	Back on site
1355	Begin installing DEP MW-5. Begin developing DEP MW-6
1445	Begin developing DEP MW-9
1540	Begin installing DEP MW-1. Begin developing DEP MW-5
1700	DEP, Drillers, + Geosyntec secure site + leave

Zack Munger 2/12/2020

Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location IRSC Project/Task Number FR3598B

Type of Work Soil boring + MW install Date 2/13/20

Field Personnel 2 Munger, R Joslyn, M Simms

Contractors PDS

Time	Notes:
------	--------

0700 Geosyntec staff (2 Munger, R Joslyn, M Simms) arrive at Indian River State College (site). DEP (Brandie Stringer + Bobby Williams) on site. Drilley on site.

0715 RJ conduct tailgate safety meeting

0815 Begin installing DEPMW-10

0825 Begin developing DEPMW-1

0840 Begin installing DEPMW-11

0930 Begin installing DEPMW-12

1015 Begin installing DEPMW-8

1045 Brandie Stringer requested that Geosyntec collect one surface water (sw-6) sample + one sediment (sed-7) sample from the ditch adjacent to the conex box storing fire fighting products

1145 Break for lunch

1250 Back on site

1320 Begin installing DEPMW-3

1415 Begin developing DEPMW-11

1420 Begin installing DEPMW-2

1500 Begin developing DEPMW-19. Begin installing DEPMW-4. MS leave site

[Signature] 2/13/2020

Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location IRSC Project/Task Number FR3598

Type of Work soil boring + Mw installs Date 2/13/2020

Field Personnel Z Mungler, R Jarkyn

Contractors PDS

Time	Notes:
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1645	Geosyntec, drillers, + FDSP secure site and leave
------	---

[Signature] 2/13/2020

Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location IRSC

Project/Task Number FR3598B

Type of Work Soil borings + Mw installs

Date 2/14/20

Field Personnel ZMunger, R Joslyn

Contractors PPS

Time	Notes:
------	--------

0700	Geosyntec staff arrive at Indian River
	State College (site). Drillers + DEP (Brandie Stringer + Bobby Williams) on site
0715	Begin developing DEPMW-8
0735	Begin developing DEPMW-3
	Begin developing DEPMW-2. ZM collect
	GPS coordinates
	Begin developing DEPMW-4
0930	Drillers secure area, load equipment, leave
	site
1005	FDEP leave site
1015	ZM + RJ leave site

Joe N [Signature] 2/14/2020

Attachment A. Daily PFAS Sampling Checklist

Date: 2/10/2020

Site Name: IRSC

Weather (temperature/precipitation): 70s

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant clothing (e.g., GORE-TEX®)
- During collection of water and sediment samples, no water- or stain-resistant boots OR water- or stain-resistant boots covered by PFAS-free over-boots
- Field boots (or over-boots) are made of polyurethane, PVC, rubber, or untreated leather
- Waders or rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
- Clothing has not been recently laundered with a fabric softener
- No coated HDPE suits (e.g., coated Tyvek® suits)
- Field crew has not used cosmetics, moisturizers, or other related products today
- Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., inner drill rods, samplers) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox® or Liquinox® used as decontamination detergent

Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

Staff wore water resistant boots without covers

Field Team Leader Name (Print): Zachary Moyer

Field Team Leader Signature: 

Date/Time: 2/10/2020 0715

Attachment A. Daily PFAS Sampling Checklist

Date: 2/11/2020

Site Name: IRSC

Weather (temperature/precipitation): 70.5

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant clothing (e.g., GORE-TEX®)
- During collection of water and sediment samples, no water- or stain-resistant boots OR water- or stain-resistant boots covered by PFAS-free over-boots
- Field boots (or over-boots) are made of polyurethane, PVC, rubber, or untreated leather
- Waders or rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
- Clothing has not been recently laundered with a fabric softener
- No coated HDPE suits (e.g., coated Tyvek® suits)
- Field crew has not used cosmetics, moisturizers, or other related products today
- Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., inner drill rods, samplers) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox® or Liquinox® used as decontamination detergent

Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

Staff wore water resistant boots without covers

Field Team Leader Name (Print): Zackary Mungler

Field Team Leader Signature: [Signature]

Date/Time: 2/11/2020 0710

Attachment A. Daily PFAS Sampling Checklist

Date: 2/12/2020

Site Name: IRSC

Weather (temperature/precipitation): 70s

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant clothing (e.g., GORE-TEX®)
- During collection of water and sediment samples, no water- or stain-resistant boots OR water- or stain-resistant boots covered by PFAS-free over-boots
- Field boots (or over-boots) are made of polyurethane, PVC, rubber, or untreated leather
- Waders or rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
- Clothing has not been recently laundered with a fabric softener
- No coated HDPE suits (e.g., coated Tyvek® suits)
- Field crew has not used cosmetics, moisturizers, or other related products today
- Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., inner drill rods, samplers) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox® or Liquinox® used as decontamination detergent

Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

Staff wore water resistant boots without covers

Field Team Leader Name (Print): Zack Munger

Field Team Leader Signature: 

Date/Time: 2/12/2020 0710

Attachment A. Daily PFAS Sampling Checklist

Date: 2/13/2020

Site Name: IRSC

Weather (temperature/precipitation): 70r

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant clothing (e.g., GORE-TEX®)
- During collection of water and sediment samples, no water- or stain-resistant boots OR water- or stain-resistant boots covered by PFAS-free over-boots
- Field boots (or over-boots) are made of polyurethane, PVC, rubber, or untreated leather
- Waders or rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
- Clothing has not been recently laundered with a fabric softener
- No coated HDPE suits (e.g., coated Tyvek® suits)
- Field crew has not used cosmetics, moisturizers, or other related products today
- Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., inner drill rods, samplers) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox® or Liquinox® used as decontamination detergent

Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

Staff wore water resistant boots without covers

Field Team Leader Name (Print): Zach Mungel

Field Team Leader Signature: 

Date/Time: 2/17/2020 0715

Attachment A. Daily PFAS Sampling Checklist

Date: 2/14/2020

Site Name: IRSC

Weather (temperature/precipitation): 705

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant clothing (e.g., GORE-TEX®)
- During collection of water and sediment samples, no water- or stain-resistant boots OR water- or stain-resistant boots covered by PFAS-free over-boots
- Field boots (or over-boots) are made of polyurethane, PVC, rubber, or untreated leather
- Waders or rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
- Clothing has not been recently laundered with a fabric softener
- No coated HDPE suits (e.g., coated Tyvek® suits)
- Field crew has not used cosmetics, moisturizers, or other related products today
- Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., inner drill rods, samplers) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox® or Liquinox® used as decontamination detergent


Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

Staff wore water resistant boots without covers

Field Team Leader Name (Print): Zack Mungler

Field Team Leader Signature: 

Date/Time: 2/14/2020 0715

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments	
Delineation Sampling	SB-1	SB-1 (2-4')	2/10/2020 1351	Soil	2-4	HA	Yellow-gray fine-med SAND, moist, no odor, yellow staining	
		SB-1 (4-6')	2/11/2020 1400		4-6	DPT	Brown fine-med SAND, lenses of silty SAND, moist, no odor	
		SB-1 (8-10')	2/11/2020 1402		8-10		Light gray v. fine-fine SAND, wet, no odor	
	SB-2	SB-2 (2-4')	2/10/2020 1418		2-4	HA	Yellow-gray fine-med SAND, moist, no odor, yellow staining	
		SB-2 (4-6')	2/11/2020 ✓ 1431		4-6	DPT	Light gray fine-med SAND, moist, mottled yellow, no odor	
		SB-2 (8-10')	2/11/2020 ✓ 1434		8-10		Gray fine-med SAND, trace fines, wet, no odor	
	SB-3	SB-3 (0-0.5')	2/10/2020 1010		0-0.5	HA	Gray-brown v. fine-fine SAND, trace roots, moist, no odor	
		SB-3 (0.5-2')	2/10/2020 1013		0.5-2		Gray v. fine-fine SAND moist, no odor	
		SB-3 (2-4')	2/10/2020 1019		2-4		Gray v. fine-fine SAND w/silt, moist, no odor	
		SB-3 (4-6')	2/12/2020 1456		4-6		DPT	Yellow-gray fine-med SAND, moist, no odor
		SB-3 (8-10')	2/12/2020 1459		8-10			Brown-gray fine-med SAND, wet, no odor

* All 4-6' intervals were collected from 5-7'

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-4	SB-4 (0-0.5')	2/10/20 0948	Soil	0-0.5	HA	brown v fine-fine sand, trace roots, moist no odor
		SB-4 (0.5-2')	2/10/20 0952		0.5-2		gray v fine-fine sand, trace fines, moist, no odor
		SB-4 (2-4')	2/10/20 0955		2-4		gray v fine-fine sand w/ silt, moist, no odor mottled orange ←
		SB-4 (4-6')	2/12/2020 1514		4-6	DPT	Yellow-brown fine-med SAND, moist, yellow staining, no odor
		SB-4 (8-10')	2/12/2020 1519		8-10		Gray v fine-fine SAND w/ silt, cohesive, wet, no odor
	SB-5	SB-5 (0-0.5')	2/10/20 0933		0-0.5	HA	gray-brown v fine-fine SAND, trace roots, moist, no odor
		SB-5 (0.5-2')	2/10/20 0938		0.5-2		gray v fine-fine SAND, trace roots, moist, no odor
		SB-5 (2-4')	2/10/20 0941		2-4		Yellow-brown v fine-fine SAND, trace fines, moist, no odor
		SB-5 (4-6')	2/12/2020 1357		4-6	DPT	Yellow-brown v fine-fine SAND, mottled yellow staining, moist, no odor
		SB-5 (8-10')	2/12/2020 1359		8-10		Light gray v fine-fine SAND, cohesive, trace fines, mottled yellow staining, wet, no odor

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-6	SB-6 (0-0.5')	2/10/20 0904	Soil	0-0.5	HA	Gray v fine-fine SAND, trace roots, moist, no odor
		SB-6 (0.5-2')	2/10/20 0907		0.5-2		Gray v fine-fine SAND, trace roots, moist, no odor
		SB-6 (2-4')	2/10/20 0910		2-4		Yellow-gray v fine-fine SAND, trace fines, mottled orange, moist, no odor
		SB-6 (4-6')	2/12/20 1533		4-6	DPT	Yellow-gray to brown fine to medium SAND, yellow staining, moist, no odor
		SB-6 (8-10')	2/12/20 1537		8-10		Gray, fine to medium SAND, cohesive, wet, no odor
	SB-7	SB-7 (0-0.5')	2/10/20 0835		0-0.5	HA	Gray-brown fine-med SAND, trace fine gravel + roots, moist, no odor
		SB-7 (0.5-2')	2/10/20 0848		0.5-2		Gray-brown v fine-fine SAND, trace fines, moist, no odor
		SB-7 (2-4')	2/10/20 0856		2-4		Yellow-brown v fine-fine SAND w/ clay, mottled orange, moist, no odor
		SB-7 (4-6')	2/12/2020 1548		4-6	DPT	Yellow-gray fine-med SAND, yellow staining, moist, no odor
		SB-7 (8-10')	2/12/2020 1549		8-10		Gray-brown fine-med SAND, trace fines, wet, no odor

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Initials: _____

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-8	SB-8 (0-0.5')	2/10/20 1116	Soil	0-0.5	HA	brown (trace mottled orange) v fine to fine sand, trace roots, moist, no odor
		SB-8 (0.5-2')	2/10/20 1122		0.5-2		gray fine to medium sand, moist, no odor
		SB-8 (2-4')	2/10/20 1126		2-4		gray (trace mottled orange) v fine to fine sand, moist, no odor
		SB-8 (4-6')	2/11/2020 1106		4-6	DPT	yellow-brown v fine-fine SAND, mottled yellow-red staining, moist, no odor
		SB-8 (8-10')	2/11/2020 1048		8-10		8-9.5' yellow-gray fine-med SAND, moist, mottled yellow, no odor 9.5-10' brown-gray clayey SAND, fine-med, moist, no odor
	SB-9	SB-9 (0-0.5')	2/10/20 1133		0-0.5	HA	dark gray v fine to fine sand, moist, no odor
		SB-9 (0.5-2')	2/10/20 1135		0.5-2		gray v fine to fine sand, trace fines, moist, no odor
		SB-9 (2-4')	2/10/20 1138		2-4		gray (some mottled orange) v fine to fine sand, moist, no odor
		SB-9 (4-6')	2/11/2020 1127		4-6	DPT	light gray fine-med SAND, mottled yellow staining, moist, no odor
		SB-9 (8-10')	2/11/2020 1130		8-10		Brown fine-med SAND, wet, no odor

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-10	SB-10 (0-0.5')	2/11/2020 0734	Soil	0-0.5	HA	Yellow-gray fine-med SAND, trace roots, moist, no odor
		SB-10 (0.5-2')	2/11/2020 0737		0.5-2		Yellow-brown fine-med SAND, trace roots, moist, no odor
		SB-10 (2-4')	2/11/2020 0741		2-4		Yellow-gray v. fine-fine SAND, yellow staining, moist, no odor
		SB-10 (4-6')	2/11/2020 1140		4-6	DPT	Light gray fine-med SAND, mottled yellow staining, moist, no odor
		SB-10 (8-10')	2/11/2020 1145		8-10		Yellow-gray fine-med SAND, mottled yellow, trace fines, wet, no odor
	SB-11	SB-11 (0-0.5')	2/10/2020 1324		0-0.5	HA	Yellow-gray fine-med SAND, trace fines + roots, moist, no odor
		SB-11 (0.5-2')	2/10/2020 1326		0.5-2		Yellow-gray fine-med SAND, trace fines, moist, no odor
		SB-11 (2-4')	2/10/2020 1330		2-4		Yellow-gray fine-med SAND, trace fines, moist, no odor, yellow mottled staining
		SB-11 (4-6')	2/11/2020 1156		4-6	DPT	Light gray fine-med SAND, mottled yellow staining, moist, no odor
		SB-11 (8-10')	2/11/2020 1203		8-10		Yellow-gray fine-med SAND, trace fines, wet, no odor

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-12	SB-12 (0-0.5')	2/10/2020 1308	Soil	0-0.5	HA	Gray-brown v fine-fine SAND, trace fines, roots present, moist, earthy odor
		SB-12 (0.5-2')	2/10/2020 1311		0.5-2		Gray v fine-fine SAND, trace fines, trace roots, moist, no odor
		SB-12 (2-4')	2/10/2020 1315		2-4		Yellow-gray fine-med SAND, moist, no odor, minor yellow/orange staining
		SB-12 (4-6')	2/11/2020 1312		4-6	DPT	Yellow-gray fine-med SAND, yellow mottled staining, moist, no odor
		SB-12 (8-10')	2/11/2020 1314		8-10		Brown-gray fine-med SAND, trace fines, wet, no odor
	SB-13	SB-13 (0-0.5')	2/10/2020 1502		0-0.5	HA	Gray-brown v fine-fine SAND, trace fines, roots present, moist, no odor
		SB-13 (0.5-2')	2/10/2020 1501		0.5-2		Yellow-gray v fine-med SAND, moist, no odor, yellow/orange staining
		SB-13 (2-4')	2/10/2020 1504		2-4		Yellow-light gray v fine-fine SAND, no odor, trace fine-med, moist, yellow/orange staining
		SB-13 (4-6')	2/11/2020 1329		4-6	DPT	Yellow-light gray fine-medium SAND, no odor, yellow-orange staining, moist
		SB-13 (8-10')	2/11/2020 1332		8-10		Light brown-daw brown fine-medium SAND, no odor, wet, trace yellow staining

**Table 1: Sampling Work Plan
Indian River State College**

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-14	SB-14 (0-0.5')	2/10/2020 1358	Soil	0-0.5	HA	Brown v fine-fine SAND, trace roots, moist, earthy odor
		SB-14 (0.5-2')	2/10/2020 14102		0.5-2		Brown fine-med SAND, lenses of silty SAND, moist, no odor
		SB-14 (2-4')	2/10/2020 1408		2-4		light gray v fine-fine SAND, trace yellow staining, moist, no odor
		SB-14 (4-6')	2/11/2020 5B-14 ✓ 1409		4-6	DPT	Light gray v fine-fine ^{fine-med} SAND, moist, no odor
		SB-14 (8-10')	2/11/2020 5B-14 ✓ 1402		8-10		Light gray v fine-fine ^{fine-med} SAND, wet, no odor
	SB-15	SB-15 (0-0.5')	2/10/2020 1441		0-0.5	HA	Gray-brown v fine-fine SAND, trace roots, earthy odor
		SB-15 (0.5-2')	2/10/2020 1446		0.5-2		Yellow-brown v fine-fine SAND, moist, no odor
		SB-15 (2-4')	2/10/2020 1453		2-4		Gray fine-med SAND, trace fines, moist, no odor
		SB-15 (4-6')	2/11/2020 1347		4-6	DPT	Brown gray fine-med SAND, moist, no odor
		SB-15 (8-10')	2/11/2020 1350		8-10		Yellow-gray fine-med SAND, wet, no odor

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-16	SB-16 (0-0.5')	2/10/2020 1632	Soil	0-0.5	HA	Gray-dark brown v fine-fine SAND, moist, roots present, earthy odor
		SB-16 (0.5-2')	2/10/2020 1635		0.5-2		Gray-dark brown fine-medium SAND, moist, trace roots, no odor
		SB-16 (2-4')	2/10/2020 1638		2-4		Yellow-gray fine-medium SAND, moist, no odor, yellow-orange staining
		SB-16 (4-6')	2/11/2020 1529		4-6	DPT	Yellow-gray v fine-fine SAND, yellow mottled, moist, no odor
		SB-16 (8-10')	2/11/2020 1532		8-10		Gray v fine-fine SAND, wet, no odor
	SB-17	SB-17 (0-0.5')	2/10/2020 1529		0-0.5	HA	gray-dark brown v fine-fine SAND, trace fines, moist, roots present, no earthy odor
		SB-17 (0.5-2')	2/10/2020 1536		0.5-2		yellow-gray v fine-fine SAND, moist, trace roots, nodules of SAND with silt, no odor
		SB-17 (2-4')	2/10/2020 1538		2-4		yellow-light gray v fine-fine SAND, no odor, yellow-orange staining, moist
		SB-17 (4-6')	2/11/2020 1441		4-6	DPT	Light gray v fine-med SAND, mottled yellow, moist, no odor
		SB-17 (8-10')	2/11/2020 1445		8-10		Light gray fine-med SAND, trace fines, wet, no odor

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-18	SB-18 (0-0.5')	2/10/2020 1547	Soil	0-0.5	HA	Dark brown v fine-fine SAND, trace fines, moist, earthy odor, roots present
		SB-18 (0.5-2')	2/10/2020 1550		0.5-2		Gray-dark brown v fine-fine SAND, trace fines, trace roots, moist, no odor
		SB-18 (2-4')	2/10/2020 1554		2-4		Yellow-gray v fine-fine SAND, no odor, moist, yellow/orange staining
		SB-18 (4-6')	2/11/2020 1458		4-6	DPT	Light gray v fine-fine SAND, mottled yellow, moist, no odor
		SB-18 (8-10')	2/11/2020 1500		8-10		Gray v fine-fine SAND, trace fines, wet, no odor
	SB-19	SB-19 (0-0.5')	2/10/2020 1616		0-0.5	HA	Dark brown v fine-fine SAND, moist, trace roots, earthy odor
		SB-19 (0.5-2')	2/10/2020 1621		0.5-2		Gray-dark brown v fine-fine SAND, trace fines, moist, trace roots, no odor
		SB-19 (2-4')	2/10/2020 1625		2-4		Yellow-gray v fine-fine SAND, no odor, moist, ^{sim} yellow-orange staining
		SB-19 (4-6')	2/11/2020 1517		4-6	DPT	Yellow-gray v fine-fine SAND, moist, no odor
		SB-19 (8-10')	2/11/2020 1519		8-10		Light gray v fine-fine SAND, nodules sand w/ trace fines, moist, no odor

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-20	SB-20 (0-0.5')	2/11/2020 0922	Soil	0-0.5	HA	0-4" Road base 4"-6" Brown fine-med SAND, moist, no odor
		SB-20 (0.5-2')	2/11/2020 0928		0.5-2		Gray fine-med SAND, moist, no odor
		SB-20 (2-4')	2/11/2020 0934		2-4		Light gray fine-med SAND, moist, no odor
		SB-20 (4-6')	2/13/2020 1124		4-6	DPT	Light gray fine-med SAND, moist, no odor
		SB-20 (8-10')	2/13/2020 1126		8-10		Brown fine-med SAND, moist, no odor
	SB-21	SB-21 (0-0.5')	2/11/2020 1211		0-0.5	HA	Dark brown v fine-fine SAND, roots present, moist, no odor
		SB-21 (0.5-2')	2/11/2020 1213		0.5-2		Gray fine fine-med SAND, moist, no odor, brown tree roots
		SB-21 (2-4')	2/11/2020 1216		2-4		Gray fine-med SAND, moist, no odor, mottled yellow-orange staining
		SB-21 (4-6')	2/12/2020 1600		4-6	DPT	Yellow-gray fine-med SAND, moist, no odor
		SB-21 (8-10')	2/12/2020 1602		8-10		Gray fine-med SAND, wet, no odor

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-22	SB-22 (0-0.5')	2/11/2020 1151	Soil	0-0.5	HA	light brown - dark brown v. fine SAND, moist, roots present, earthy odor
		SB-22 (0.5-2')	2/11/2020 1154		0.5-2		gray - dark brown fine-medium SAND, moist, no odor, trace roots
		SB-22 (2-4')	2/11/2020 1158		2-4		Light gray fine-medium SAND, trace mottled yellow staining, moist, no odor
		SB-22 (4-6')	2/13/2020 1428		4-6	DPT	Yellow-gray v. fine-fine SAND, yellow staining, moist, no odor
		SB-22 (8-10')	2/13/2020 1430		8-10		Light brown-gray v. fine-fine SAND, moist, no odor
	SB-23	SB-23 (0-0.5')	2/11/2020 0843		0-0.5	HA	Gray-brown fine-med SAND w/ gravel, trace roots, moist, earthy odor
		SB-23 (0.5-2')	2/11/2020 0850		0.5-2		Gray fine-med SAND, trace roots, moist, no odor
		SB-23 (2-4')	2/11/2020 0855		2-4		Light gray fine-med SAND, mottled yellow staining, moist, no odor
		SB-23 (4-6')	2/13/2020 1325		4-6	DPT	Yellow-gray v. fine- fine ^{med} SAND, moist, no odor
		SB-23 (8-10')	2/13/2020 1327		8-10		Yellow-brown fine-med SAND, wet, no odor

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-24	SB-24 (0-0.5')	2/11/2020 0822	Soil	0-0.5	HA	Brown fine-med SAND, trace roots, moist, no odor
		SB-24 (0.5-2')	2/11/2020 0826		0.5-2		Brown fine-med SAND, trace fines, moist, no odor
		SB-24 (2-4')	2/11/2020 0832		2-4		Gray v fine-fine SAND, trace yellow staining, moist, no odor
		SB-24 (4-6')	2/13/2020 1023		4-6	DPT	Gray v fine-fine SAND, yellow-orange staining, moist, no odor
		SB-24 (8-10')	2/13/2020 1025		8-10		Light brown fine-med SAND, moist, no odor
	SB-25	SB-25 (0-0.5')	2/11/2020 0802		0-0.5	HA	Yellow-brown fine-med SAND, trace roots, moist, earthy odor
		SB-25 (0.5-2')	2/11/2020 0804		0.5-2		Gray-brown v fine-fine SAND, trace roots, moist, no odor
		SB-25 (2-4')	2/11/2020 0808		2-4		Yellow-gray v fine-fine SAND, mottled yellow staining, moist, no odor
		SB-25 (4-6')	2/13/2020 0931		4-6	DPT	Yellow-gray v fine-fine SAND, moist, no odor
		SB-25 (8-10')	2/13/2020 0935		8-10		Brown fine-med SAND, moist, no odor

**Table 1: Sampling Work Plan
Indian River State College**

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-26	SB-26 (0-0.5')	2/10/20 1046	Soil	0-0.5	HA	gray (some mottled orange) v fine to fine sand, trace roots, red color, moist
		SB-26 (0.5-2')	2/10/20 1049		0.5-2		gray (some mottled orange) v fine to fine sand, moist, no color
		SB-26 (2-4')	2/10/20 1059		2-4		pale gray (some mottled orange) v fine to fine sand, moist, no color
		SB-26 (4-6')	2/13/2020 0841		4-6	DPT	light gray fine-med SAND, moist, no color
		SB-26 (8-10')	2/13/2020 0843		8-10		brown fine-med SAND, wet, no color
	SB-27	SB-27 (0-0.5')	2/10/20 1031		0-0.5	HA	brown v fine to fine sand, trace roots, moist, no odor
		SB-27 (0.5-2')	2/10/20 1034		0.5-2		gray v fine to fine sand, trace fines, moist, no odor
		SB-27 (2-4')	2/10/20 1037		2-4		gray mottled orange v fine to fine sand, w silt, moist, no odor
		SB-27 (4-6')	2/13/2020 0819		4-6	DPT	gray fine to medium SAND, moist, no odor
		SB-27 (8-10')	2/13/2020 0821 240827		8-10		gray-brown fine to medium SAND, wet, no odor

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	SB-28	SB-28 (0-0.5')	Not collected	Soil	0-0.5	HA	Concrete slab from 0-0.5'. No recovery for sample
		SB-28 (0.5-2')	2/12/2020 0818		0.5-2		Brown fine-med SAND, trace fine gravel, moist, no odor
		SB-28 (2-4')	2/12/2020 0822		2-4		Yellow-gray v fine-fine SAND, trace fines, moist, no odor
		SB-28 (4-6')	2/12/2020 0849		4-6	DPT	Yellow-gray fine-med SAND, moist, no odor
		SB-28 (8-10')	2/12/2020 0851		8-10		Light gray fine-med SAND, wet, no odor
	Sed-4	Sed-4 (0-1')	2/11/2020 1057	Sediment	0-1	HA	Grey-dark brown v fine-fine SAND with silt, wet, earthy odor, roots present
	Sed-5	Sed-5 (0-1')	2/11/2020 1015		0-1		Grey-dark brown v fine-fine SAND with silt, wet, earthy odor, roots present
	Sed-6	Sed-6 (0-1')	2/11/2020 1125		0-1		Light brown-brown v fine-fine SAND with silt, wet, no odor, roots present
	SW-4	SW-4	2/11/2020 1037	Surface Water	N/A	Grab	Yellow-brown color, minimal brown sediment at bottom, no odor
	SW-5	SW-5	2/11/2020 1025		N/A		Yellow-brown color with fine ^{dark brown} sediment at the bottom, no odor

Sed-7 Sed-7(0-1') 2/13/2020 1050

Brown v fine-fine SAND, trace fines, wet, roots present, earthy odor

SW-6 SW-6 2/13/2020 1053

pale yellow color, no odor

**Table 1: Sampling Work Plan
Indian River State College**

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Temporary Monitoring Wells							
Delineation Sampling	DEPMW-1 (5-15')	DEPMW-1 (5-15')		Groundwater	5-15	Peristaltic Pump	
		DUP 2 (5-15')			5-15		
	DEPMW-2 (5-15')	DEPMW-2 (5-15')			5-15		
	DEPMW-3 (5-15')	DEPMW-3 (5-15')			5-15		
	DEPMW-4 (5-15')	DEPMW-4 (5-15')			5-15		
	DEPMW-5 (5-15')	DEPMW-5 (5-15')			5-15		
		DUP 3 (5-15')			5-15		
	DEPMW-6 (5-15')	DEPMW-6 (5-15')			5-15		
	DEPMW-7 (5-15')	DEPMW-7 (5-15')			5-15		
	DEPMW-8 (5-15')	DEPMW-8 (5-15')			5-15		
	DEPMW-9 (5-15')	DEPMW-9 (5-15')			5-15		
	DEPMW-10 (5-15')	DEPMW-10 (5-15')			5-15		
DEPMW-11 (5-15')	DEPMW-11 (5-15')		5-15				
DEPMW-12 (5-15')	DEPMW-12 (5-15')		5-15				

**Table 1: Sampling Work Plan
Indian River State College**

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	DEPMW-13 (40-50')	DEPMW-13 (40-50')		Groundwater	40-50	Peristaltic Pump	
	DEPMW-14 (40-50')	DEPMW-14 (40-50')			40-50		
	DEPMW-15 (40-50')	DEPMW-15 (40-50')			40-50		
	DEPMW-16 (40-50')	DEPMW-16 (40-50')			40-50		
	DEPMW-17 (40-50')	DEPMW-17 (40-50')			40-50		
	DEPMW-18 (40-50')	DEPMW-18 (40-50')			40-50		
	DEPMW-19 (40-50')	DEPMW-19 (40-50')			40-50		
Laboratory QA/QC Samples							
Assess potential sources of contamination from monitoring well installation and HA sampling equipment	Equipment Blanks (ratio of 1:20)	EQB-4	2/10/20 0923	Water	N/A		Hand Auger Bucket before SB-5
		EQB-5	2/10/2020 1437				Hand Auger Bucket before SB-15
		EQB-6	2/11/2020 0717				Hand Auger bucket before JB-10
		EQB-7	2/11/2020 0951				Tooting before SB-8
		EQB-8	2/12/2020 0742				Tooting before SB-28
		EQB-9	2/12/2020 0745				Tooting before SB-28
		EQB-10	2/12/2020 0754				Tooting before SB-28
		EQB-11					

**Table 1: Sampling Work Plan
Indian River State College**

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Evaluate potential impact of sample cross-contamination	Field Reagent Blanks (1 per cooler)	FRB-3		Water	N/A		
		FRB-4					
		FRB-5					
		FRB-6					
		FRB-7					
		FRB-8					
		FRB-9					
		FRB-10					
IDW Sample							
Waste Characterization	Composite	2M IDW-3		Soil	VOCs, SVOCs, RCRA metals, PFAS		

IDW-4 water 2/14/20 0814 drum 14
 IDW-5 soil 2/14/20 0842 drum 5

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-1	Site Name: Indian River State College (IRSC)		FDEP Facility I.D. Number:	Well Install Date(s): 2/17/2020	
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: HSA	
If AG, list feet of riser above land surface:				Surface Casing Install Method: None	
Borehole Depth (feet): 15	Well Depth (feet): 15	Borehole Diameter (inches): 8.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: 2" Schedule 40 PVC		Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: 5 feet from 0 feet to 5 feet		
Screen Diameter and Material: 2" Schedule 40 PVC		Screen Slot Size: 0.010"	Screen Length: 10 feet from 5 feet to 15 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet (R) from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: 12 feet from 3 feet to 15 feet		
Filter Pack Seal Material and Size: 30/65 SAND			Filter Pack Seal Length: 2.5 feet from 0.5 feet to 3 feet		
Surface Seal Material: Portland Cement			Surface Seal Length: 0.2 feet from 0.3 feet to 0.5 feet		

WELL DEVELOPMENT DATA			
Well Development Date: 2/13/2020	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)	Depth to Groundwater (before developing in feet): 9.5		
Pumping Rate (gallons per minute): 0.26	Maximum Drawdown of Groundwater During Development (feet): 5.5	Well Purged Dry (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 9.1	Development Duration (minutes): 35	Development Water Drugged (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Pale Brown, none		Water Appearance (color and odor) At End of Development: clear, none	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
7 bags 20/30 1 bag 30/65

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-2		Site Name: Indian River State College (IRSC)		FDEP Facility I.D. Number:	
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Date(s): 2/13/2020	
If AG, list feet of riser above land surface:				Well Install Method: HSA	
				Surface Casing Install Method: NONE	
Borehole Depth (feet): 17	Well Depth (feet): 17	Borehole Diameter (inches): 8.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: sch 40 PVC 2"		Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: 7 feet from 0 feet to 7 feet		
Screen Diameter and Material: 2" sch 40 PVC		Screen Slot Size:	Screen Length: 10 feet from 7 feet to 17 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: 13.5 feet from 3.5 feet to 17 feet		
Filter Pack Seal Material and Size: 30/65 SAND			Filter Pack Seal Length: 2.6 feet from 0.7 feet to 3.5 feet		
Surface Seal Material: Portland cement			Surface Seal Length: 0.4 feet from 0.3 feet to 0.7 feet		

WELL DEVELOPMENT DATA			
Well Development Date: 2/14/2020		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)	
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): 10.5	
Pumping Rate (gallons per minute): 0.26	Maximum Drawdown of Groundwater During Development (feet): 0.5		Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 2.6	Development Duration (minutes): 10	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Dark brown, none		Water Appearance (color and odor) At End of Development: clear, none	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
7 bags 20/30 SAND 1 bag 30/65 SAND

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: <i>DEPMW-3</i>		Site Name: <i>Indian River State College (IRSC)</i>		FDEP Facility I.D. Number:	Well Install Date(s): <i>2/13/2020</i>
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input checked="" type="checkbox"/> Flush-to-Grade <input type="checkbox"/> Above Grade (AG)		Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: <i>HSA</i>	
If AG, list feet of riser above land surface:				Surface Casing Install Method: <i>None</i>	
Borehole Depth (feet): <i>17</i>	Well Depth (feet): <i>17</i>	Borehole Diameter (inches): <i>8.25</i>	Manhole Diameter (inches): <i>8</i>	Well Pad Size: <i>2</i> feet by <i>2</i> feet	
Riser Diameter and Material: <i>2" Schd 40 PVC</i>		Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: <i>7</i> feet from <i>0</i> feet to <i>7</i> feet		
Screen Diameter and Material: <i>2" Schd 40 PVC</i>		Screen Slot Size: <i>0.010"</i>	Screen Length: <i>10</i> feet from <i>7</i> feet to <i>17</i> feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet (K)		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: <i>20/30 SAND</i>		Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Filter Pack Length: <i>17.5</i> feet from <i>2.5</i> feet to <i>17</i> feet		
Filter Pack Seal Material and Size: <i>30/65 SAND</i>			Filter Pack Seal Length: <i>1.5</i> feet from <i>1</i> feet to <i>2.5</i> feet		
Surface Seal Material: <i>Portland cement</i>			Surface Seal Length: <i>0.2</i> feet from <i>0.3</i> feet to <i>1</i> feet		

WELL DEVELOPMENT DATA			
Well Development Date: <i>2/14/2020</i>		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)	
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): <i>9.40</i>	
Pumping Rate (gallons per minute): <i>0.26</i>		Maximum Drawdown of Groundwater During Development (feet): <i>NM</i>	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): <i>2.5</i>	Development Duration (minutes): <i>~10</i>	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: <i>Pale brown, none</i>		Water Appearance (color and odor) At End of Development: <i>Clear, none</i>	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
<i>7 bags 20/30 SAND 1/2 bag 30/65 SAND</i>

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA			
Well Number: DEP MW-4	Site Name: Indian River State College (IRSC)	FDEP Facility I.D. Number:	Well Install Date(s): 2/13/2020
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)	Well Install Method: HSA
If AG, list feet of riser above land surface:		Surface Casing Install Method: None	
Borehole Depth (feet): 17	Well Depth (feet): 17	Borehole Diameter (inches): 8.25	Manhole Diameter (inches): 8
Well Pad Size: 2 feet by 2 feet		Riser Diameter and Material: 2" Schd 40 PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)
Riser Length: 7 feet from 0 feet to 7 feet		Screen Diameter and Material: 2" Schd 40 PVC	Screen Slot Size: 0.010"
Screen Length: 10 feet from 7 feet to 17 feet		1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	1 st Surface Casing I.D. (inches):
1 st Surface Casing Length: 20 feet from ___ feet to ___ feet		2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	2 nd Surface Casing I.D. (inches):
2 nd Surface Casing Length: ___ feet from ___ feet to ___ feet		3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	3 rd Surface Casing I.D. (inches):
3 rd Surface Casing Length: ___ feet from ___ feet to ___ feet		Filter Pack Material and Size: 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Filter Pack Length: 14 feet from 3 feet to 17 feet		Filter Pack Seal Material and Size: 30/65 SAND	Filter Pack Seal Length: 2.2 feet from 0.8 feet to 3 feet
Surface Seal Material: 1:1 Portland Cement Type I-II to water		Surface Seal Length: 0.5 feet from 0.3 feet to 0.8 feet	

WELL DEVELOPMENT DATA			
Well Development Date: 2/14/2020	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)	Depth to Groundwater (before developing in feet): 10.00		
Pumping Rate (gallons per minute): 0.26	Maximum Drawdown of Groundwater During Development (feet): 0.9	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 2.6	Development Duration (minutes): 10	Development Water Drugged (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Brown, none		Water Appearance (color and odor) At End of Development: clear, none	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
7 bags 20/30 SAND 112 bags 30/65 SAND

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-5		Site Name: Indian River State College (IRSC)		FDEP Facility I.D. Number:	Well Install Date(s): 2/12/2020
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade			Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: HSA
If AG, list feet of riser above land surface:					
Borehole Depth (feet): 15	Well Depth (feet): 15	Borehole Diameter (inches): 8.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: 2" Schedule 40 PVC		Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: 5 feet from 0 feet to 5 feet		
Screen Diameter and Material: 2" Schedule 40 PVC		Screen Slot Size: 0.010"	Screen Length: 10 feet from 5 feet to 15 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: 20/30 SAND		Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: 14.5 feet from 1.5 feet to 15 feet	
Filter Pack Seal Material and Size: 30/65 SAND				Filter Pack Seal Length: 10.5 feet from 0.5 feet to 10.5 feet	
Surface Seal Material: Portland cement				Surface Seal Length: 0.2 feet from 0.3 feet to 0.5 feet	

WELL DEVELOPMENT DATA			
Well Development Date: 2/12/2020		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)	
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): 7.40	
Pumping Rate (gallons per minute): 0.26	Maximum Drawdown of Groundwater During Development (feet): NM	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 7.80	Development Duration (minutes): 30	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Yellow - brown		Water Appearance (color and odor) At End of Development: Clear, none	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
8 bags of 20/30 SAND 0.5 bags of 30/65 SAND

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-6		Site Name: Indian River State College (IRSC)		FDEP Facility I.D. Number:	Well Install Date(s): 2/12/2020
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade			Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: HSA
If AG, list feet of riser above land surface:					Surface Casing Install Method: None
Borehole Depth (feet): 17	Well Depth (feet): 17	Borehole Diameter (inches): 8.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: 2sch 40 PVC		Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: 7 feet from 0 feet to 7 feet		
Screen Diameter and Material: 2" sch 40 PVC		Screen Slot Size: 0.010"	Screen Length: 10 feet from 7 feet to 17 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: 2M 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: 15 feet from 2 feet to 17 feet		
Filter Pack Seal Material and Size: 30/65 SAND		Filter Pack Seal Length: 1.3 feet from 0.7 feet to 2 feet			
Surface Seal Material: Portland cement		Surface Seal Length: 0.4 feet from 0.7 feet to 0.7 feet			

WELL DEVELOPMENT DATA			
Well Development Date: 2/12/2020	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): 8	
Pumping Rate (gallons per minute): 0.26	Maximum Drawdown of Groundwater During Development (feet): NM	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 8	Development Duration (minutes): 30	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Pale brown, none		Water Appearance (color and odor) At End of Development: clear, none	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
7 bags 20/30 SAND 0.5 bag 30/65 SAND

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-7		Site Name: Indian River State College (IRSC)		FDEP Facility I.D. Number:	Well Install Date(s): 2/12/2020
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade			Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: HSA
If AG, list feet of riser above land surface:					Surface Casing Install Method: None
Borehole Depth (feet): 15	Well Depth (feet): 15	Borehole Diameter (inches): 0.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: 2" sch 40 PVC		Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: 5 feet from 0 feet to 5 feet		
Screen Diameter and Material: 2" sch 40 PVC		Screen Slot Size: 0.010"	Screen Length: 10 feet from 5 feet to 15 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: from _____ feet to _____ feet		
Filter Pack Material and Size: 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: 12 feet from 3 feet to 15 feet		
Filter Pack Seal Material and Size: 30/65 SAND		Filter Pack Seal Length: 2.5 feet from 0.5 feet to 3 feet			
Surface Seal Material: Portland cement		Surface Seal Length: 0.2 feet from 0.3 feet to 0.5 feet			

WELL DEVELOPMENT DATA			
Well Development Date: 2/12/2020	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): 11	
Pumping Rate (gallons per minute): 0.26	Maximum Drawdown of Groundwater During Development (feet): 0.5	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 9	Development Duration (minutes): 35	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Translucent brown, no odor		Water Appearance (color and odor) At End of Development: Clear, no odor	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
7 bags 20/30 1 bag 30/65

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: <i>DEP MW-8</i>	Site Name: <i>Indian River State College (IRSC)</i>		FDEP Facility I.D. Number:	Well Install Date(s): <i>2/13/2020</i>	
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input checked="" type="checkbox"/> Berched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: <i>ASA</i>	
If AG, list feet of riser above land surface:				Surface Casing Install Method: <i>None</i>	
Borehole Depth (feet): <i>17</i>	Well Depth (feet): <i>17</i>	Borehole Diameter (inches): <i>8.25</i>	Manhole Diameter (inches): <i>8</i>	Well Pad Size: <i>2</i> feet by <i>2</i> feet	
Riser Diameter and Material: <i>2" schd 40 PVC</i>	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: <i>7</i> feet from <i>0</i> feet to <i>7</i> feet			
Screen Diameter and Material: <i>2" schd 40 PVC</i>		Screen Slot Size: <i>0.010 in</i>	Screen Length: <i>10</i> feet from <i>7</i> feet to <i>17</i> feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet <i>(17)</i>		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: <i>20/30 SAND</i>	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: <i>12.5</i> feet from <i>4.5</i> feet to <i>17</i> feet		
Filter Pack Seal Material and Size: <i>30/65 SAND</i>			Filter Pack Seal Length: <i>3.5</i> feet from <i>1</i> feet to <i>4.5</i> feet		
Surface Seal Material: <i>Portland cement</i>		Surface Seal Length: <i>0.7</i> feet from <i>0.3</i> feet to <i>1</i> feet			

WELL DEVELOPMENT DATA			
Well Development Date: <i>2/14/2020</i>	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)	Depth to Groundwater (before developing in feet): <i>11.0</i>		
Pumping Rate (gallons per minute): <i>0.26</i>	Maximum Drawdown of Groundwater During Development (feet): <i>NM</i>	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): <i>3.12</i>	Development Duration (minutes): <i>12</i>	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: <i>pale brown, none</i>		Water Appearance (color and odor) At End of Development: <i>Clear, none</i>	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
<i>7 bags 20/30 ① HE 1 bag 30/65</i>

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-9	Site Name: Indian River State College (IRSC)	FDEP Facility I.D. Number:	Well Install Date(s): 2/12/2020		
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: HSA	
If AG, list feet of riser above land surface:				Surface Casing Install Method: None	
Borehole Depth (feet): 1517	Well Depth (feet): 1517	Borehole Diameter (inches): 8.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: 2" schedule 40 PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: 7 feet from 0 feet to 7 feet			
Screen Diameter and Material: 2" schedule 40 PVC		Screen Slot Size: 0.010"	Screen Length: 10 feet from 7 feet to 17 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: 20/30 Sand	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: 15 feet from 2 feet to 17 feet		
Filter Pack Seal Material and Size: 30/65 Sand		Filter Pack Seal Length: 1.3 feet from 0.7 feet to 2 feet			
Surface Seal Material: MS 30/65 Sand Portland cement		Surface Seal Length: 0.4 feet from 0.3 feet to 0.7 feet			

WELL DEVELOPMENT DATA			
Well Development Date: 2/12/2020	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)	Depth to Groundwater (before developing in feet): 8		
Pumping Rate (gallons per minute): 0.26	Maximum Drawdown of Groundwater During Development (feet): NM	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 60-26 7.8	Development Duration (minutes): 30	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Yellow-brown, none		Water Appearance (color and odor) At End of Development: clear, none	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
8 bags of 20/30 sand, 1/2 bag of 30/65 sand

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-10		Site Name: Indian River State College (IRSC)		FDEP Facility I.D. Number:	
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input checked="" type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Patched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Date(s): 2/13/2020	
If AG, list feet of riser above land surface:				Well Install Method: HSA	
				Surface Casing Install Method: None	
Borehole Depth (feet): 15	Well Depth (feet): 15	Borehole Diameter (inches): 8.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: 2" Schd 40 PVC		Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: 5 feet from 0 feet to 5 feet		
Screen Diameter and Material: 2" Schd 40 PVC		Screen Slot Size: 0.010"	Screen Length: 10 feet from 5 feet to 15 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: PT feet from PT feet to PT feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: PT feet from PT feet to PT feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: PT feet from PT feet to PT feet		
Filter Pack Material and Size: 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: 13 feet from 2 feet to 15 feet		
Filter Pack Seal Material and Size: 30/65 SAND			Filter Pack Seal Length: 1.3 feet from 0.7 feet to 2 feet		
Surface Seal Material: Portland cement			Surface Seal Length: 0.4 feet from 0.3 feet to 0.7 feet		

WELL DEVELOPMENT DATA			
Well Development Date: 2/13/2020		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)	
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): 7.80 ft BLS	
Pumping Rate (gallons per minute): 0.26	Maximum Drawdown of Groundwater During Development (feet): 1.3		Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 7.8	Development Duration (minutes): 30	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: pale brown, no odor		Water Appearance (color and odor) At End of Development: clear, none	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
7 bags 20/30 SAND 112 bags 30/65 SAND

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-11		Site Name: Indian River State College (IRSC)		FDEP Facility I.D. Number:	Well Install Date(s): 2/13/2020
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input checked="" type="checkbox"/> Above Grade (AG) <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: HSA	
If AG, list feet of riser above land surface:				Surface Casing Install Method: None	
Borehole Depth (feet): 15	Well Depth (feet): 15	Borehole Diameter (inches): 8.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: 2" Schd 40 PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: 5 feet from 0 feet to 5 feet			
Screen Diameter and Material: 2" Schd 40 PVC	Screen Slot Size: 0.010"	Screen Length: 10 feet from 5 feet to 15 feet			
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet			
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet			
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet			
Filter Pack Material and Size: 20/30 Sand	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Filter Pack Length: 13 feet from 2 feet to 15 feet			
Filter Pack Seal Material and Size: 30/65 Sand		Filter Pack Seal Length: 1.3 feet from 0.7 feet to 2 feet			
Surface Seal Material: Portland cement		Surface Seal Length: 0.4 feet from 0.3 feet to 0.7 feet			

WELL DEVELOPMENT DATA			
Well Development Date: 2/13/2020		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)	
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): 6.7	
Pumping Rate (gallons per minute): 0.26	Maximum Drawdown of Groundwater During Development (feet): 0.9	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 7.9	Development Duration (minutes): 30	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Pale brown, none		Water Appearance (color and odor) At End of Development: clear, none	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
6 bags 20/30 SAND 1/2 bag 30/65 SAND

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-12		Site Name: Indian River State College (IRSC)		FDEP Facility I.D. Number:	Well Install Date(s): 2/13/2020
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input checked="" type="checkbox"/> Shallow (Water-Table) Monitoring <input type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: HSA	
If AG, list feet of riser above land surface:				Surface Casing Install Method: None	
Borehole Depth (feet): 15	Well Depth (feet): 15	Borehole Diameter (inches): 8.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: 2" Schd 40 PVC		Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: 5 feet from 0 feet to 5 feet		
Screen Diameter and Material: 2" Schd 40 PVC		Screen Slot Size: 0.010"	Screen Length: 10 feet from 5 feet to 15 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet (PJ) from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: 12 feet from 3 feet to 15 feet		
Filter Pack Seal Material and Size: 30/65 SAND			Filter Pack Seal Length: 2.5 feet from 0.5 feet to 3 feet		
Surface Seal Material: Portland cement			Surface Seal Length: 0.2 feet from 0.3 feet to 0.5 feet		

WELL DEVELOPMENT DATA			
Well Development Date: 2/13/2020		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)	
Development Pump Type (check): <input type="checkbox"/> Centrifugal <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): 12.1	
Pumping Rate (gallons per minute): 0.26	Maximum Drawdown of Groundwater During Development (feet): 1.9		Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 7.8	Development Duration (minutes): 30	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Pale brown, none		Water Appearance (color and odor) At End of Development: clear, none	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
7 bags 20/30 SAND Hwy 203

(PJ)

FIELD DRUM INVENTORY TRACKING LOG

Project Name: Indian River State College (IRSC)

Drum Number	Generation Date	Content % Full	Contents (soil, development water, purge water, etc.)	Source Location (Well #, Boring #, etc.)
✓ 1	2/10-2/12/2020		Soil borings	SB-8, 9, 10, 11, 12, 13, 14, 15, 2, 16, 17, 18, 19
✓ 2	2/12/2020		soil cuttings	SB-28/MW-7
✓ 3	2/12/2020		Soil cuttings	DEPMW-6
✓ 4	2/12/2020		Soil cuttings	DEPMW-9
✓ 5	2/12/2020		soil cuttings	DEPMW-5
✓ 6	2/12/2020		Soil cuttings	DEPMW-1
✓ 7	2/13/2020		Soil cuttings	DEPMW-10
✓ 8	2/13/2020		soil cuttings	DEPMW-11
9	2/13/2020		soil cuttings	DEPMW-12
10	2/13/2020		soil cuttings	DEPMW-8
11	2/13/2020		Soil cuttings	DEPMW-3
12	2/13/2020		soil cuttings	DEPMW-2
13	2/13/2020		soil cuttings	DEPMW-4
14	2/12/2020-2/3/2020		purge water	DEPMW-7, 6, 9, 5, 1
15	2/13-		purge water	DEPMW-10, 11, 12
16	2/10-2/13/2020		Decon Water	Hand Auger Decon Fluids
17	2/11/2020-2/14/2020	50	Decon Water	Drilling Rod Decon Fluids

Field Activities Record Form



Geosyntec consultants

Project Name Indian River State College (IRSC)

Site Location

IRSC
Ft Pierce

Project/Task Number FR3598B

Type of Work

Sonic MW installs

Date 3/2/2020

Field Personnel

Z Muzer

Contractors

Geotek

Time	Notes:
------	--------

0615	Zackary Muzer (ZM) load up Geosyntec field vehicle + depart Titusville
------	--

0745	ZM arrive at Indian River State College (site) Bud (Geotek) + Bobby (DEP) on site. ZM mark well locations and conduct tailgate safety meeting
------	---

0800	Bud begin clearing utilities
------	------------------------------

1000	Bud finish utility locating activities + leave site
------	---

1100	Drillers arrive on site. Begin offloading water + equipment
------	---

1500	Begin installing DEPMW-16 (see boring log + well construction log for details)
------	--

1630	Finish setting DEPMW-16. Brande Stringer + John Travis (DEP) on site. Mobilize to DEPMW-18
------	--

1720	DEP, PDS, + Geosyntec leave site
------	----------------------------------

Z Muzer 3/2/2020

Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location IRSC Ft Pierce FL Project/Task Number FR3598B

Type of Work Sonic MW installs Date 3/3/2020

Field Personnel ZMunger

Contractors PPS

Time	Notes:
------	--------

0715 Zackary Munger (ZM) load up Geosyntec field vehicle + depart hotel

0725 ZM arrive at IRSC (site) DEP (Brandie, Bobby, John Travis) on site

0755 Drillers arrive on site, ZM conduct tailgate safety meeting.

0800 Begin installing DEPMW-18 (see boring log + well construction log for details)

0915 Finish setting DEPMW-18. DEP sample groundwater from shallow wells. Drillers leave site to get supplies

1000 Drillers return to site

1030 While grouting DEPMW-18, the well casing was pulled upwards 2 ft. ZM notify DEP + DEP responded that they are okay setting DEPMW-18 from 38-48 ft BLS. Drillers verify that well was not damaged using submersible pump + measuring tape

1130 Mobilize to DEPMW-13

1145 Break for lunch

1230 Return to site. ~~Continue~~ Begin installing DEPMW-13

1600 Finish setting DEPMW-13. Mobilize to DEPMW-14

1630 Begin installing DEPMW-14

Zackary Munger 3/3/2020

Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location IRSC Ft Pierce FL

Project/Task Number FR3598B

Type of Work Septic MW install

Date 3/3/2020

Field Personnel 2 Mungar

Contractors PDS

Time Notes:

1730 Finish setting DEPMW-14 - grand well on 3/4/2020

1800 DEP, PDS, + Geosyntec leave site

sm

Yves N J 3/3/2020

Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location IRSC Ft. Pierce

Project/Task Number FR3598B

Type of Work Senior MW installs

Date 3/4/2020

Field Personnel ZMunger

Contractors PDS

Time	Notes:
------	--------

0715	Zachary Munger (ZM) lead up Geosyntec field vehicle + depart hotel
------	--

0730	ZM arrive at IRSC (site). Drillers + DEP (Bobby) on site. ZM conduct tailgate safety meeting.
------	---

0745	Drillers ground DEP MW-14 then mobilize to DEP MW-15
------	--

0850	Drillers leave site to pick up supplies
------	---

1000	Return to site. Begin installing DEP MW-15
------	--

1130	Finish setting DEP MW-15. Mobilize to DEP MW-17
------	---

1215	Break for lunch
------	-----------------

1300	Begin installing DEP MW-17
------	----------------------------

1500	Finish setting DEP MW-17. Mobilize to DEP MW-19
------	---

1525	Begin installing DEP MW-19
------	----------------------------

1700	Finish setting DEP MW-19. Leave site
------	--------------------------------------

Zachary Munger
3/4/2020

Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location IRSC Ft Pierce Project/Task Number FR3598B

Type of Work Well development Date 3/5/2020

Field Personnel ZMunger

Contractors PDS

Time	Notes:
0715	Zachary Munger (ZM) load up Geosyntec field vehicle + depart hotel
0730	ZM arrive at IRSC (site). Drillers on site. ZM conduct tailgate safety meeting. DEP arrive
0818	Begin developing DEP MW-15
1008	Finish developing DEP MW-15
1037	Begin developing DEP MW-16
1117	Finish developing DEP MW-16
1145	Begin developing DEP MW-18
1215	Finish developing DEP MW-18
1225	Begin developing DEP MW-13
1245	Finish developing DEP MW-13
1300	Break for lunch
1406	Begin developing DEP MW-14
1430	Finish developing DEP MW-14
1523	Begin developing DEP MW-17
1545	Finish developing DEP MW-17
1557	Begin developing DEP MW-19
1620	Finish developing DEP MW-19. PDS leave 7 empty drums on site for groundwater sampling activities
1750	Drillers load up equipment + leave site <i>[Signature]</i> 3/5/2020

Attachment A. Daily PFAS Sampling Checklist

Date: 3/2/2020

Site Name: IRSC

Weather (temperature/precipitation): sunny 70s

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant clothing (e.g., GORE-TEX®)
- During collection of water and sediment samples, no water- or stain-resistant boots OR water- or stain-resistant boots covered by PFAS-free over-boots
- Field boots (or over-boots) are made of polyurethane, PVC, rubber, or untreated leather
- Waders or rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
- Clothing has not been recently laundered with a fabric softener
- No coated HDPE suits (e.g., coated Tyvek® suits)
- Field crew has not used cosmetics, moisturizers, or other related products today
- Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., inner drill rods, samplers) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox® or Liquinox® used as decontamination detergent

Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

Field Staff did not wear boot covers

Field Team Leader Name (Print): Zachary Moyer

Field Team Leader Signature: *Zachary Moyer*

Date/Time: 3/2/2020 0800

Attachment A. Daily PFAS Sampling Checklist

Date: 3/3/2020

Site Name: IRJC

Weather (temperature/precipitation): Sunny 70s

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant clothing (e.g., GORE-TEX®)
- During collection of water and sediment samples, no water- or stain-resistant boots OR water- or stain-resistant boots covered by PFAS-free over-boots
- Field boots (or over-boots) are made of polyurethane, PVC, rubber, or untreated leather
- Waders or rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
- Clothing has not been recently laundered with a fabric softener
- No coated HDPE suits (e.g., coated Tyvek® suits)
- Field crew has not used cosmetics, moisturizers, or other related products today
- Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., inner drill rods, samplers) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox® or Liquinox® used as decontamination detergent

Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

Field staff did not wear boot covers

Field Team Leader Name (Print): Zackary Munger

Field Team Leader Signature: 

Date/Time: 3/3/2020 0735

Attachment A. Daily PFAS Sampling Checklist

Date: 3/4/2020

Site Name: IRIC

Weather (temperature/precipitation): Sunny 80s

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant clothing (e.g., GORE-TEX®)
- During collection of water and sediment samples, no water- or stain-resistant boots OR water- or stain-resistant boots covered by PFAS-free over-boots
- Field boots (or over-boots) are made of polyurethane, PVC, rubber, or untreated leather
- Waders or rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
- Clothing has not been recently laundered with a fabric softener
- No coated HDPE suits (e.g., coated Tyvek® suits)
- Field crew has not used cosmetics, moisturizers, or other related products today
- Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., inner drill rods, samplers) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox® or Liquinox® used as decontamination detergent

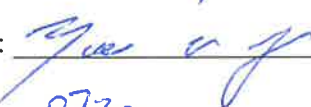
Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

Field staff did not wear boot covers

Field Team Leader Name (Print): Zachary Munger

Field Team Leader Signature: 

Date/Time: 3/4/2020 0730

Attachment A. Daily PFAS Sampling Checklist

Date: 3/5/2020

Site Name: IRSC

Weather (temperature/precipitation): Sunny 80c

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant clothing (e.g., GORE-TEX®)
- During collection of water and sediment samples, no water- or stain-resistant boots OR water- or stain-resistant boots covered by PFAS-free over-boots
- Field boots (or over-boots) are made of polyurethane, PVC, rubber, or untreated leather
- Waders or rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
- Clothing has not been recently laundered with a fabric softener
- No coated HDPE suits (e.g., coated Tyvek® suits)
- Field crew has not used cosmetics, moisturizers, or other related products today
- Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., inner drill rods, samplers) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox® or Liquinox® used as decontamination detergent

Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

Field staff did not wear boot covers

Field Team Leader Name (Print): Zachary Munger

Field Team Leader Signature: 

Date/Time: 3/5/2020 0730

BORING LOG

Project No.: FR35987B Page 1 of 2
 Site Name: IRSC Date Started: 2/2/2020
 Boring I.D.: DEPMW-13 Date Completed: 3/3/2020
 Geologist/Eng.: Z Munyer Borehole Diameter: 6.25"
 Drilling Company: ADS Borehole Depth: 50'
 Drilling Method: Sonic Depth to Water: ~10'
 Comments: _____

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				0-5' Post hole					
				5-9 Yellow gray fine-med SAND, loose, moist, no odor					
				9-16 Yellow gray fine SAND, with ^{medium dense} fine ⁱⁿ moist, no odor					
				16-35 Gray fine-med SAND, loose, wet, no odor					
				20)					
				21)					
				30)					

Reviewed by: _____

BORING LOG

Project No.: FR3598B Page 2 of 2
 Site Name: IRSC Date Started: 3/3/2020
 Boring I.D.: DEPMW-13 Date Completed: 3/3/2020
 Geologist/Eng.: Z Munger Borehole Diameter: 6.25"
 Drilling Company: PDS Borehole Depth: 50'
 Drilling Method: Sonic Depth to Water: ~10'
 Comments: _____

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				35) 35-38 Blue-gray fine-med SAND w/silt, medium dense, wet, no odor 38-40 Blue-gray silty 40) SAND, fine-med grain, loose, wet, no odor 40-46 gray v fine-fine SAND, abundant shell fragments, 40) pale, wet, weak organic odor 46-50 Gray LIMESTONE w/ fine sand, wet, no 50) odor					
				Boring terminated @ 50 ft BLS. DEPMW-13 installed from 40-50 FT BLS					

Reviewed by: _____

BORING LOG

Project No.: FR3C9EB
 Site Name: IRSC
 Boring I.D.: DEPMW-1A
 Geologist/Eng.: L Mungar
 Drilling Company: PPS
 Drilling Method: Senic
 Comments: _____

Page 1 of 2
 Date Started: 3/3/2020
 Date Completed: 3/3/2020
 Borehole Diameter: 6.25"
 Borehole Depth: 50'
 Depth to Water: ~10'

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				0-5 Part hole					
				5) 5-9 Yellow-gray fine-med SAND, n. loose, moist, no odor					
				9-9.5 DK brown v. fine fine SAND, 100R, moist, no odor					
				10) 9.5-15 Brown-gray fine-med SAND w/ silt, loose, wet, no odor					
				15) 15-30 Gray fine-med SAND, v. loose, wet, no odor					
				20)					
				25)					
				30)					

Reviewed by: _____

BORING LOG

Project No.: FR3598B
 Site Name: IRSC
 Boring I.D.: DEPMW-14
 Geologist/Eng.: Z Munger
 Drilling Company: PDS
 Drilling Method: sonic
 Comments: _____

Page 2 of 2
 Date Started: 3/3/2020
 Date Completed: 3/3/2020
 Borehole Diameter: 6.25"
 Borehole Depth: 50'
 Depth to Water: ~10'

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments	
				30-40 Gray fine-med SAND, trace fines, medium dense, wet, weak organic odor						
				35)						
				40) 40-42 Gray v. fine-fine SAND, abundant shell fragments, loose, wet, weak organic odor						
				45) 42-50 Gray LIMESTONE, wet, abundant sand, no odor. Clayey SAND from 46.5-47						
				50)						
				Boring terminated @ 50 ft BLS. DEPMW-14 installed from 40-50 fBLS						

Reviewed by: _____

BORING LOG

Project No.: FR3598B Page 1 of 2
 Site Name: IRSC Date Started: 3/4/20
 Boring I.D.: DEPMW-15 Date Completed: 3/4/20
 Geologist/Eng.: Z Munyer Borehole Diameter: 6.25"
 Drilling Company: PDC Borehole Depth: 50'
 Drilling Method: Sonic Depth to Water: N/A
 Comments: _____

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				0-5 Part hole					
				5) 5-8 Brown-gray clayey SAND, medium dense, cohesive, moist, no odor					
				8-11 Brown-gray fine-med SAND, loose, moist, no odor					
				10) 11-15 Gray-brown fine-med SAND, trace fines, loose, wet, no odor					
				15) 15-30 Gray fine-med SAND, loose, wet, no odor					
				20)					
				25)					

Reviewed by: _____

BORING LOG

Project No.: FR3598B Page 2 of 2
 Site Name: IRSC Date Started: 3/4/20
 Boring I.D.: DEPMW-15 Date Completed: 3/4/20
 Geologist/Eng.: ZMunyer Borehole Diameter: 6.25"
 Drilling Company: PDS Borehole Depth: 50'
 Drilling Method: Senio Depth to Water: ~10'
 Comments: _____

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments	
				<p>35)</p> <p>30-40 DK gray fine-med SAND w/ silt, loose, wet, no odor</p> <p>40)</p> <p>40-48 Gray uline-fine SAND w/ shell fragments, v loose, wet, weak organic odor</p> <p>45)</p> <p>48-50 Gray LIMESTONE, abundant fine sand, wet, weak organic odor</p> <hr/> <p>Boring terminated @ 50 ft BLS. DEPMW-15 installed from 40-50 ft BLS</p>						

Reviewed by: _____

BORING LOG

Project No.: FR3598B Page 1 of 2
 Site Name: IRSC Date Started: 3/2/20
 Boring I.D.: DEPMW-16 Date Completed: 3/2/20
 Geologist/Eng.: Z Munyer Borehole Diameter: 6.25"
 Drilling Company: PDS Borehole Depth: 50'
 Drilling Method: Sonic Depth to Water: ~10'
 Comments: _____



Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				0-5' Post hole					
				5-8 Yellow-gray fine-med SAND, v loose, moist, no odor					
				8-10 Gray-brown fine-med SAND trace fines, medium dense, moist, no odor					
				10-12 Brown fine-med SAND, trace fines, loose, wet, no odor					
				12-29 Gray fine-med SAND, loose, wet, no odor					
				29-29 Gray					
				29					
				29					
				29-43 Green-gray fine-med SAND, trace fines, medium dense, wet, weak organic odor					
				30)					

Reviewed by: _____

BORING LOG

Project No.: FR3598B
 Site Name: IRSC
 Boring I.D.: DEPMW-16
 Geologist/Eng.: Z Munger
 Drilling Company: PPS
 Drilling Method: Sonic
 Comments: _____

Page 2 of 2
 Date Started: 3/2/20
 Date Completed: 3/2/20
 Borehole Diameter: 6.25"
 Borehole Depth: 50'
 Depth to Water: ~10'

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				<p>35) </p> <p>4d)  38-40 37-39 DK gray v-fine fine SAND, trace fines, little, wet, no odor</p> <p>4s) 40-44 Gray v-fine SAND, abundant shell fragments, 180 ft, wet, weak organic color</p> <p>44-50 Gray LIMESTONE</p> <p>50) w/SAND, wet, no odor, * rock fragments generally coarse sand - medium gravel size</p> <hr/> <p>Boring terminated @ 50 ft set with DEPMW-16 from 40-50 ft BLS</p>					

Reviewed by: _____

Stops 20-30 → 78'

BORING LOG

Project No.: FR35983 Page 1 of 2
 Site Name: IRSC Date Started: 3/4/2020
 Boring I.D.: DEPMW-17 Date Completed: 3/4/2020
 Geologist/Eng.: E Munger Borehole Diameter: 6.25"
 Drilling Company: PDS Borehole Depth: 50'
 Drilling Method: Sonic Depth to Water: ~10A
 Comments: _____

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				0-5 Rest hole					
				5) 5-7 Yellow-gray fine- fine SAND, v loose, moist, no odor					
				7-10 Gray-brown finer med SAND w/silt, medium dense, moist, no odor					
				10-33 Gray fine-med SAND, loose, wet, no odor					
				15)					
				20)					
				25)					
				30)					

Reviewed by: _____

BORING LOG

Project No.: FR3598B Page 2 of 2
 Site Name: IRSC Date Started: 3/4/2020
 Boring I.D.: DEPMW-17 Date Completed: 3/4/2020
 Geologist/Eng.: Z Munger Borehole Diameter: 6.25"
 Drilling Company: PDS Borehole Depth: 50'
 Drilling Method: Sonic Depth to Water: ~10'
 Comments: _____

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				33-40 Gray fine-med SAND w/rilt, loose, wet, no odor 35)					
				40) 40-43 Dk gray fine- med SAND, loose, wet, no odor 43-50 Gray LIMESTONE 44) wet, no odor, fine SAND w/shell fragments from 46-47' 50)					
				Boring terminated @ 50 ft BLS. DEPMW-17 installed from 40-50 ft BLS					

Reviewed by: _____

BORING LOG

Project No.: FR35903
 Site Name: IRSC
 Boring I.D.: DEPMW-18
 Geologist/Eng.: Z Munyar
 Drilling Company: PDS
 Drilling Method: Sonic
 Comments: _____

Page 1 of 2
 Date Started: 3/3/2020
 Date Completed: 3/3/2020
 Borehole Diameter: 10.25"
 Borehole Depth: 50'
 Depth to Water: ~10'

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				0-5 Post hole					
				5) 5-11 Yellow brown fine-med SAND, v loose, moist, no odor					
				10) 11-13 Brown ^{med} fine-med SAND, trace fines, loose, wet, no odor					
				15) 13-15 Gray-brown fine-med SAND w/silt, loose, wet, no odor					
				20) 15-36 Gray fine-med SAND, loose, wet, no odor					
				25)					
				30)					

Reviewed by: _____

BORING LOG

Project No.: <u>FR3598B</u>	Page <u>2</u> of <u>2</u>
Site Name: <u>IRSC</u>	Date Started: <u>3/3/2020</u>
Boring I.D.: <u>D6PMW-18</u>	Date Completed: <u>3/3/2020</u>
Geologist/Eng.: <u>Z Munger</u>	Borehole Diameter: <u>6.25"</u>
Drilling Company: <u>PDS</u>	Borehole Depth: <u>50'</u>
Drilling Method: <u>Sonic</u>	Depth to Water: <u>~10'</u>
Comments: _____	

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				<p>35) 36-41 Gray fine-med SAND, trace fines, medium dense, wet, no odor</p> <p>40) 41-46 Gray v fine-fine SAND, v loose, wet, trace rock fragments, no odor</p> <p>45) 46-50 Gray LIMESTONE, fine sand from 47-47.5, silty sand from 48.5-49 ft, wet, no odor</p> <hr/> <p>Boring terminated at 50'. D6PMW-18 installed from 38-48 ft Bls</p>					

Reviewed by: _____

BORING LOG

Project No.: FR35988 Page 1 of 2
 Site Name: IRSC Date Started: 3/4/2020
 Boring I.D.: DEPMW-19 Date Completed: 3/4/2020
 Geologist/Eng.: Z Munger Borehole Diameter: 6.25"
 Drilling Company: PDS Borehole Depth: 50'
 Drilling Method: Sonic Depth to Water: ~10'
 Comments: _____

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				0-5 Post hole					
				5) 5-10 Yellow gray fine-med SAND, v loose, moist, no odor					
				10) 10-16 Gray-brown fine-med SAND, trace fines, loose, wet, no odor					
				14) 16-42 Gray fine-med SAND, loose, wet, no odor					
				20)					
				25)					
				30)					

Reviewed by: _____

BORING LOG

Project No.: FR3598B Page 2 of 2
 Site Name: IRSC Date Started: 3/4/2020
 Boring I.D.: DEPMW-19 Date Completed: 3/4/2020
 Geologist/Eng.: 2Munyer Borehole Diameter: 6.25"
 Drilling Company: PDS Borehole Depth: 50'
 Drilling Method: Senic Depth to Water: ~10'
 Comments: _____

Depth	Sample Interval	Time	Blows / 6 in.	Lithologic Description	Symbolic Log	% Recovery	USCS Code	OVA Headspace	Comments
				35)					
				40) 42-46 Gray v. fine-fine SAND, trace fines, loose, wet, no odor					
				45) 46-50 Gray LIMESTONE, wet, no odor, abundant fine SAND from 47-47.5					
				50) Boring terminated @ 50 ft BLS. DEPMW-19 installed from 40-50 ft BLS					

Reviewed by: _____

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA			
Well Number: <u>DEPMW-13</u>	Site Name: <u>Indian River State College (IRSC)</u>	FDEP Facility I.D. Number:	Well Install Date(s): <u>3/3/2020</u>
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input checked="" type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade If AG, list feet of riser above land surface:		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table) Monitoring <input checked="" type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)	Well Install Method: <u>Sonic</u> Surface Casing Install Method: <u>None</u>
Borehole Depth (feet): <u>50</u>	Well Depth (feet): <u>50</u>	Borehole Diameter (inches): <u>6.25</u>	Manhole Diameter (inches): <u>8</u>
Well Pad Size: <u>2</u> feet by <u>2</u> feet		Riser Diameter and Material: <u>2" sch to PVC</u>	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-T threaded <input type="checkbox"/> Other (describe)
Riser Length: <u>40</u> feet from <u>0</u> feet to <u>40</u> feet		Screen Diameter and Material: <u>2" sch to PVC</u>	Screen Slot Size: <u>0.010"</u>
Screen Length: <u>10</u> feet from <u>40</u> feet to <u>50</u> feet		1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	1 st Surface Casing I.D. (inches):
1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	2 nd Surface Casing I.D. (inches):
2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	3 rd Surface Casing I.D. (inches):
3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		Filter Pack Material and Size: <u>20/30 SAND</u>	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Filter Pack Length: from <u>35</u> feet to <u>50</u> feet		Filter Pack Seal Material and Size: <u>Bentonite</u>	Filter Pack Seal Length: from <u>35</u> feet to <u>58</u> feet
Surface Seal Material: <u>Portland cement grout</u>		Surface Seal Length: from <u>0</u> feet to <u>35</u> feet	

WELL DEVELOPMENT DATA			
Well Development Date: <u>3/5/2020</u>	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic <input type="checkbox"/> Other (describe)	Depth to Groundwater (before developing in feet): <u>8.0 ft BLS</u>		
Pumping Rate (gallons per minute): <u>2.75</u>	Maximum Drawdown of Groundwater During Development (feet): <u>NM</u>	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): <u>55</u>	Development Duration (minutes): <u>20</u>	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: <u>Cloudy, no odor</u>		Water Appearance (color and odor) At End of Development: <u>Cloudy, no odor</u>	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
<p><u>NM: not measured</u></p> <p><u>5 bags 20/30 sand</u></p> <p><u>0.5 bag bentonite</u></p> <p><u>*pumping was ceased after purging 55 gallons at the request of FDEP</u></p>

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-14		Site Name: Indian River State College (IRSC)		FDEP Facility I.D. Number:	
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table) Monitoring <input checked="" type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Date(s): 3/3/2020	
If AG, list feet of riser above land surface:				Well Install Method: Sonic	
				Surface Casing Install Method: None	
Borehole Depth (feet): 50	Well Depth (feet): 50	Borehole Diameter (inches): 6.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: 2" sch 40 PVC		Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-T threaded <input type="checkbox"/> Other (describe)	Riser Length: 40 feet from 0 feet to 40 feet		
Screen Diameter and Material: 2" sch 40 PVC		Screen Slot Size: 0.010"	Screen Length: 10 feet from 40 feet to 50 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: 12 feet from 38 feet to 50 feet		
Filter Pack Seal Material and Size: Bentonite		Filter Pack Seal Length: 2 feet from 36 feet to 38 feet			
Surface Seal Material: Portland cement grout		Surface Seal Length: 36 feet from 0 feet to 36 feet			

WELL DEVELOPMENT DATA					
Well Development Date: 3/5/2020		Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)			
Development Pump Type (check): <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): 8.6 ft BLS			
Pumping Rate (gallons per minute): 2.3		Maximum Drawdown of Groundwater During Development (feet): ~3		Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent		Total Development Water Removed (gallons): 55	Development Duration (minutes): 24	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Water Appearance (color and odor) At Start of Development: Cloudy, no odor			Water Appearance (color and odor) At End of Development: Cloudy, no odor		

WELL CONSTRUCTION OR DEVELOPMENT REMARKS	
5 bags 20/30 sand * Development was ceased after purging 55 gallons at the request of FDEP 0.5 bags bentonite	

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA			
Well Number: DEPMW-15	Site Name: Indian River State College (IRSC)	FDEP Facility I.D. Number:	Well Install Date(s): 3/4/20
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table) Monitoring <input checked="" type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)	Well Install Method: Sonic
If AG, list feet of riser above land surface:		Surface Casing Install Method: None	
Borehole Depth (feet): 55	Well Depth (feet): 50	Borehole Diameter (inches): 6.25	Manhole Diameter (inches): 8
Well Pad Size: 2 feet by 2 feet		Riser Diameter and Material: 2" sch 40 PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)
Riser Length: 40 feet from 0 feet to 40 feet		Screen Diameter and Material: 2" sch 40 PVC	Screen Slot Size: 0.010
Screen Length: 10 feet from 40 feet to 50 feet		1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	1 st Surface Casing I.D. (inches):
1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	2 nd Surface Casing I.D. (inches):
2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	3 rd Surface Casing I.D. (inches):
3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		Filter Pack Material and Size: 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Filter Pack Seal Material and Size: Bentonite		Filter Pack Length: 12 feet from 38 feet to 50 feet	Filter Pack Seal Length: 3 feet from 35 feet to 38 feet
Surface Seal Material: Portland cement grout		Surface Seal Length: 35 feet from 0 feet to 35 feet	

WELL DEVELOPMENT DATA			
Well Development Date: 3/5/20	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Other (describe)	<input type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic	Depth to Groundwater (before developing in feet): 9.5 ft BLS	
Pumping Rate (gallons per minute): 1.5	Maximum Drawdown of Groundwater During Development (feet): ~5	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input type="checkbox"/> Continuous <input checked="" type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 2165	Development Duration (minutes): 110	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Cloudy, no odor		Water Appearance (color and odor) At End of Development: Clear, no odor	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
5 bags 20/30 sand 0.5 bag bentonite

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-16	Site Name: Indian River State College (IRSC)	FDEP Facility I.D. Number:	Well Install Date(s): 3/2/2020		
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table) Monitoring <input checked="" type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: Sonic	
If AG, list feet of riser above land surface:				Surface Casing Install Method: None	
Borehole Depth (feet): 50	Well Depth (feet): 50	Borehole Diameter (inches): 6.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: 2" sch 40 PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: 40 feet from 9 feet to 40 feet			
Screen Diameter and Material: 2" sch 40 PVC		Screen Slot Size: 0.010"	Screen Length: 10 feet from 40 feet to 50 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: 12 feet from 38 feet to 50 feet		
Filter Pack Seal Material and Size: Bentonite			Filter Pack Seal Length: 3 feet from 35 feet to 38 feet		
Surface Seal Material: Grout (Portland cement)			Surface Seal Length: 35 feet from 0 feet to 35 feet		

WELL DEVELOPMENT DATA			
Well Development Date: 3/5/20	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic	Depth to Groundwater (before developing in feet): 7.3' to BLS		
Pumping Rate (gallons per minute): 0.75	Maximum Drawdown of Groundwater During Development (feet): ~1.5	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): ~30	Development Duration (minutes): 40	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Cloudy, no odor		Water Appearance (color and odor) At End of Development: Clear, no odor	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
5 bags 20/30 SAND 0.5 bags bentonite

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA			
Well Number: DEPMW-17	Site Name: Indian River State College (IRSC)	FDEP Facility I.D. Number:	Well Install Date(s): 3/4/2020
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table) Monitoring <input checked="" type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)	Well Install Method: Sonic
If AG, list feet of riser above land surface:		Surface Casing Install Method: None	
Borehole Depth (feet): 50	Well Depth (feet): 50	Borehole Diameter (inches): 6.25	Manhole Diameter (inches): 8
Well Pad Size: 2 feet by 2 feet		Riser Diameter and Material: 2" sch 40 PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)
Riser Length: 40 feet from 0 feet to 40 feet		Screen Diameter and Material: 2" sch 40 PVC	Screen Slot Size: 0.010
Screen Length: 10 feet from 40 feet to 50 feet		1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	1 st Surface Casing I.D. (inches):
1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	2 nd Surface Casing I.D. (inches):
2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary	3 rd Surface Casing I.D. (inches):
3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		Filter Pack Material and Size: 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Filter Pack Length: 12 feet from 38 feet to 50 feet		Filter Pack Seal Material and Size: Bentonite	Filter Pack Seal Length: 3 feet from 35 feet to 38 feet
Surface Seal Material: Portland cement grout		Surface Seal Length: 35 feet from 0 feet to 35 feet	

WELL DEVELOPMENT DATA			
Well Development Date: 3/5/2020	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic <input type="checkbox"/> Other (describe)	Depth to Groundwater (before developing in feet): 10 A BLS		
Pumping Rate (gallons per minute): 2.5	Maximum Drawdown of Groundwater During Development (feet): 7.5	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): ~55	Development Duration (minutes): 22	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: Cloudy, no odor		Water Appearance (color and odor) At End of Development: Cloudy, no odor	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS	
6 bags 20/30 SAND 0.5 bag bentonite	* Development was ceased after purging 55 gallons at the request of FDEP

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA				
Well Number: <u>DEPMW-10</u>	Site Name: <u>Indian River State College (IRSC)</u>	FDEP Facility I.D. Number:	Well Install Date(s): <u>3/3/2020</u>	
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table) Monitoring <input checked="" type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: <u>genic</u>
If AG, list feet of riser above land surface:		Surface Casing Install Method: <u>None</u>		
Borehole Depth (feet): <u>50</u>	Well Depth (feet): <u>50</u>	Borehole Diameter (inches): <u>6.25</u>	Manhole Diameter (inches): <u>8</u>	Well Pad Size: <u>2 feet 38</u> by <u>2</u> feet
Riser Diameter and Material: <u>2" sch 40 PVC</u>	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: <u>40</u> feet from <u>0</u> feet to <u>40</u> feet	Screen Length: <u>10</u> feet from <u>38</u> feet to <u>48</u> feet	
Screen Diameter and Material: <u>2" sch 40 PVC</u>	Screen Slot Size: <u>0.010"</u>	1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		
1 st Surface Casing I.D. (inches):		1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):		
2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		
3 rd Surface Casing I.D. (inches):		3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: <u>20/30 SAND</u>	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Filter Pack Length: <u>12</u> feet from <u>38</u> feet to <u>50</u> feet		
Filter Pack Seal Material and Size: <u>Bentonite</u>	Filter Pack Seal Length: <u>3</u> feet from <u>35</u> feet to <u>38</u> feet			
Surface Seal Material: <u>Grout (Portland cement)</u>	Surface Seal Length: <u>35</u> feet from <u>0</u> feet to <u>35</u> feet			

WELL DEVELOPMENT DATA			
Well Development Date: <u>3/5/2020</u>	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)		
Development Pump Type (check): <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic	Depth to Groundwater (before developing in feet): <u>8.2 ft BLS</u>		
Pumping Rate (gallons per minute): <u>1.8</u>	Maximum Drawdown of Groundwater During Development (feet): <u>~2</u>	Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): <u>~55</u>	Development Duration (minutes): <u>30</u>	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Appearance (color and odor) At Start of Development: <u>Brown, no odor</u>		Water Appearance (color and odor) At End of Development: <u>Clear, no odor</u>	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS
<u>5 bags 20/30 SAND * development was ceased after purging 55 gallons 0.5 bags bentonite at the request of FDEP</u>

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA					
Well Number: DEPMW-19	Site Name: Indian River State College (IRSC)	FDEP Facility I.D. Number:	Well Install Date(s): 3/4/2020		
Well Location and Type (check appropriate boxes): <input checked="" type="checkbox"/> On-Site <input type="checkbox"/> Right-of-Way <input type="checkbox"/> Off-Site Private Property <input type="checkbox"/> Above Grade (AG) <input checked="" type="checkbox"/> Flush-to-Grade		Well Purpose: <input type="checkbox"/> Perched Monitoring <input type="checkbox"/> Shallow (Water-Table) Monitoring <input checked="" type="checkbox"/> Intermediate or Deep Monitoring <input type="checkbox"/> Remediation or Other (describe)		Well Install Method: Sonic	
If AG, list feet of riser above land surface:				Surface Casing Install Method: None	
Borehole Depth (feet): 50	Well Depth (feet): 50	Borehole Diameter (inches): 6.25	Manhole Diameter (inches): 8	Well Pad Size: 2 feet by 2 feet	
Riser Diameter and Material: 2" sch 40 PVC	Riser/Screen Connections: <input checked="" type="checkbox"/> Flush-Threaded <input type="checkbox"/> Other (describe)	Riser Length: 40 feet from 0 feet to 40 feet			
Screen Diameter and Material: 2" sch 40 PVC		Screen Slot Size: 0.010"	Screen Length: 10 feet from 40 feet to 50 feet		
1 st Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		1 st Surface Casing I.D. (inches):	1 st Surface Casing Length: _____ feet from _____ feet to _____ feet		
2 nd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		2 nd Surface Casing I.D. (inches):	2 nd Surface Casing Length: _____ feet from _____ feet to _____ feet		
3 rd Surface Casing Material: also check: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary		3 rd Surface Casing I.D. (inches):	3 rd Surface Casing Length: _____ feet from _____ feet to _____ feet		
Filter Pack Material and Size: 20/30 SAND	Prepacked Filter Around Screen (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Filter Pack Length: 12 feet from 38 feet to 50 feet		
Filter Pack Seal Material and Size: Bentonite		Filter Pack Seal Length: 3 feet from 35 feet to 38 feet			
Surface Seal Material: Portland cement grout		Surface Seal Length: 35 feet from 0 feet to 35 feet			

WELL DEVELOPMENT DATA					
Well Development Date: 3/5/2020	Well Development Method (check one): <input type="checkbox"/> Surge/Pump <input checked="" type="checkbox"/> Pump <input type="checkbox"/> Compressed Air <input type="checkbox"/> Other (describe)				
Development Pump Type (check): <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Centrifugal <input type="checkbox"/> Peristaltic <input type="checkbox"/> Other (describe)		Depth to Groundwater (before developing in feet): 9.2 ft BLD			
Pumping Rate (gallons per minute): 2.4	Maximum Drawdown of Groundwater During Development (feet): NM		Well Purged Dry (check one): <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Pumping Condition (check one): <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> Intermittent	Total Development Water Removed (gallons): 55	Development Duration (minutes): 23	Development Water Drummed (check one): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Water Appearance (color and odor) At Start of Development: Cloudy, no odor		Water Appearance (color and odor) At End of Development: Clarity, no odor			

WELL CONSTRUCTION OR DEVELOPMENT REMARKS	
5 bags 20/30 sand * Development was ceased after pumping 55 gallons at the request of FDEP 0.5 bag bentonite	

**Table 1: Sampling Work Plan
Indian River State College**

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (# BLS)	Sample Method	Comments
Temporary Monitoring Wells							
Delineation Sampling	DEPMW-1 (5-15')	DEPMW-1 (5-15')	3/3/2020 0926	Groundwater	5-15	Peristaltic Pump	
		DUP 2 (5-15')	3/3/2020 0926		5-15		
	DEPMW-2 (5-15')	DEPMW-2 (5-15')	3/3/2020 1052		5-15		
	DEPMW-3 (5-15')	DEPMW-3 (5-15')	3/3/2020 1253		5-15		
	DEPMW-4 (5-15')	DEPMW-4 (5-15')	3/5/2020 0839		5-15		
	DEPMW-5 (5-15')	DEPMW-5 (5-15')	3/4/2020 0940		5-15		
		DUP 3 (5-15')	3/4/2020 0940		5-15		
	DEPMW-6 (5-15')	DEPMW-6 (5-15')	3/4/2020 1042		5-15		
	DEPMW-7 (5-15')	DEPMW-7 (5-15')	3/4/2020 1630		5-15		
	DEPMW-8 (5-15')	DEPMW-8 (5-15')	3/3/2020 1157		5-15		
	DEPMW-9 (5-15')	DEPMW-9 (5-15')	3/4/2020 1133		5-15		
	DEPMW-10 (5-15')	DEPMW-10 (5-15')	3/3/2020 1605		5-15		
DEPMW-11 (5-15')	DEPMW-11 (5-15')	3/4/2020 0845	5-15				
DEPMW-12 (5-15')	DEPMW-12 (5-15')	3/3/2020 1505	5-15				

Table 1: Sampling Work Plan
Indian River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	DEPMW-13 (40-50')	DEPMW-13 (40-50')		Groundwater	40-50	Peristaltic Pump	
	DEPMW-14 (40-50')	DEPMW-14 (40-50')			40-50		
	DEPMW-15 (40-50')	DEPMW-15 (40-50')			40-50		
	DEPMW-16 (40-50')	DEPMW-16 (40-50')			40-50		
	DEPMW-17 (40-50')	DEPMW-17 (40-50')			40-50		
	DEPMW-18 (40-50')	DEPMW-18 (40-50')			40-50		
	DEPMW-19 (40-50')	DEPMW-19 (40-50')			40-50		
Laboratory QA/QC Samples							
Assess potential sources of contamination from monitoring well installation and HA sampling equipment	Equipment Blanks (ratio of 1:20)	EQB-4	2/10/20 0923	Water	N/A		Hand Auger Bucket before SB-8
		EQB-5	2/10/2020 1437				Hand Auger Bucket before SB-15
		EQB-6	2/11/2020 0717				Hand Auger bucket before JB-10
		EQB-7	2/11/2020 0951				Tooling before SB-8
		EQB-8	2/12/2020 0742				Tooling before SB-28
		EQB-9	2/12/2020 0745				Tooling before SB-28
		EQB-10	2/13/2020 0754				Tooling before SB-28
		EQB-11	2/14/20 0752				IDW PP tubing
		EQB-12					
		EQB-13	3/4/2020 1316				Sonic tooling before DEPMW-13
		EQB-14	3/5/2020 0859				sonic tooling before DEPMW-17

Initials: zm

**Table 1: Sampling Work Plan
Indian River State College**

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Evaluate potential impact of sample cross-contamination	Field Reagent Blanks (1 per cooler)	FRB-3	3/3/2020 0930	Water		N/A	
		FRB-4					
		FRB-5					
		FRB-6					
		FRB-7					
		FRB-8					
		FRB-9					
		FRB-10					
IDW Sample							
Waste Characterization	Composite	ZM IDW-3		Soil	VOCs, SVOCs, RCRA metals, PFAS		

idw-4 water 2/14/20 0814 drum 14
 idw-5 soil 2/14/20 0842 drum 5

IDW Inventory - Geosyntec Consultants

FIELD DRUM INVENTORY TRACKING LOG

Project Name: Indian River State College (IRSC)

Drum Number	Generation Date	Content % Full	Contents (soil, development water, purge water, etc.)	Source Location (Well #, Boring #, etc.)
✓ 1	2/10-2/12/2020		Soil borings	SB-8, 9, 10, 11, 12, 13, 14, 15, 2, 16, 17, 18, 19
✓ 2	2/12/2020		soil cuttings	SB-28/MW-7
✓ 3	2/12/2020		Soil cuttings	DEPMW-6
✓ 4	2/12/2020		Soil cuttings	DEPMW-9
✓ 5	2/12/2020		soil cuttings	DEPMW-5
✓ 6	2/12/2020		Soil cuttings	DEPMW-1
✓ 7	2/13/2020		Soil cuttings	DEPMW-10
✓ 8	2/13/2020		soil cuttings	DEPMW-11
9	2/13/2020		soil cuttings	DEPMW-12
10	2/13/2020		soil cuttings	DEPMW-8
11	2/13/2020		Soil cuttings	DEPMW-3
12	2/13/2020		soil cuttings	DEPMW-2
13	2/13/2020		soil cuttings	DEPMW-4
14	2/12/2020-2/13/2020		purge water	DEPMW-7, 6, 9, 5, 1
15	2/13-		purge water	DEPMW-10, 11, 12
16	2/10-2/13/2020		Decon Water	Hand Auger Decon Fluids
17	2/11/2020-2/14/2020	50	Decon Water	Drilling Rod Decon Fluids
18	3/2		soil cuttings	DEPMW-16
19	3/2		Drill fluids	DEPMW-15
20	3/2		Drill fluids	DEPMW-16
21	3/2-3/3		soil cuttings	DEPMW-18
22	3/3		Drill fluids	DEPMW-18
23	3/3		purge water	DEPMW-18

FIELD DRUM INVENTORY TRACKING LOG

Project Name: Indian River State College (IRSC)

Drum Number	Generation Date	Content % Full	Contents (soil, development water, purge water, etc.)	Source Location (Well #, Boring #, etc.)
24	2/3/2020		soil cuttings	DEPMW-13
25	3/3/2020		drill fluids	DEPMW-13
26	3/7/2020		drill fluids	DEPMW-13
27	3/3/2020		drill fluids	DEPMW-13
28	3/3/2020		soil cuttings	DEPMW-14
29	3/3/2020		drill fluids	DEPMW-14
30	3/4/2020		drill fluids	DEPMW-14
31	3/4/2020		soil cuttings	DEPMW-15
32	3/4/2020		drill fluids	DEPMW-15
33	3/4/2020		drill fluids	DEPMW-15
34	3/4/2020		drill fluids	DEPMW-15
35	3/4/2020		soil cuttings	DEPMW-17
36	3/4/2020		drill fluids	DEPMW-17
37	3/4/2020		soil cuttings	DEPMW-19
38	3/4/2020		drill fluids	DEPMW-19
39	3/5/2020		purge water	DEPMW-15
40	3/5/2020		purge water	DEPMW-15
41	3/5/2020		purge water	DEPMW-15, DEPMW-16
42	3/5/2020		purge water	DEPMW-16
43	3/5/2020		purge water	DEPMW-14
44	3/5/2020		purge water	DEPMW-17
45	3/5/2020		purge water	DEPMW-19

Field Activities Record Form



Project Name Indian River State College (IRSC)

Site Location 4600 Kirby Loop Road Ft. Pierce, FL Project/Task Number FR3598B

Type of Work Surveying + GW Sampling Date 3/19/2020

Field Personnel Ryan Joslyn

Contractors Surv-Tech

Time	Notes:
0600	Ryan Joslyn (RJ) leaves home for IRSC (site)
0750	RJ arrives on-site
0800	Surv-Tech on site ; RJ conducts tailgate safety meeting
0805	Surv-Tech begins surveying ^{monitoring} wells for northing + easting location
0830	Surv-Tech leaves site to begin surveying ^{elevation} levels of surrounding area
0915	Surv-Tech continues surveying within site boundaries
0945	Surv-Tech continues surveying offsite
1100	Surv-Tech begins surveying top-of-casings of all monitoring wells
1230	Zach Muger (ZM) arrives on site ; gives RJ sampling equipment
1245	ZM begins collecting DTW readings
1315	Surv-Tech finishes surveying and leaves site
1330	RJ begins GW sampling activities
1430	ZM finishes collecting DTW readings ; ARR
1538	RJ begins purging DEPMW-14
1700	ZM ARR leaves site
1710	RJ finishes GW sampling activities for day ; cleans up area
1730	RJ begins post-calibration of YSF + turbidimeter ; RJ also dumps IDW in drum
1840	RJ finishes tightening all well caps + secures site + leaves site

[Signature] 3/19/2020

Attachment A. Daily PFAS Sampling Checklist

Date: 3/19/2020

Site Name: IRSC

Weather (temperature/precipitation): cloudy 70s

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant clothing (e.g., GORE-TEX®)
- During collection of water and sediment samples, no water- or stain-resistant boots OR water- or stain-resistant boots covered by PFAS-free over-boots
- Field boots (or over-boots) are made of polyurethane, PVC, rubber, or untreated leather
- Waders or rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
- Clothing has not been recently laundered with a fabric softener
- No coated HDPE suits (e.g., coated Tyvek® suits)
- Field crew has not used cosmetics, moisturizers, or other related products today
- Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., inner drill rods, samplers) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox® or Liquinox® used as decontamination detergent

Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

Field staff did not wear boot covers.

Field Team Leader Name (Print): Ryan Joslyn

Field Team Leader Signature: *Ryan Joslyn*

Date/Time: 3/19/2020 1800

Attachment A. Daily PFAS Sampling Checklist

Date: 3/10/2020

Site Name: IRSC

Weather (temperature/precipitation): Sunny 70s

Please check all boxes that apply and describe any exceptions in the notes section below along with QA/QC methods used to assess potential sample cross-contamination as a result.

Field Clothing and PPE:

- No water- or stain-resistant clothing (e.g., GORE-TEX®)
- During collection of water and sediment samples, no water- or stain-resistant boots OR water- or stain-resistant boots covered by PFAS-free over-boots
- Field boots (or over-boots) are made of polyurethane, PVC, rubber, or untreated leather
- Waders or rain gear are made of polyurethane, PVC, vinyl, wax-coated or rubber
- Clothing has not been recently laundered with a fabric softener
- No coated HDPE suits (e.g., coated Tyvek® suits)
- Field crew has not used cosmetics, moisturizers, or other related products today
- Field crew has not used sunscreen or insect repellants today, other than products approved as PFAS-free

Field Equipment:

- Sample containers and equipment in direct contact with the sample are made of HDPE, polypropylene, silicone, acetate or stainless steel, not LDPE or glass
- Sample caps are made of HDPE or polypropylene and are not lined with Teflon™
- No materials containing Teflon™, Viton™, or fluoropolymers
- No materials containing LDPE in direct contact with the sample (e.g., LDPE tubing, Ziploc® bags)
- No plastic clipboards, binders, or spiral hard cover notebooks
- No waterproof field books
- No waterproof or felt pens or markers (e.g., certain Sharpie® products)
- No chemical (blue) ice, unless it is contained in a sealed bag
- No aluminum foil
- No sticky notes (e.g., certain Post-It® products)

Decontamination:

- Reusable field equipment (e.g., inner drill rods, samplers) decontaminated prior to reuse
- "PFAS-free" water is on-site for decontamination of field equipment
- Alconox® or Liquinox® used as decontamination detergent

Food and Drink:

- No food or drink on-site, except within staging area
- Food in staging area is contained in HDPE or stainless steel container

Notes:

Field Staff did not wear boot covers.

Field Team Leader Name (Print): Ryan Joslyn

Field Team Leader Signature: Ryan Joslyn

Date/Time: 3/10/2020 1200

Geosyntec Consultants
Water Quality Instrument Calibration Form

Project/Site: IRSC Project #: FR35288 Field Personnel: Ryan Joslyn

Water Quality Meter - Model/Serial#: YSI 6000+556 MPS/1SD101638 Turbidimeter - Model/Serial#: Geotech Turbidimeter/1804J530

Dissolved Oxygen	DEP SOP FT 1500	Date	Time	Temp (°C)	Saturation (mg/L) ¹	Reading (mg/L)	Reading (%)	Pass or Fail
Acceptance Criteria: +/- 0.3 mg/L								
CAL ICV CCV		3/9/20	0815	18.25	9.409	10.74/9.41	114.0/99.9	P F
CAL ICV CCV		3/9/20	1747	27.75	7.863	7.81	99.2	P F
CAL ICV CCV								P F
CAL ICV CCV								P F

0.1 - 10 NTU	Std	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 10%				
CAL ICV CCV	0.02	3/9/20	0.02	P F
CAL ICV CCV	0.02	3/9/20	0.02	P F
CAL ICV CCV				P F
CAL ICV CCV				P F

Specific Conductance	DEP SOP FT 1200	Date	Time	Standard (mS/cm)	Standard Lot #	Standard Exp. Date	Reading (mS/cm)	Pass or Fail
Acceptance Criteria: +/- 5%								
CAL ICV CCV		3/9/20	0846	1.413	06A120	1/21	1.413	P F
CAL ICV CCV		3/9/20	1750	1.413	06A120	1/21	1.408	P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F
CAL ICV CCV								P F

11 - 40 NTU	Std	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 8%				
CAL ICV CCV	21.6	3/9/20	21.6	P F
CAL ICV CCV	19.9	3/9/20	19.9	P F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F

pH	DEP SOP FT 1100	Date	Time	Standard (SU)	Standard Lot #	Standard Exp. Date	Reading (SU)	Pass or Fail
Acceptance Criteria: +/- 0.2 SU								
CAL ICV CCV		3/9/20	0828	4.00	96L804	12/21	3.98	P F
CAL ICV CCV			0835	7.00	06A382	1/22	7.00	P F
CAL ICV CCV			0843	10.00	96F372	6/21	10.01	P F
CAL ICV CCV		3/9/20	1757	9.00	96L804	12/21	4.08	P F
CAL ICV CCV			1802	7.00	06A382	1/22	6.97	P F
CAL ICV CCV			1809	10.00	96F372	6/21	9.99	P F

41 - 100 NTU	Std	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 6.5%				
CAL ICV CCV	102	3/9/20	102	P F
CAL ICV CCV	94.9	3/9/20	94.9	P F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F

ORP	SOP N/A	Date	Time	Std. mV @ Temp °C	Standard Lot #	Standard Exp. Date	Reading (mV)	Pass or Fail
Geosyntec Acceptance Criteria: +/- 5%								
CAL ICV CCV		3/9/20	0850	238 @ 25	06A959	10/20	241.3	P F
CAL ICV CCV		3/9/20	1815	238 @ 25	06A959	10/20	230.9	P F
CAL ICV CCV								P F
CAL ICV CCV								P F

>100 NTU	Std	Date	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 5%				
CAL ICV CCV	806	3/9/20	806	P F
CAL ICV CCV	776	3/9/20	776	P F
CAL ICV CCV				P F
CAL ICV CCV				P F

Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen Membrane Changed? Yes No

1. See Table FS 2200-2 on the back of this form

CAL - Initial Calibration
ICV - Initial Calibration Verification
CCV - Continuing Calibration Verification

Allow adequate time for the dissolved oxygen sensor to equilibrate during air calibration
Calibrate specific conductance using at least two standards that bracket the range of expected sample readings (unless readings <0.1 mS/cm is acceptable)
Calibrate pH using at least two standards (typ. pH 4 and 7) that bracket the range of expected sample readings; always start with pH 7; add a third calibration point if needed (i.e. pH > 7)
If parameter fails to calibrate within SOP acceptance criteria then append sample results with a "I" qualifier

Comments: _____



Water Quality Instrument Calibration Form

Project/Site: Indian River State College (IRSC)

Project #: FR3598B

Field Personnel: Ryan Joslyn

Water Quality Meter - Model/Serial#: YSI 556 / 15D101638

Turbidimeter - Model/Serial#: Geotech / 18043530

Dissolved Oxygen (FDEP SOP FT 1500)	Date	Time	Temp (°C)	Saturation (mg/L)*	Reading (mg/L)	Reading (%)	Pass or Fail
Acceptance Criteria: +/- 0.3 mg/L							
CAL ICV (CCV)	3/10/20	0750	20.8	8.950	8.82	98.6	(P) F
CAL ICV (CCV)	3/10/20	1614	24.10	8.415	8.03	95.5	(P) (F)
CAL ICV CCV							P F
CAL ICV CCV							P F

Specific Conductance (FDEP SOP FT 1200)	Date	Time	Standard Lot #	Standard Exp. Date	Standard (mS/cm)	Reading (mS/cm)	Pass or Fail
Acceptance Criteria: +/- 5%							
Specific Conductance Probe Cleaned? Yes (No)							
CAL ICV (CCV)	3/10/20	0752	06A120	1/21	1.413	1.400	(P) F
CAL ICV (CCV)	3/10/20	1617	06A120	1/21	1.413	1.413	(P) F
CAL ICV CCV							P F
CAL ICV CCV							P F

pH (FDEP SOP FT 1100)	Date	Time	Standard Lot #	Standard Exp. Date	Standard (SU)	Reading (SU)	Pass or Fail
Acceptance Criteria: +/- 0.2 SU							
CAL ICV (CCV)	3/10/20	0755	96L804	12/21	4.00	4.08	(P) F
CAL ICV (CCV)	3/10/20	0801	06A382	1/22	7.00	6.96	(P) F
CAL ICV (CCV)	3/10/20	0805	96F312	6/21	10.00	10.00	(P) F
CAL ICV (CCV)	3/10/20	1622	96L804	12/21	4.00	4.05	(P) F
CAL ICV (CCV)	3/10/20	1627	06A382	1/22	7.00	6.86	(P) F
CAL ICV (CCV)	3/10/20	1631	96F312	6/21	10.00	9.96	(P) F

ORP (FDEP SOP N/A)	Date	Time	Standard Lot #	Standard Exp. Date	Standard (mV @ Temp °C)	Reading (mV)	Pass or Fail
Geosyntec Acceptance Criteria: +/- 5%							
Dissolved Oxygen Membrane Changed? Yes (No)							
CAL ICV (CCV)	3/10/20	0809	06A959	8/20	238 @ 25	237.0	(P) F
CAL ICV (CCV)	3/10/20	1634	06A959	8/20	238 @ 25	231.7	(P) F
CAL ICV CCV							P F
CAL ICV CCV							P F

Turbidity 0.1-10 NTU	Date	Standard (NTU)	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 10%				
CAL ICV (CCV)	3/10/20	0.02	0.02	(P) F
CAL ICV (CCV)	3/10/20	0.02	0.02	(P) F
CAL ICV CCV				P F
CAL ICV CCV				P F

Turbidity 11-40 NTU	Date	Standard (NTU)	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 8%				
CAL ICV (CCV)	3/10/20	20	21.5	(P) F
CAL ICV (CCV)	3/10/20	20	19.5	(P) F
CAL ICV CCV				P F
CAL ICV CCV				P F

Turbidity 41-100 NTU	Date	Standard (NTU)	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 6.5%				
CAL ICV (CCV)	3/10/20	100	100	(P) F
CAL ICV (CCV)	3/10/20	100	93.9	(P) F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F
CAL ICV CCV				P F

Turbidity >100 NTU	Date	Standard (NTU)	Reading (NTU)	Pass or Fail
Acceptance Criteria: +/- 5%				
CAL ICV (CCV)	3/10/20	800	799	(P) F
CAL ICV (CCV)	3/10/20	800	763	(P) F
CAL ICV CCV				P F
CAL ICV CCV				P F

Notes:

CAL = Initial Calibration

ICV = Initial Calibration Verification

CCV = Continuing Calibration Verification

* See Table FS 2200-2 on the back of this form

Allow adequate time for the dissolved oxygen sensor to equilibrate during air calibration

Calibrate specific conductance using at least two standards that bracket the range of expected sample readings (unless readings <0.1 mS/cm is acceptable)

Calibrate pH using at least two standards (typ. pH 4 and 7) that bracket the range of expected sample readings; always start with pH 7; add a third calibration point if needed

If parameter fails to calibrate within SOP acceptance criteria then append sample results with a "J" qualifier

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24
GROUNDWATER SAMPLING LOG

NAME: Indian River State College (IRSC)	SITE LOCATION: 4600 Kirby Loop Road
WELL NO: <u>DEP-MW DEPMW-14</u>	SAMPLE ID: <u>DEPMW-14 (40'-50')</u>
DATE: <u>3/9/2020</u>	

PURGING DATA

WELL DIAMETER (inches): <u>2</u>	TUBING DIAMETER (inches): <u>1/2</u>	WELL SCREEN INTERVAL DEPTH: <u>40</u> feet to <u>50</u> feet	STATIC DEPTH TO WATER (feet): <u>8.28</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (<u>50</u> ft - <u>8.28</u> ft) X <u>0.16</u> gallons/foot = <u>6.68 x 3 = 20.04</u>			
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = <u>0</u> gallons + (<u>0.01</u> gallons/foot X <u>50</u> feet) + <u>0.1</u> gallons = <u>0.6 x 3 = 1.8</u>			

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>45</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>45</u>	PURGING INITIATED AT: <u>1533</u>	PURGING ENDED AT: <u>1613</u>
		TOTAL VOLUME PURGED (gallons): <u>33.75</u>	

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	OXYGEN (circles mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)	NOTES
1552	28.5	28.5	1.50	8.28	7.21	25.43	582	0.07	28.0	Slightly cloudy	-193.4	None
1555	0.75	29.25	0.25	8.41	7.19	25.41	567	0.07	20.5	clear	-192.4	None
1558	0.75	30.00	0.25	8.38	7.17	25.40	570	0.07	25.3	clear	-192.4	Slightly cloudy
1601	0.75	30.75	0.25	8.38	7.17	25.45	526	0.06	22.4	clear	-191.6	"
1604	0.75	31.50	0.25	8.38	7.17	25.39	776	0.06	20.5	clear	-195.1	"
1607	0.75	32.25	0.25	8.38	7.17	25.33	774	0.05	15.0	clear	-196.3	"
1610	0.75	33.0	0.25	8.38	7.16	25.32	773	0.05	15.6	clear	-197.1	"
1613	0.75	33.75	0.25	8.38	7.16	25.31	775	0.05	13.9	clear	-198.1	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.008; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Ryan Estlyn / Geosyntec</u>	SAMPLER(S) SIGNATURES: <u>Ryan Estlyn</u>	SAMPLING INITIATED AT: <u>1616</u>	SAMPLING ENDED AT: <u>1616</u>
---	--	------------------------------------	--------------------------------

PUMP OR TUBING DEPTH IN WELL (feet): <u>45</u>	SAMPLE PUMP FLOW RATE (mL per minute): <u>950</u>	TUBING MATERIAL CODE: HDPE
--	---	----------------------------

FIELD DECONTAMINATION: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> FILTER SIZE: µm	DUPLICATE: Y <input type="checkbox"/> N <input checked="" type="checkbox"/>
---	--	---

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph			
<u>see above</u>	<u>2</u>	<u>HDPE</u>	<u>125</u>	<u>None</u>			EPA Method 537 Modified	PP	<u>950</u>

REMARKS:

RIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2 **STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212 SECTION 3)**
pH: + 0.2 units Temperature: + 0.2 °C Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24
GROUNDWATER SAMPLING LOG

NAME: Indian River State College (IRSC)	SITE LOCATION: 4600 Kirby Loop Road
WELL NO: <u>DEPMW-16</u>	SAMPLE ID: <u>DEPMW-16 (401-50')</u>
DATE: <u>3/10/2020</u>	

PURGING DATA

WELL DIAMETER (inches): <u>2</u>	TUBING DIAMETER (inches): <u>1/2</u>	WELL SCREEN INTERVAL DEPTH: <u>40</u> feet to <u>50</u> feet	STATIC DEPTH TO WATER (feet): <u>7.13</u>	PURGE PUMP TYPE OR BAILER: <u>PP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (<u>50</u> ft - <u>7.13</u> ft) X <u>0.16</u> gallons/foot = <u>6.86 X 3 = 20.58</u>				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = <u>0.75</u> gallons + (<u>0.01</u> gallons/foot X <u>50</u> feet) + <u>0.1</u> gallons = <u>0.6 X 3 = 1.8</u>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>45</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>45</u>	PURGING INITIATED AT: <u>0838</u>	PURGING ENDED AT: <u>0917</u>	TOTAL VOLUME PURGED (gallons): <u>27.75</u>

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or saturation)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)	NOTES
<u>0843</u>	<u>8.0</u>	<u>8.0</u>	<u>1.60</u>	<u>7.65</u>	<u>7.15</u>	<u>24.64</u>	<u>1415</u>	<u>6.41</u>	<u>154</u>	<u>cloudy</u>	<u>-83.5</u>	<u>None</u>
<u>0854</u>	<u>17.5</u>	<u>25.5</u>	<u>1.25</u>	<u>7.60</u>	<u>7.09</u>	<u>24.61</u>	<u>1385</u>	<u>0.15</u>	<u>21.0</u>	<u>clear</u>	<u>-157.4</u>	<u>None</u>
<u>0911</u>	<u>0.75</u>	<u>26.25</u>	<u>0.25</u>	<u>7.33</u>	<u>7.10</u>	<u>24.55</u>	<u>1256</u>	<u>0.32</u>	<u>12.3</u>	<u>clear</u>	<u>-162.0</u>	<u>None</u>
<u>0914</u>	<u>0.75</u>	<u>27.0</u>	<u>0.25</u>	<u>7.30</u>	<u>7.09</u>	<u>24.54</u>	<u>1258</u>	<u>0.24</u>	<u>9.72</u>	<u>clear</u>	<u>-164.0</u>	<u>None</u>
<u>0917</u>	<u>0.75</u>	<u>27.75</u>	<u>0.25</u>	<u>7.30</u>	<u>7.10</u>	<u>24.54</u>	<u>1252</u>	<u>0.18</u>	<u>6.01</u>	<u>clear</u>	<u>-167.2</u>	<u>None</u>

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Rym Joslyn / Geosyntec</u>				SAMPLER(S) SIGNATURES: <u>[Signature]</u>				SAMPLING INITIATED AT: <u>0919</u>		SAMPLING ENDED AT: <u>0920</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>45</u>				SAMPLE PUMP FLOW RATE (mL per minute): <u>950</u>				TUBING MATERIAL CODE: <u>HDPE</u>			
FIELD DECONTAMINATION: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>				FIELD-FILTERED: Y <input checked="" type="checkbox"/> N <input type="checkbox"/> FILTER SIZE: <u>µm</u>				DUPLICATE: Y <input checked="" type="checkbox"/> N <input type="checkbox"/>			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph			
<u>see above</u>	<u>2</u>	<u>HPPE</u>	<u>125mL</u>	<u>None</u>			<u>EPA Method 537 Modified</u>	<u>PP</u>	<u>950</u>

REMARKS: Paused purging 0843 due to crack in tubing - restarted at 0854 * Continuous Calibration Verification for Oxygen was outside criteria

RIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING APP: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)
NOTES: 1 The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2 **STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)**
 pH: + 0.2 units Temperature: + 0.2 °C Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2);
 optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

DEP-SOP-001/01
 FS 220 Groundwater Sampling
 Form FD 9000-24
GROUNDWATER SAMPLING LOG

IAME: Indian River State College (IRSC)	SITE LOCATION: 4600 Kirby Loop Road
WELL NO: <u>DEPMW-17</u>	SAMPLE ID: <u>DEPMW-17 (90'-50')</u>
DATE: <u>3/9/2020</u>	

PURGING DATA

WELL DIAMETER (inches): <u>2</u>	TUBING DIAMETER (inches): <u>1/2</u>	WELL SCREEN INTERVAL DEPTH: <u>40</u> feet to <u>50</u> feet	STATIC DEPTH TO WATER (feet): <u>9.72</u>	PURGE PUMP TYPE OR BAILER: <u>PP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (<u>50</u> ft - <u>9.72</u> ft) X <u>0.16</u> gallons/foot = <u>6.44 x 3 = 19.32</u>				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = <u>0.07</u> gallons + (<u>0.01</u> gallons/foot X <u>50</u> feet) + <u>0.1</u> gallons = <u>0.6 x 3 = 1.8</u>				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): <u>45</u>	FINAL PUMP OR TUBING DEPTH IN WELL (feet): <u>45</u>	PURGING INITIATED AT: <u>1438</u>	PURGING ENDED AT: <u>1511</u>	TOTAL VOLUME PURGED (gallons): <u>22.8</u>

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ORP (mV)	NOTES
1456	19.8	19.8	1.1	10.15	7.20	24.86	1268	0.04	20.5	clear	-180.8	None
1459	0.6	20.4	0.2	9.74	7.19	25.06	1268	0.08	18.6	clear	-179.3	None
1502	0.6	21.0	0.2	9.74	7.18	25.07	1273	0.12	21.4	clear	-178.1	None
1505	0.6	21.6	0.2	9.74	7.17	25.07	1274	0.14	16.6	clear	-178.6	None
1506	0.6	22.2	0.2	9.74	7.17	25.15	1272	0.11	14.5	clear	-179.3	None
1511	0.6	22.8	0.2	9.74	7.16	25.26	1272	0.09	11.0	clear	-179.8	None

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: <u>Ryan Joslyn / Geosyntec</u>				SAMPLER(S) SIGNATURES: <u>Ryan Joslyn</u>			SAMPLING INITIATED AT: <u>1514</u>		SAMPLING ENDED AT: <u>1515</u>	
PUMP OR TUBING DEPTH IN WELL (feet): <u>45</u>				SAMPLE PUMP FLOW RATE (mL per minute): <u>760</u>			TUBING MATERIAL CODE: HDPE			
FIELD DECONTAMINATION: Y <input checked="" type="checkbox"/> N				FIELD-FILTERED: Y <input checked="" type="checkbox"/> N FILTER SIZE: µm			DUPLICATE: Y <input checked="" type="checkbox"/> N			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph			
<u>See above</u>	<u>2</u>	<u>HDPE</u>	<u>125</u>	<u>None</u>			EPA Method 537 Modified	PP	<u>760</u>

REMARKS:

SERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
 SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
 EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1 The above do not constitute all of the information required by Chapter 62-160, F.A.C.
 2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
 pH: + 0.2 units Temperature: + 0.2 °C Specific Conductance: + 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Table 1: Sampling Work Plan
Indiana River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Delineation Sampling	DEPMW-13 (40-50')	DEPMW-13 (40-50')	3/9/20 1700	Groundwater	40-50	Peristaltic Pump	
	DEPMW-14 (40-50')	DEPMW-14 (40-50')	3/9/20 1616		40-50		
	DEPMW-15 (40-50')	DEPMW-15 (40-50')	3/10/20 1125		40-50		
	DEPMW-16 (40-50')	DEPMW-16 (40-50')	3/10/20 0919		40-50		
	DEPMW-17 (40-50')	DEPMW-17 (40-50')	3/9/20 1514		40-50		
	DEPMW-18 (40-50')	DEPMW-18 (40-50')	3/10/20 1030		40-50		
	DEPMW-19 (40-50')	DEPMW-19 (40-50')	3/9/20 1404		40-50		
Laboratory QA/QC Samples							
Assess potential sources of contamination from monitoring well installation and HA sampling equipment	Equipment Blanks (ratio of 1:20)	EQB-4	2/10/20 0923	Water	N/A		Hand Auger Bucket before SB-8
		EQB-5	2/10/20 1437				Hand Auger Bucket before SB-15
		EQB-6	2/11/20 0712				Hand Auger bucket before JB-10
		EQB-7	2/11/20 0951				Tooling before SB-8
		EQB-8	2/12/20 0742				Tooling before SB-28
		EQB-9	2/12/20 0745				Tooling before SB-28
		EQB-10	2/13/20 0754				Tooling before SB-28
		EQB-11	2/14/20 0752				IDW PP tubing

EQB-12

EQB-13 3/4/2020 1316

EQB-14 3/5/2020 0839

EQB-15 3/10/2020 1145

Sonic tooling before DEPMW-13

Sonic tooling before DEPMW-17

Peripump + tubing following DEPMW-15

Initials:

Table 1: Sampling Work Plan
Indiana River State College

Rationale	Location ID	Sample ID	Date/Time	Matrix	Depth (ft BLS)	Sample Method	Comments
Evaluate potential impact of sample cross-contamination	Field Reagent Blanks (1 per cooler)	FRB-3	3/3/2020 0930	Water		N/A	Labeled as DEP MW-18 (FRB)
		FRB-4	3/10/2020 1030				
		FRB-5					
		FRB-6					
		FRB-7					
		FRB-8					
		FRB-9					
		FRB-10					
IDW Sample							
Waste Characterization	Composite	2M IDW-5		Soil	VOCs, SVOCs, RCRA metals, PFAS		

idw-4 water 2/14/20 0814 drum 14
 idw-5 soil 2/14/20 0842 drum 5

IDW Inventory - Geosyntec Consultants

FIELD DRUM INVENTORY TRACKING LOG

Project Name: Indian River State College (IRSC)

Drum Number	Generation Date	Content % Full	Contents (soil, development water, purge water, etc.)	Source Location (Well #, Boring #, etc.)
✓ 1	2/10-2/12/2020		Soil borings	SB-8, 9, 10, 11, 12, 13, 14, 15, 2, 16, 17, 18, 19
✓ 2	2/12/2020		soil cuttings	SB-28/MW-7
✓ 3	2/12/2020		Soil cuttings	DEPMW-6
✓ 4	2/12/2020		Soil cuttings	DEPMW-9
✓ 5	2/12/2020		soil cuttings	DEPMW-5
✓ 6	2/12/2020		Soil cuttings	DEPMW-1
✓ 7	2/13/2020		Soil cuttings	DEPMW-10
✓ 8	2/13/2020		soil cuttings	DEPMW-11
9	2/13/2020		soil cuttings	DEPMW-12
10	2/13/2020		soil cuttings	DEPMW-8
11	2/13/2020		Soil cuttings	DEPMW-3
12	2/13/2020		soil cuttings	DEPMW-2
13	2/13/2020		soil cuttings	DEPMW-4
14	2/12/2020-2/13/2020		purge water	DEPMW-7, 6, 9, 5, 1
15	2/13-		purge water	DEPMW-10, 11, 12
16	2/10-2/13/2020		Decon Water	Hand Auger Decon Fluids
17	2/11/2020-2/14/2020	50	Decon Water	Drilling Rod Decon Fluids
18	3/2		soil cuttings	DEPMW-16
19	3/2		Drill fluids	DEPMW-15
20	3/2		Drill fluids	DEPMW-16
21	3/2-3/3		soil cuttings	DEPMW-18
22	3/3		Drill fluids	DEPMW-18
23	3/3		purge water	DEPMW-18

FIELD DRUM INVENTORY TRACKING LOG

Project Name: Indian River State College (IRSC)

Drum Number	Generation Date	Content % Full	Contents (soil, development water, purge water, etc.)	Source Location (Well #, Boring #, etc.)
24	2/3/2020		soil cuttings	DEPMW-13
25	3/3/2020		drill fluids	DEPMW-13
26	3/7/2020		drill fluids	DEPMW-13
27	3/3/2020		drill fluids	DEPMW-13
28	3/3/2020		soil cuttings	DEPMW-14
29	3/3/2020		drill fluids	DEPMW-14
30	3/4/2020		drill fluids	DEPMW-14
31	3/4/2020		soil cuttings	DEPMW-15
32	3/4/2020		drill fluids	DEPMW-15
33	3/4/2020		drill fluids	DEPMW-15
34	3/4/2020		drill fluids	DEPMW-15
35	3/4/2020		soil cuttings	DEPMW-17
36	3/4/2020		drill fluids	DEPMW-17
37	3/4/2020		soil cuttings	DEPMW-19
38	3/4/2020		drill fluids	DEPMW-19
39	3/5/2020		purge water	DEPMW-15
40	3/5/2020		purge water	DEPMW-15
41	3/5/2020		purge water	DEPMW-15, DEPMW-16
42	3/5/2020		purge water	DEPMW-16
43	3/5/2020		purge water	DEPMW-14
44	3/5/2020		purge water	DEPMW-17
45	3/5/2020		purge water	DEPMW-19

APPENDIX C
Laboratory Analytical Reports

Chemical Analysis Report

SIS-2019-06-06-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Overflow Analyses Performed By:
Eurofins TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605

DOH Accreditation E87570

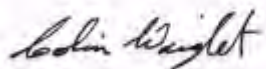
Event Description: **Indian River State College**
Request ID: **RQ-2019-06-03-64**
Customer: **SIS**
Project ID: **SIS-PFAS**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Road
Twin Towers Bldg. MS# 4515
Tallahassee, FL 32399
Attn: Jeff Newton

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 16-JUL-2019 15:58



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Overflow, Pesticides and Priority Organic Pollutants.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 14:10

Field ID: SS-1(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092673	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	110		ug/Kg		
		Perfluorooctanoic acid (PFOA)	1.8		ug/Kg		
		Perfluorononanoic acid (PFNA)	7.6		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	1.8		ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.98		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.075	I	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.88		ug/Kg		
		Perfluoropentanoic acid (PFPeA)	2.3		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	2.1		ug/Kg		
		Perfluorodecanoic acid (PFDA)	14		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	2.7		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	1.6		ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.28		ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.26		ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.29		ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.20	I	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.37		ug/Kg		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 14:12

Field ID: SS-1(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092674	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	5.4		ug/Kg		
		Perfluorooctanoic acid (PFOA)	8.1		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.81		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	17		ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	2.8		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.37		ug/Kg		
		Perfluorobutanoic acid (PFBA)	1.3		ug/Kg		
		Perfluoropentanoic acid (PFPeA)	8.3		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	9.8		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.32		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.11	I	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.077	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.058	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.062	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	1.2		ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.045	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.094	U	ug/Kg		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 13:56

Field ID: SS-2(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092675	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	36		ug/Kg		
		Perfluorooctanoic acid (PFOA)	1.8		ug/Kg		
		Perfluorononanoic acid (PFNA)	4.2		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	4.9		ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	1.5		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.43		ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.79		ug/Kg		
		Perfluoropentanoic acid (PFPeA)	1.7		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	1.8		ug/Kg		
		Perfluorodecanoic acid (PFDA)	6.4		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	2.8		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	1.2		ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.19	I	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.22	I	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.26		ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.30		ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	2.5		ug/Kg		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 13:59

Field ID: SS-2(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092676	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	51		ug/Kg		
		Perfluorooctanoic acid (PFOA)	1.1		ug/Kg		
		Perfluorononanoic acid (PFNA)	3.4		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	2.2		ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.72		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.18	I	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.31	V	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.78		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.73		ug/Kg		
		Perfluorodecanoic acid (PFDA)	2.4		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.37		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.10	I	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.055	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.058	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.16	I	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.042	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.35		ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 13:36

Field ID: SS-3(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092677	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	6.1		ug/Kg		
		Perfluorooctanoic acid (PFOA)	1.0		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.94		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.55		ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.85		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.055	I	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.63		ug/Kg		
		Perfluoropentanoic acid (PFPeA)	1.2		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.60		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.48		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.39		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.12	I	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.056	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.060	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.056	I	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.10	I	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.090	U	ug/Kg		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 13:39

Field ID: SS-3(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092678	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	5.0		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.38		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.062	I	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.16	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.49		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.027	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.25	V	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.76		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.53		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.024	U	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.039	U	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.073	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.056	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.059	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.038	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.042	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.089	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 14:20

Field ID: SS-4(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092679	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.9		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.56		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.62		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.095	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.59		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.027	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.49		ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.89		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.55		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.19	I	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.12	I	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.071	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.054	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.057	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.037	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.041	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.087	U	ug/Kg		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 14:23

Field ID: SS-4(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092680	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	3.3		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.27		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.23		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.051	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.24		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.026	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.21	V	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.40		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.26		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.023	U	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.038	U	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.071	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.054	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.057	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.037	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.041	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.087	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 14:52

Field ID: SS-5(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092681	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	2.0		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.34		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.65		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.13	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.39		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.029	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.17	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.42		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.30		ug/Kg		
		Perfluorodecanoic acid (PFDA)	2.1		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.63		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.52		ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.14	I	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.23		ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.041	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.045	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.095	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 14:55

Field ID: SS-5(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092682	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	4.4		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.19	I	ug/Kg		
		Perfluorononanoic acid (PFNA)	0.56		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.070	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.29		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.028	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.12	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.29		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.21	I	ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.22		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.040	U	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.075	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.057	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.060	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.039	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.043	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.091	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 13:26

Field ID: SS-6(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092683	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	2.3		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.82		ug/Kg		
		Perfluorononanoic acid (PFNA)	1.1		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.076	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	1.4		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.028	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.89		ug/Kg		
		Perfluoropentanoic acid (PFPeA)	2.2		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	1.5		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.54		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.22		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.12	I	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.056	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.059	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.039	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.043	I	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.09	U	ug/Kg		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 13:29

Field ID: SS-6(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092684	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	2.8		ug/Kg		
		Perfluorooctanoic acid (PFOA)	1.2		ug/Kg		
		Perfluorononanoic acid (PFNA)	1.2		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.12	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	2.0		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.028	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	1.3		ug/Kg		
		Perfluoropentanoic acid (PFPeA)	4.0		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	2.9		ug/Kg		
		Perfluorodecanoic acid (PFDA)	2.2		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.72		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.46		ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.11	I	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.11	I	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.039	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.043	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.091	U	ug/Kg		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 14:30

Field ID: SS-7(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092685	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	3.2		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.56		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.63		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.28		ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.30		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.052	I	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.16	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.36		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.29		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.28		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.16	I	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.099	I	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.056	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.060	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.042	I	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.12	I	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.091	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 14:33

Field ID: SS-7(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092686	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.7		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.55		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.070	I	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.21	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.57		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.029	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.12	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.27		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.31		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.025	U	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.042	U	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.077	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.059	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.062	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.040	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.045	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.095	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 14:43

Field ID: SS-8(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092687	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.8		ug/Kg		
		Perfluorooctanoic acid (PFOA)	1.4		ug/Kg		
		Perfluorononanoic acid (PFNA)	2.5		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.19	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	1.7		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.026	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.66		ug/Kg		
		Perfluoropentanoic acid (PFPeA)	1.3		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	1.0		ug/Kg		
		Perfluorodecanoic acid (PFDA)	3.8		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	2.0		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	1.0		ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.22		ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.30		ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.036	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.040	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.085	U	ug/Kg		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 14:45

Field ID: SS-8(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092688	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	4.2		ug/Kg		
		Perfluorooctanoic acid (PFOA)	1.3		ug/Kg		
		Perfluorononanoic acid (PFNA)	2.8		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.20	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	1.8		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.027	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.49		ug/Kg		
		Perfluoropentanoic acid (PFPeA)	1.2		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	1.3		ug/Kg		
		Perfluorodecanoic acid (PFDA)	3.8		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.29		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.12	I	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.055	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.058	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.038	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.042	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.088	U	ug/Kg		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 13:15

Field ID: SS-9(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092689	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	2.5		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.61		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.77		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.14	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.84		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.030	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.32	V	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	1.0		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.55		ug/Kg		
		Perfluorodecanoic acid (PFDA)	2.0		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.84		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.55		ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.13	I	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.21	I	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.042	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.047	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.098	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 13:18

Field ID: SS-9(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092690	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	4.1		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.38		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.59		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.068	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.86		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.030	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.28	V	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.99		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.68		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.29		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.060	I	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.08	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.061	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.064	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.042	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.046	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.098	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 12:26

Field ID: SS-10(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092691	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.7		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.18	I	ug/Kg		
		Perfluorononanoic acid (PFNA)	0.082	I	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.078	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.20	I	ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.028	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.15	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.28		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.22	I	ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.10	I	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.043	I	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.076	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.058	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.061	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.040	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.064	I	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.093	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 12:29

Field ID: SS-10(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092692	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	3.3		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.47		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.058	I	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.041	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.14	I	ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.027	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.085	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.15	I	ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.17	I	ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.024	U	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.039	U	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.073	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.055	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.059	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.038	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.042	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.089	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 12:10

Field ID: SS-11 (0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092719	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.2		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.19	I	ug/Kg		
		Perfluorononanoic acid (PFNA)	0.049	I	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.059	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.079	I	ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.028	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.087	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.088	U	ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.075	I	ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.076	I	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.051	I	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.076	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.058	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.061	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.040	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.044	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.093	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 12:14

Field ID: SS-11(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092720	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.9		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.092	U	ug/Kg		
		Perfluorononanoic acid (PFNA)	0.039	U	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.042	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.031	U	ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.027	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.074	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.083	U	ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.045	U	ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.024	U	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.039	U	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.072	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.055	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.058	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.038	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.042	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.088	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 11:59

Field ID: SS-12(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092721	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.8		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.29		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.11	I	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.18	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.67		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.18	I	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.67		ug/Kg		
		Perfluoropentanoic acid (PFPeA)	2.6		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	2.1		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.11	I	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.061	I	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.075	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.057	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.060	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.039	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.062	I	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.091	U	ug/Kg		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 11:58

Field ID: SS-12(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092722	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.9		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.24	I	ug/Kg		
		Perfluorononanoic acid (PFNA)	0.046	U	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.054	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.35		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.044	I	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.18	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.61		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.54		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.028	U	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.046	U	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.086	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.065	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.069	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.045	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.050	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.10	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 11:30

Field ID: SS-13(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092723	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.2		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.22		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.18	I	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.034	U	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.078	I	ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.027	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.10	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.10	I	ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.096	I	ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.13	I	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.057	I	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.073	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.056	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.059	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.038	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.043	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.090	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 11:35

Field ID: SS-13(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092724	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	2.0		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.21	I	ug/Kg		
		Perfluorononanoic acid (PFNA)	0.046	U	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.060	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.14	I	ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.032	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.090	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.097	U	ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.082	I	ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.044	I	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.046	U	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.085	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.065	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.068	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.044	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.049	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.10	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 15:05

Field ID: SS-14(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092725	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	3.7		ug/Kg		
		Perfluorooctanoic acid (PFOA)	1.2		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.53		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	1.6		ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	1.2		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.28		ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.35	V	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	1.8		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	1.1		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.85		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.22	I	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.29		ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.072	I	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.16	I	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.050	I	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.050	I	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.097	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 15:06

Field ID: SS-14(1-2')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092726	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.3		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.48		ug/Kg		
		Perfluorononanoic acid (PFNA)	0.099	I	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.27		ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.69		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.13	I	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.22	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	1.0		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.66		ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.22	I	ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.14	I	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.22	I	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.066	I	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.095	I	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.041	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.045	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.096	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 10:44

Field ID: SED-1(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092727	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	2.0		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.13	I	ug/Kg		
		Perfluorononanoic acid (PFNA)	0.13	I	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.16	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.11	I	ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.041	I	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.20	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.26		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.16	I	ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.40		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.87		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.12	I	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.065	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.069	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.045	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.053	I	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.42		ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 10:38

Field ID: SED-2(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092728	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	11		ug/Kg		
		Perfluorooctanoic acid (PFOA)	1.4		ug/Kg		
		Perfluorononanoic acid (PFNA)	1.3		ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	1.3		ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	1.4		ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.051	I	ug/Kg		
		Perfluorobutanoic acid (PFBA)	1.3		ug/Kg		
		Perfluoropentanoic acid (PFPeA)	2.5		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	1.6		ug/Kg		
		Perfluorodecanoic acid (PFDA)	3.3		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	3.8		ug/Kg		
		Perfluorododecanoic acid (PFDoA)	2.1		ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.37	I	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.42		ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.15	I	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.42		ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	1.4		ug/Kg		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 11:18

Field ID: SED-3(0-1')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092729	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.1		ug/Kg		
		Perfluorooctanoic acid (PFOA)	0.11	I	ug/Kg		
		Perfluorononanoic acid (PFNA)	0.068	I	ug/Kg		
		Perfluorohexanesulfonic acid (PFHxS)	0.17	I	ug/Kg		
		Perfluoroheptanoic acid (PFHpA)	0.16	I	ug/Kg		
		Perfluorobutanesulfonic acid (PFBS)	0.031	U	ug/Kg		
		Perfluorobutanoic acid (PFBA)	0.16	IV	ug/Kg		
		Perfluoropentanoic acid (PFPeA)	0.30		ug/Kg		
		Perfluorohexanoic acid (PFHxA)	0.24	I	ug/Kg		
		Perfluorodecanoic acid (PFDA)	0.31		ug/Kg		
		Perfluoroundecanoic acid (PFUnA)	0.056	I	ug/Kg		
		Perfluorododecanoic acid (PFDoA)	0.083	U	ug/Kg		
		Perfluorotridecanoic Acid (PFTriA)	0.063	U	ug/Kg		
		Perfluorotetradecanoic acid (PFTeA)	0.067	U	ug/Kg		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.043	U	ug/Kg		
		Perfluorodecanesulfonic acid (PFDS)	0.048	U	ug/Kg		
		Perfluorooctane Sulfonamide (FOSA)	0.10	U	ug/Kg		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorobutanoic acid (PFBA) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 10:15

Field ID: SW-1

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092713	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	230		ng/L		
		Perfluorooctanoic acid (PFOA)	160		ng/L		
		Perfluorononanoic acid (PFNA)	83		ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	450		ng/L		
		Perfluoroheptanoic acid (PFHpA)	470		ng/L		
		Perfluorobutanesulfonic acid (PFBS)	52		ng/L		
		Perfluorobutanoic acid (PFBA)	210		ng/L		
		Perfluoropentanoic acid (PFPeA)	840		ng/L		
		Perfluorohexanoic acid (PFHxA)	590		ng/L		
		Perfluorodecanoic acid (PFDA)	63		ng/L		
		Perfluoroundecanoic acid (PFUnA)	15		ng/L		
		Perfluorododecanoic acid (PFDoA)	1.8		ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.27	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	10		ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.36	I	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	2.6		ng/L		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 10:40

Field ID: SW-2

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092714	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	69		ng/L		
		Perfluorooctanoic acid (PFOA)	57		ng/L		
		Perfluorononanoic acid (PFNA)	18		ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	71		ng/L		
		Perfluoroheptanoic acid (PFHpA)	79		ng/L		
		Perfluorobutanesulfonic acid (PFBS)	7.1		ng/L		
		Perfluorobutanoic acid (PFBA)	55		ng/L		
		Perfluoropentanoic acid (PFPeA)	110		ng/L		
		Perfluorohexanoic acid (PFHxA)	79		ng/L		
		Perfluorodecanoic acid (PFDA)	4.8		ng/L		
		Perfluoroundecanoic acid (PFUnA)	1.2	I	ng/L		
		Perfluorododecanoic acid (PFDoA)	0.51	U	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.27	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	2.2		ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.30	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	0.32	U	ng/L		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 11:08

Field ID: SW-3

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092715	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	21		ng/L		
		Perfluorooctanoic acid (PFOA)	4.1		ng/L		
		Perfluorononanoic acid (PFNA)	1.1	I	ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	21		ng/L		
		Perfluoroheptanoic acid (PFHpA)	4.9		ng/L		
		Perfluorobutanesulfonic acid (PFBS)	7.4		ng/L		
		Perfluorobutanoic acid (PFBA)	5.5		ng/L		
		Perfluoropentanoic acid (PFPeA)	12		ng/L		
		Perfluorohexanoic acid (PFHxA)	11		ng/L		
		Perfluorodecanoic acid (PFDA)	0.29	U	ng/L		
		Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L		
		Perfluorododecanoic acid (PFDoA)	0.51	U	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.27	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.64	I	ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.30	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	0.32	U	ng/L		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 00:00

Field ID: DUP-1

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092716	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	22		ng/L		
		Perfluorooctanoic acid (PFOA)	4.5		ng/L		
		Perfluorononanoic acid (PFNA)	1.1	I	ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	14		ng/L		
		Perfluoroheptanoic acid (PFHpA)	4.6		ng/L		
		Perfluorobutanesulfonic acid (PFBS)	5.6		ng/L		
		Perfluorobutanoic acid (PFBA)	5.2		ng/L		
		Perfluoropentanoic acid (PFPeA)	12		ng/L		
		Perfluorohexanoic acid (PFHxA)	10		ng/L		
		Perfluorodecanoic acid (PFDA)	0.29	U	ng/L		
		Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L		
		Perfluorododecanoic acid (PFDoA)	0.51	U	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.27	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.74	I	ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.30	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	0.33	U	ng/L		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 15:30

Field ID: TMW-1(5-20')

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092717	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	3900		ng/L		
		Perfluorooctanoic acid (PFOA)	560		ng/L		
		Perfluorononanoic acid (PFNA)	240		ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	2300		ng/L		
		Perfluoroheptanoic acid (PFHpA)	860		ng/L		
		Perfluorobutanesulfonic acid (PFBS)	310		ng/L		
		Perfluorobutanoic acid (PFBA)	690		ng/L		
		Perfluoropentanoic acid (PFPeA)	3300		ng/L		
		Perfluorohexanoic acid (PFHxA)	2600		ng/L		
		Perfluorodecanoic acid (PFDA)	0.29	U	ng/L		
		Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L		
		Perfluorododecanoic acid (PFDoA)	0.51	U	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.27	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	120		ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.30	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	0.32	U	ng/L		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 14:15

Field ID: TMW-2(5-20')

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092718	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	760		ng/L		
		Perfluorooctanoic acid (PFOA)	130		ng/L		
		Perfluorononanoic acid (PFNA)	27		ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	560		ng/L		
		Perfluoroheptanoic acid (PFHpA)	240		ng/L		
		Perfluorobutanesulfonic acid (PFBS)	48		ng/L		
		Perfluorobutanoic acid (PFBA)	110		ng/L		
		Perfluoropentanoic acid (PFPeA)	300		ng/L		
		Perfluorohexanoic acid (PFHxA)	260		ng/L		
		Perfluorodecanoic acid (PFDA)	0.37	I	ng/L		
		Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L		
		Perfluorododecanoic acid (PFDoA)	0.50	U	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.26	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	23		ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.29	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	0.32	U	ng/L		

Ref. Method and Comment:

EPA 537 mod.: Matrix spike recovery data for PFBA,PFHpA, PFHxS, PFHxA, PFOS, and PFPeA are unavailable because of high concentrations of these analytes in the QC sample.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 11:15

Field ID: EQB-1

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092730	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	0.50	U	ng/L		
		Perfluorooctanoic acid (PFOA)	0.79	U	ng/L		
		Perfluorononanoic acid (PFNA)	0.25	U	ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	0.29	IV	ng/L		
		Perfluoroheptanoic acid (PFHpA)	0.23	U	ng/L		
		Perfluorobutanesulfonic acid (PFBS)	0.19	U	ng/L		
		Perfluorobutanoic acid (PFBA)	0.33	U	ng/L		
		Perfluoropentanoic acid (PFPeA)	0.46	U	ng/L		
		Perfluorohexanoic acid (PFHxA)	0.54	U	ng/L		
		Perfluorodecanoic acid (PFDA)	0.29	U	ng/L		
		Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L		
		Perfluorododecanoic acid (PFDoA)	0.51	U	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.27	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.18	U	ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.30	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	0.33	U	ng/L		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorohexanesulfonic acid (PFHxS) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 13:08

Field ID: EQB-2

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092731	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	0.50	I	ng/L		
		Perfluorooctanoic acid (PFOA)	0.77	U	ng/L		
		Perfluorononanoic acid (PFNA)	0.24	U	ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	0.26	IV	ng/L		
		Perfluoroheptanoic acid (PFHpA)	0.23	U	ng/L		
		Perfluorobutanesulfonic acid (PFBS)	0.18	U	ng/L		
		Perfluorobutanoic acid (PFBA)	0.32	U	ng/L		
		Perfluoropentanoic acid (PFPeA)	0.44	U	ng/L		
		Perfluorohexanoic acid (PFHxA)	0.52	U	ng/L		
		Perfluorodecanoic acid (PFDA)	0.28	U	ng/L		
		Perfluoroundecanoic acid (PFUnA)	0.99	U	ng/L		
		Perfluorododecanoic acid (PFDoA)	0.50	U	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.26	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.17	U	ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.29	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	0.32	U	ng/L		

Ref. Method and Comment:

EPA 537 mod.: Analyte Perfluorohexanesulfonic acid (PFHxS) was detected in the sample and method blank.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 13:50

Field ID: EQB-3

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092732	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1.2	I	ng/L		
		Perfluorooctanoic acid (PFOA)	0.77	U	ng/L		
		Perfluorononanoic acid (PFNA)	0.24	U	ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	0.15	U	ng/L		
		Perfluoroheptanoic acid (PFHpA)	0.23	U	ng/L		
		Perfluorobutanesulfonic acid (PFBS)	0.18	U	ng/L		
		Perfluorobutanoic acid (PFBA)	0.32	U	ng/L		
		Perfluoropentanoic acid (PFPeA)	0.44	U	ng/L		
		Perfluorohexanoic acid (PFHxA)	0.53	U	ng/L		
		Perfluorodecanoic acid (PFDA)	0.28	U	ng/L		
		Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L		
		Perfluorododecanoic acid (PFDoA)	0.50	U	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.26	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.17	U	ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.29	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	0.32	U	ng/L		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 15:15

Field ID: FRB-1

Matrix: W-FRB

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092753	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	0.50	U	ng/L		
		Perfluorooctanoic acid (PFOA)	0.78	U	ng/L		
		Perfluorononanoic acid (PFNA)	0.25	U	ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	0.16	U	ng/L		
		Perfluoroheptanoic acid (PFHpA)	0.23	U	ng/L		
		Perfluorobutanesulfonic acid (PFBS)	0.18	U	ng/L		
		Perfluorobutanoic acid (PFBA)	0.32	U	ng/L		
		Perfluoropentanoic acid (PFPeA)	0.45	U	ng/L		
		Perfluorohexanoic acid (PFHxA)	0.53	U	ng/L		
		Perfluorodecanoic acid (PFDA)	0.28	U	ng/L		
		Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L		
		Perfluorododecanoic acid (PFDoA)	0.50	U	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.27	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.17	U	ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.29	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	0.32	U	ng/L		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 15:22

Field ID: FRB-2

Matrix: W-FRB

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092754	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	0.50	U	ng/L		
		Perfluorooctanoic acid (PFOA)	0.78	U	ng/L		
		Perfluorononanoic acid (PFNA)	0.25	U	ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	0.16	U	ng/L		
		Perfluoroheptanoic acid (PFHpA)	0.23	U	ng/L		
		Perfluorobutanesulfonic acid (PFBS)	0.18	U	ng/L		
		Perfluorobutanoic acid (PFBA)	0.32	U	ng/L		
		Perfluoropentanoic acid (PFPeA)	0.45	U	ng/L		
		Perfluorohexanoic acid (PFHxA)	0.54	U	ng/L		
		Perfluorodecanoic acid (PFDA)	0.29	I	ng/L		
		Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L		
		Perfluorododecanoic acid (PFDoA)	0.51	U	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.27	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	0.18	U	ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.30	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	0.32	U	ng/L		

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 16:00

Field ID: IDW-1-WATER

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092755	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	1600		ng/L		
		Perfluorooctanoic acid (PFOA)	250		ng/L		
		Perfluorononanoic acid (PFNA)	83		ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	1100		ng/L		
		Perfluoroheptanoic acid (PFHpA)	400		ng/L		
		Perfluorobutanesulfonic acid (PFBS)	150		ng/L		
		Perfluorobutanoic acid (PFBA)	280		ng/L		
		Perfluoropentanoic acid (PFPeA)	1200		ng/L		
		Perfluorohexanoic acid (PFHxA)	1000		ng/L		
		Perfluorodecanoic acid (PFDA)	0.28	U	ng/L		
		Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L		
		Perfluorododecanoic acid (PFDoA)	0.51	U	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	1.2	U	ng/L		
		Perfluorotetradecanoic acid (PFTeA)	0.27	U	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	47		ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.29	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	0.32	U	ng/L		
2092757	EPA 8270D	Acenaphthene	0.026	U	ug/L	P365361	
		Acenaphthylene	0.026	U	ug/L	P365361	
		Acetophenone	0.21	U	ug/L	P365361	
		2-Acetylaminofluorene	1.0	U	ug/L	P365361	
		4-Aminobiphenyl	4.2	U	ug/L	P365361	
		Aniline	1.0	U	ug/L	P365361	
		Anthracene	0.026	U	ug/L	P365361	
		Azobenzene/1,2-Diphenylhydrazine**	0.052	U	ug/L	P365361	
		Benzidine	10	U	ug/L	P365361	
		Benzo(a)anthracene	0.026	U	ug/L	P365361	
		Benzo(a)pyrene	0.026	U	ug/L	P365361	
		Benzo(b)fluoranthene	0.026	U	ug/L	P365361	
		Benzo(k)fluoranthene	0.026	U	ug/L	P365361	
		Benzo(g,h,i)perylene	0.026	U	ug/L	P365361	
		Benzyl alcohol	0.10	U	ug/L	P365361	
		Bis(2-chloroethoxy)methane	0.052	U	ug/L	P365361	
		Bis(2-chloroethyl)ether	0.052	U	ug/L	P365361	
		Bis(2-chloroisopropyl)ether	0.052	U	ug/L	P365361	
		Bis(2-ethylhexyl)phthalate	8.5	I	ug/L	P365361	
		Butyl benzyl phthalate	1.0	U	ug/L	P365361	
		4-Bromophenyl phenyl ether	0.052	U	ug/L	P365361	
		2-Chloronaphthalene	0.052	U	ug/L	P365361	
		4-Chlorophenyl phenyl ether	0.052	U	ug/L	P365361	
		Carbazole	0.052	U	ug/L	P365361	
		Chrysene	0.026	U	ug/L	P365361	
		m,p-Cresols	0.052	U	ug/L	P365361	
		o-Cresol	0.052	U	ug/L	P365361	

Field ID: IDW-1-WATER

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092757	EPA 8270D	Di-n-butyl phthalate	57		ug/L	P365361	
		Di-n-octyl phthalate	0.052	U	ug/L	P365361	
		Dibenzo(a,h)anthracene	0.026	U	ug/L	P365361	
		Dibenzofuran	0.052	U	ug/L	P365361	
		3,3'-Dichlorobenzidine	10	U	ug/L	P365361	
		Diethyl phthalate	2.1	U	ug/L	P365361	
		Dimethyl phthalate	0.057	I	ug/L	P365361	
		Dimethylaminoazobenzene	0.052	U	ug/L	P365361	
		7,12-Dimethylbenz(a)anthracene	0.10	U	ug/L	P365361	
		1,3-Dinitrobenzene	0.10	U	ug/L	P365361	
		2,4-Dinitrotoluene	0.052	U	ug/L	P365361	
		2,6-Dinitrotoluene	0.052	U	ug/L	P365361	
		Dinoseb**	4.2	U	ug/L	P365361	
		Ethyl methanesulfonate	1.0	U	ug/L	P365361	
		Fluoranthene	0.026	U	ug/L	P365361	
		Fluorene	0.026	U	ug/L	P365361	
		Hexachlorobenzene	0.052	U	ug/L	P365361	
		Hexachlorobutadiene	0.052	U	ug/L	P365361	
		Hexachlorocyclopentadiene	0.052	U	ug/L	P365361	
		Hexachloroethane	0.052	U	ug/L	P365361	
		Hexachloropropene	0.052	U	ug/L	P365361	
		Indeno(1,2,3-cd)pyrene	0.026	U	ug/L	P365361	
		Isophorone	0.052	U	ug/L	P365361	
		Isosafrole	0.052	U	ug/L	P365361	
		3-Methylcholanthrene	0.10	U	ug/L	P365361	
		2-Methylnaphthalene	0.10	U	ug/L	P365361	
		Naphthalene	0.26	I	ug/L	P365361	
		1-Naphthylamine	10	U	ug/L	P365361	MS
		2-Naphthylamine	10	U	ug/L	P365361	MS
		2-Nitroaniline	0.052	U	ug/L	P365361	
		Nitrobenzene	0.052	U	ug/L	P365361	
		5-Nitro-o-toluidine	0.10	U	ug/L	P365361	
		N-Nitrosodi-n-butylamine	0.052	U	ug/L	P365361	
		N-Nitrosodiethylamine	1.0	U	ug/L	P365361	
		N-Nitrosodimethylamine	2.1	U	ug/L	P365361	
		N-Nitrosodi-n-propylamine	0.052	U	ug/L	P365361	
		N-Nitrosomethylethylamine	2.1	U	ug/L	P365361	
		N-Nitrosomorpholine	0.052	U	ug/L	P365361	RPD
		N-Nitrosopiperidine	0.052	U	ug/L	P365361	
		N-Nitrosopyrrolidine	0.052	U	ug/L	P365361	MS
		Pentachlorobenzene	0.052	U	ug/L	P365361	
		Pentachloroethane**	0.052	U	ug/L	P365361	
		Pentachloronitrobenzene	0.052	U	ug/L	P365361	
		Phenacetin	0.10	U	ug/L	P365361	
		Phenanthrene	0.10	U	ug/L	P365361	

Field ID: IDW-1-WATER

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes		
2092757	EPA 8270D	2-Picoline	1.0	U	ug/L	P365361			
		Pyrene	0.10	U	ug/L	P365361			
		Pyridine	4.2	U	ug/L	P365361			
		Safrole	0.052	U	ug/L	P365361			
		1,2,4,5-Tetrachlorobenzene	0.052	U	ug/L	P365361			
		o-Toluidine	0.10	U	ug/L	P365361			
		1,2,4-Trichlorobenzene	0.052	U	ug/L	P365361			
		1,3,5-Trinitrobenzene	0.10	U	ug/L	P365361			
		4-Chloro-3-methylphenol	0.052	U	ug/L	P365361			
		2-Chlorophenol	0.052	U	ug/L	P365361			
		2,4-Dichlorophenol	0.052	U	ug/L	P365361			
		2,6-Dichlorophenol	0.052	U	ug/L	P365361			
		2,4-Dimethylphenol	0.24		ug/L	P365361			
		2,4-Dinitrophenol	10	U	ug/L	P365361			
		2-Methyl-4,6-dinitrophenol	3.1	U	ug/L	P365361			
		2-Nitrophenol	0.052	U	ug/L	P365361			
		4-Nitrophenol	10	U	ug/L	P365361			
		Pentachlorophenol	0.52	U	ug/L	P365361			
		Phenol	0.052	U	ug/L	P365361			
		2,3,4,6-Tetrachlorophenol	0.10	U	ug/L	P365361			
		2,4,5-Trichlorophenol	0.052	U	ug/L	P365361			
		2,4,6-Trichlorophenol	0.052	U	ug/L	P365361			
		1-Methylnaphthalene	0.10	U	ug/L	P365361			
		N-Nitrosodiphenylamine/ Diphenylamine	0.10	U	ug/L	P365361			
		2092759	EPA 7473	Mercury**	0.10	U	ug/L	P365875	
		2092760	EPA 6020A	Arsenic	5.63		ug/L	P365364	
				Barium	126		ug/L	P365364	
				Cadmium	0.029	I	ug/L	P365364	
				Chromium	23.0		ug/L	P365364	
				Lead	8.89		ug/L	P365364	
				Selenium	0.84		ug/L	P365364	
				Silver	0.010	U	ug/L	P365364	
				2092764	EPA 8260D	Benzene	0.20	U	ug/L
		Bromodichloromethane	0.20	U	ug/L	P365490			
		Bromoform	0.50	U	ug/L	P365490			
		Bromomethane	0.50	U	ug/L	P365490			
		2-Butanone	3.0	U	ug/L	P365490			
		Carbon tetrachloride	0.20	U	ug/L	P365490			
		Chlorobenzene	0.20	U	ug/L	P365490			
		Chloroethane	0.50	U	ug/L	P365490			
		Chloroform	0.20	U	ug/L	P365490			
		Chloromethane	0.50	U	ug/L	P365490			
		Dibromochloromethane	0.20	U	ug/L	P365490			
		1,2-Dichlorobenzene	0.50	U	ug/L	P365490			

Field ID: IDW-1-WATER

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092764	EPA 8260D	1,3-Dichlorobenzene	0.50	U	ug/L	P365490	
		1,4-Dichlorobenzene	0.50	U	ug/L	P365490	
		1,1-Dichloroethane	0.20	U	ug/L	P365490	
		1,2-Dichloroethane	0.20	U	ug/L	P365490	
		1,1-Dichloroethene	0.20	U	ug/L	P365490	
		cis-1,2-Dichloroethene	0.20	U	ug/L	P365490	
		trans-1,2-Dichloroethene	0.20	U	ug/L	P365490	
		1,2-Dichloropropane	0.20	U	ug/L	P365490	
		cis-1,3-Dichloropropene	0.50	U	ug/L	P365490	
		trans-1,3-Dichloropropene	0.50	U	ug/L	P365490	
		Ethylbenzene	0.20	U	ug/L	P365490	
		Methyl-t-butyl ether	0.20	U	ug/L	P365490	
		Methylene chloride	1.0	U	ug/L	P365490	
		1,1,2,2-Tetrachloroethane	0.20	U	ug/L	P365490	
		Tetrachloroethene	0.20	U	ug/L	P365490	
		Toluene	0.50	U	ug/L	P365490	
		1,1,1-Trichloroethane	0.20	U	ug/L	P365490	
		1,1,2-Trichloroethane	0.20	U	ug/L	P365490	
		Trichloroethene	0.20	U	ug/L	P365490	
		Trichlorofluoromethane	0.20	U	ug/L	P365490	
		Vinyl chloride	0.20	U	ug/L	P365490	
		o-Xylene	0.50	U	ug/L	P365490	
		m,p-Xylene	0.50	U	ug/L	P365490	

Ref. Method and Comment:

EPA 8270D: Matrix spike precision for some analytes is not available due to low analyte recoveries.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 11:30

Field ID: CENTURION

Matrix: WAS-LIQUID

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092761	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	24	U	ug/Kg	P365501	
		Perfluorodecanoic acid (PFDA)**	24	UJ	ug/Kg	P365501	MS, RPD
		Perfluorododecanoic acid (PFDoA)**	24	U	ug/Kg	P365501	
		Perfluoroheptanoic acid (PFHpA)**	24	U	ug/Kg	P365501	
		Perfluorohexanesulfonic acid (PFHxS)**	24	U	ug/Kg	P365501	
		Perfluorohexanoic acid (PFHxA)**	440		ug/Kg	P365501	
		Perfluorononanoic acid (PFNA)**	24	UJ	ug/Kg	P365501	MS
		Perfluorooctanesulfonic acid (PFOS)**	48	U	ug/Kg	P365501	
		Perfluorooctanoic acid (PFOA)**	24	UJ	ug/Kg	P365501	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	24	UJ	ug/Kg	P365501	MS, RPD
		Perfluorotridecanoic acid (PFTriA)**	24	UJ	ug/Kg	P365501	MS
		Perfluoroundecanoic acid (PFUnA)**	24	UJ	ug/Kg	P365501	MS
		N-Me perfluorooctanesulfonamidoAc acid**	24	U	ug/Kg	P365501	
		N-Et perfluorooctanesulfonamidoAc acid**	24	UJ	ug/Kg	P365501	MS

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameters in the spiked sample. Refer to the narrative for an explanation of QC Codes.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 11:15

Field ID: FIREADE

Matrix: WAS-LIQUID

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092762	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	24	U	ug/Kg	P365501	
		Perfluorodecanoic acid (PFDA)**	24	U	ug/Kg	P365501	MS, RPD
		Perfluorododecanoic acid (PFDoA)**	24	U	ug/Kg	P365501	
		Perfluoroheptanoic acid (PFHpA)**	24	U	ug/Kg	P365501	
		Perfluorohexanesulfonic acid (PFHxS)**	24	U	ug/Kg	P365501	
		Perfluorohexanoic acid (PFHxA)**	440		ug/Kg	P365501	
		Perfluorononanoic acid (PFNA)**	24	U	ug/Kg	P365501	MS
		Perfluorooctanesulfonic acid (PFOS)**	48	U	ug/Kg	P365501	
		Perfluorooctanoic acid (PFOA)**	24	U	ug/Kg	P365501	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	24	U	ug/Kg	P365501	MS, RPD
		Perfluorotridecanoic acid (PFTriA)**	24	U	ug/Kg	P365501	MS
		Perfluoroundecanoic acid (PFUnA)**	24	U	ug/Kg	P365501	MS
		N-Me perfluorooctanesulfonamidoAcid**	24	U	ug/Kg	P365501	
		N-Et perfluorooctanesulfonamidoAcid**	24	U	ug/Kg	P365501	MS

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 16:00

Field ID: TRAINING FOAM

Matrix: WAS-LIQUID

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092763	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	25	U	ug/Kg	P365501	
		Perfluorodecanoic acid (PFDA)**	25	U	ug/Kg	P365501	MS, RPD
		Perfluorododecanoic acid (PFDoA)**	25	U	ug/Kg	P365501	
		Perfluoroheptanoic acid (PFHpA)**	25	U	ug/Kg	P365501	
		Perfluorohexanesulfonic acid (PFHxS)**	25	U	ug/Kg	P365501	
		Perfluorohexanoic acid (PFHxA)**	25	U	ug/Kg	P365501	
		Perfluorononanoic acid (PFNA)**	25	U	ug/Kg	P365501	MS
		Perfluorooctanesulfonic acid (PFOS)**	50	U	ug/Kg	P365501	
		Perfluorooctanoic acid (PFOA)**	25	U	ug/Kg	P365501	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	25	U	ug/Kg	P365501	MS, RPD
		Perfluorotridecanoic acid (PFTriA)**	25	U	ug/Kg	P365501	MS
		Perfluoroundecanoic acid (PFUnA)**	25	U	ug/Kg	P365501	MS
		N-Me perfluorooctanesulfonamidoAcid**	25	U	ug/Kg	P365501	
		N-Et perfluorooctanesulfonamidoAcid**	25	U	ug/Kg	P365501	MS

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 16:15

Field ID: IDW-2 WATER

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092756	EPA 537 mod.	Perfluorooctanesulfonic acid (PFOS)	390		ng/L		
		Perfluorooctanoic acid (PFOA)	59		ng/L		
		Perfluorononanoic acid (PFNA)	22		ng/L		
		Perfluorohexanesulfonic acid (PFHxS)	220		ng/L		
		Perfluoroheptanoic acid (PFHpA)	79		ng/L		
		Perfluorobutanesulfonic acid (PFBS)	29		ng/L		
		Perfluorobutanoic acid (PFBA)	63		ng/L		
		Perfluoropentanoic acid (PFPeA)	280		ng/L		
		Perfluorohexanoic acid (PFHxA)	230		ng/L		
		Perfluorodecanoic acid (PFDA)	2.7		ng/L		
		Perfluoroundecanoic acid (PFUnA)	11	U	ng/L		
		Perfluorododecanoic acid (PFDoA)	17	J	ng/L		
		Perfluorotridecanoic Acid (PFTriA)	20		ng/L		
		Perfluorotetradecanoic acid (PFTeA)	5.2	I	ng/L		
		Perfluoroheptanesulfonic Acid (PFHpS)	10		ng/L		
		Perfluorodecanesulfonic acid (PFDS)	0.33	U	ng/L		
		Perfluorooctane Sulfonamide (FOSA)	3.6	U	ng/L		
2092758	EPA 8270D	Acenaphthene	0.031	U	ug/L	P365361	
		Acenaphthylene	0.031	U	ug/L	P365361	
		Acetophenone	0.82	I	ug/L	P365361	
		2-Acetylaminofluorene	1.2	U	ug/L	P365361	
		4-Aminobiphenyl	5.0	U	ug/L	P365361	
		Aniline	1.2	U	ug/L	P365361	
		Anthracene	0.041	I	ug/L	P365361	
		Azobenzene/1,2-Diphenylhydrazine**	0.062	U	ug/L	P365361	
		Benzidine	12	U	ug/L	P365361	
		Benzo(a)anthracene	0.031	U	ug/L	P365361	
		Benzo(a)pyrene	0.031	U	ug/L	P365361	
		Benzo(b)fluoranthene	0.031	U	ug/L	P365361	
		Benzo(k)fluoranthene	0.031	U	ug/L	P365361	
		Benzo(g,h,i)perylene	0.031	U	ug/L	P365361	
		Benzyl alcohol	0.94		ug/L	P365361	
		Bis(2-chloroethoxy)methane	0.062	U	ug/L	P365361	
		Bis(2-chloroethyl)ether	0.062	U	ug/L	P365361	
		Bis(2-chloroisopropyl)ether	0.062	U	ug/L	P365361	
		Bis(2-ethylhexyl)phthalate	20	I	ug/L	P365361	
		Butyl benzyl phthalate	1.2	U	ug/L	P365361	
		4-Bromophenyl phenyl ether	0.062	U	ug/L	P365361	
		2-Chloronaphthalene	0.062	U	ug/L	P365361	
		4-Chlorophenyl phenyl ether	0.062	U	ug/L	P365361	
		Carbazole	0.062	U	ug/L	P365361	
		Chrysene	0.031	U	ug/L	P365361	
		m,p-Cresols	0.062	U	ug/L	P365361	
		o-Cresol	0.062	U	ug/L	P365361	

Field ID: IDW-2 WATER

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092758	EPA 8270D	Di-n-butyl phthalate	2.6	I	ug/L	P365361	
		Di-n-octyl phthalate	0.062	U	ug/L	P365361	
		Dibenzo(a,h)anthracene	0.031	U	ug/L	P365361	
		Dibenzofuran	0.062	U	ug/L	P365361	
		3,3'-Dichlorobenzidine	12	U	ug/L	P365361	
		Diethyl phthalate	2.5	U	ug/L	P365361	
		Dimethyl phthalate	0.062	U	ug/L	P365361	
		Dimethylaminoazobenzene	0.062	U	ug/L	P365361	
		7,12-Dimethylbenz(a)anthracene	0.12	U	ug/L	P365361	
		1,3-Dinitrobenzene	0.12	U	ug/L	P365361	
		2,4-Dinitrotoluene	0.062	U	ug/L	P365361	
		2,6-Dinitrotoluene	0.062	U	ug/L	P365361	
		Dinoseb**	5.0	U	ug/L	P365361	
		Ethyl methanesulfonate	1.2	U	ug/L	P365361	
		Fluoranthene	0.031	U	ug/L	P365361	
		Fluorene	0.031	U	ug/L	P365361	
		Hexachlorobenzene	0.062	U	ug/L	P365361	
		Hexachlorobutadiene	0.062	U	ug/L	P365361	
		Hexachlorocyclopentadiene	0.062	U	ug/L	P365361	
		Hexachloroethane	0.062	U	ug/L	P365361	
		Hexachloropropene	0.062	U	ug/L	P365361	
		Indeno(1,2,3-cd)pyrene	0.031	U	ug/L	P365361	
		Isophorone	0.062	U	ug/L	P365361	
		Isosafrole	0.062	U	ug/L	P365361	
		3-Methylcholanthrene	0.12	U	ug/L	P365361	
		2-Methylnaphthalene	0.63		ug/L	P365361	
		Naphthalene	0.12	U	ug/L	P365361	
		1-Naphthylamine	12	U	ug/L	P365361	MS
		2-Naphthylamine	12	U	ug/L	P365361	MS
		2-Nitroaniline	0.062	U	ug/L	P365361	
		Nitrobenzene	0.062	U	ug/L	P365361	
		5-Nitro-o-toluidine	0.12	U	ug/L	P365361	
		N-Nitrosodi-n-butylamine	0.062	U	ug/L	P365361	
		N-Nitrosodiethylamine	1.2	U	ug/L	P365361	
		N-Nitrosodimethylamine	2.5	U	ug/L	P365361	
		N-Nitrosodi-n-propylamine	0.062	U	ug/L	P365361	
		N-Nitrosomethylethylamine	2.5	U	ug/L	P365361	
		N-Nitrosomorpholine	0.062	U	ug/L	P365361	RPD
		N-Nitrosopiperidine	0.062	U	ug/L	P365361	
		N-Nitrosopyrrolidine	0.062	U	ug/L	P365361	MS
		Pentachlorobenzene	0.062	U	ug/L	P365361	
		Pentachloroethane**	0.062	U	ug/L	P365361	
		Pentachloronitrobenzene	0.062	U	ug/L	P365361	
		Phenacetin	0.12	U	ug/L	P365361	
		Phenanthrene	0.12	U	ug/L	P365361	

Field ID: IDW-2 WATER

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes		
2092758	EPA 8270D	2-Picoline	1.2	U	ug/L	P365361			
		Pyrene	0.12	U	ug/L	P365361			
		Pyridine	5.0	U	ug/L	P365361			
		Safrole	0.062	U	ug/L	P365361			
		1,2,4,5-Tetrachlorobenzene	0.062	U	ug/L	P365361			
		o-Toluidine	0.12	U	ug/L	P365361			
		1,2,4-Trichlorobenzene	0.062	U	ug/L	P365361			
		1,3,5-Trinitrobenzene	0.12	U	ug/L	P365361			
		4-Chloro-3-methylphenol	0.062	U	ug/L	P365361			
		2-Chlorophenol	0.062	U	ug/L	P365361			
		2,4-Dichlorophenol	0.062	U	ug/L	P365361			
		2,6-Dichlorophenol	0.062	U	ug/L	P365361			
		2,4-Dimethylphenol	0.062	U	ug/L	P365361			
		2,4-Dinitrophenol	120	U	ug/L	P365361			
		2-Methyl-4,6-dinitrophenol	38	U	ug/L	P365361			
		2-Nitrophenol	0.062	U	ug/L	P365361			
		4-Nitrophenol	120	U	ug/L	P365361			
		Pentachlorophenol	6.2	U	ug/L	P365361			
		Phenol	0.062	U	ug/L	P365361			
		2,3,4,6-Tetrachlorophenol	0.12	U	ug/L	P365361			
		2,4,5-Trichlorophenol	0.062	U	ug/L	P365361			
		2,4,6-Trichlorophenol	0.062	U	ug/L	P365361			
		1-Methylnaphthalene	0.37	I	ug/L	P365361			
		N-Nitrosodiphenylamine/ Diphenylamine	0.12	U	ug/L	P365361			
		2092765	EPA 8260D	Benzene	20	U	ug/L	P365676	
				Bromodichloromethane	20	U	ug/L	P365676	
				Bromoform	50	U	ug/L	P365676	
				Bromomethane	50	U	ug/L	P365676	
				2-Butanone	300	U	ug/L	P365676	
				Carbon tetrachloride	20	U	ug/L	P365676	
				Chlorobenzene	20	U	ug/L	P365676	
				Chloroethane	50	U	ug/L	P365676	
				Chloroform	20	U	ug/L	P365676	
Chloromethane	50			U	ug/L	P365676			
Dibromochloromethane	20			U	ug/L	P365676			
1,2-Dichlorobenzene	50			U	ug/L	P365676			
1,3-Dichlorobenzene	50			U	ug/L	P365676			
1,4-Dichlorobenzene	50			U	ug/L	P365676			
1,1-Dichloroethane	20			U	ug/L	P365676			
1,2-Dichloroethane	20			U	ug/L	P365676			
1,1-Dichloroethene	20			U	ug/L	P365676			
cis-1,2-Dichloroethene	20			U	ug/L	P365676			
trans-1,2-Dichloroethene	20			U	ug/L	P365676			
1,2-Dichloropropane	20			U	ug/L	P365676			

Field ID: IDW-2 WATER

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092765	EPA 8260D	cis-1,3-Dichloropropene	50	U	ug/L	P365676	
		trans-1,3-Dichloropropene	50	U	ug/L	P365676	
		Ethylbenzene	20	U	ug/L	P365676	
		Methyl-t-butyl ether	20	U	ug/L	P365676	
		Methylene chloride	100	U	ug/L	P365676	
		1,1,2,2-Tetrachloroethane	20	U	ug/L	P365676	
		Tetrachloroethene	20	U	ug/L	P365676	
		Toluene	50	U	ug/L	P365676	
		1,1,1-Trichloroethane	20	U	ug/L	P365676	
		1,1,2-Trichloroethane	20	U	ug/L	P365676	
		Trichloroethene	20	U	ug/L	P365676	
		Trichlorofluoromethane	20	U	ug/L	P365676	
		Vinyl chloride	20	U	ug/L	P365676	
		o-Xylene	50	U	ug/L	P365676	
		m,p-Xylene	50	U	ug/L	P365676	

Ref. Method and Comment:

EPA 537 mod.: The Isotope Dilution Analyte (IDA) recovery for 13C2 PFDoA was below the method recommended limit.

EPA 8270D: Matrix spike precision for some analytes is not available due to low analyte recoveries. MDL for some parameters elevated due to matrix interference.

EPA 8260D: The MDLs are elevated due to sample dilution as a result of excessive foaming.

Sample Location: INDIAN RIVER STATE COLLEGE (IRSC)

Collection Date/Time: 06/05/2019 10:15

Field ID: TRIP BLANK

Matrix: W-TRIP-BLK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2092766	EPA 8260D	Benzene	0.20	U	ug/L	P365676	
		Bromodichloromethane	0.20	U	ug/L	P365676	
		Bromoform	0.50	U	ug/L	P365676	
		Bromomethane	0.50	U	ug/L	P365676	
		2-Butanone	3.0	U	ug/L	P365676	
		Carbon tetrachloride	0.20	U	ug/L	P365676	
		Chlorobenzene	0.20	U	ug/L	P365676	
		Chloroethane	0.50	U	ug/L	P365676	
		Chloroform	0.20	U	ug/L	P365676	
		Chloromethane	0.50	U	ug/L	P365676	
		Dibromochloromethane	0.20	U	ug/L	P365676	
		1,2-Dichlorobenzene	0.50	U	ug/L	P365676	
		1,3-Dichlorobenzene	0.50	U	ug/L	P365676	
		1,4-Dichlorobenzene	0.50	U	ug/L	P365676	
		1,1-Dichloroethane	0.20	U	ug/L	P365676	
		1,2-Dichloroethane	0.20	U	ug/L	P365676	
		1,1-Dichloroethene	0.20	U	ug/L	P365676	
		cis-1,2-Dichloroethene	0.20	U	ug/L	P365676	
		trans-1,2-Dichloroethene	0.20	U	ug/L	P365676	
		1,2-Dichloropropane	0.20	U	ug/L	P365676	
		cis-1,3-Dichloropropene	0.50	U	ug/L	P365676	
		trans-1,3-Dichloropropene	0.50	U	ug/L	P365676	
		Ethylbenzene	0.20	U	ug/L	P365676	
		Methyl-t-butyl ether	0.20	U	ug/L	P365676	
		Methylene chloride	1.0	U	ug/L	P365676	
		1,1,2,2-Tetrachloroethane	0.20	U	ug/L	P365676	
		Tetrachloroethene	0.20	U	ug/L	P365676	
		Toluene	0.50	U	ug/L	P365676	
		1,1,1-Trichloroethane	0.20	U	ug/L	P365676	
		1,1,2-Trichloroethane	0.20	U	ug/L	P365676	
		Trichloroethene	0.20	U	ug/L	P365676	
		Trichlorofluoromethane	0.20	U	ug/L	P365676	
		Vinyl chloride	0.20	U	ug/L	P365676	
		o-Xylene	0.50	U	ug/L	P365676	
		m,p-Xylene	0.50	U	ug/L	P365676	

Quality Assurance Report Method Blank Results

Reference Method: EPA 6020A
Batch ID: P365364

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Lead	0.20	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 7473
Batch ID: P365875

Component	Result	Code	Units
Mercury	0.10	U	ug/L

Reference Method: EPA 8260D
Batch ID: P365490

Component	Result	Code	Units
1,1-Dichloroethane	0.20	U	ug/L
1,1-Dichloroethene	0.20	U	ug/L
1,1,1-Trichloroethane	0.20	U	ug/L
1,1,2-Trichloroethane	0.20	U	ug/L
1,1,2,2-Tetrachloroethane	0.20	U	ug/L
1,2-Dichlorobenzene	0.50	U	ug/L
1,2-Dichloroethane	0.20	U	ug/L
1,2-Dichloropropane	0.20	U	ug/L
1,3-Dichlorobenzene	0.50	U	ug/L
1,4-Dichlorobenzene	0.50	U	ug/L
2-Butanone	3.0	U	ug/L
Benzene	0.20	U	ug/L
Bromodichloromethane	0.20	U	ug/L
Bromoform	0.50	U	ug/L
Bromomethane	0.50	U	ug/L
Carbon tetrachloride	0.20	U	ug/L
Chlorobenzene	0.20	U	ug/L
Chloroethane	0.50	U	ug/L
Chloroform	0.20	U	ug/L
Chloromethane	0.50	U	ug/L
cis-1,2-Dichloroethene	0.20	U	ug/L
cis-1,3-Dichloropropene	0.50	U	ug/L
Dibromochloromethane	0.20	U	ug/L
Ethylbenzene	0.20	U	ug/L
m,p-Xylene	0.50	U	ug/L
Methyl-t-butyl ether	0.20	U	ug/L
Methylene chloride	1.0	U	ug/L
o-Xylene	0.50	U	ug/L
Tetrachloroethene	0.20	U	ug/L
Toluene	0.50	U	ug/L
trans-1,2-Dichloroethene	0.20	U	ug/L
trans-1,3-Dichloropropene	0.50	U	ug/L
Trichloroethene	0.20	U	ug/L
Trichlorofluoromethane	0.20	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8260D
Batch ID: P365490

Component	Result	Code	Units
Vinyl chloride	0.20	U	ug/L

Reference Method: EPA 8260D
Batch ID: P365676

Component	Result	Code	Units
1,1-Dichloroethane	0.20	U	ug/L
1,1-Dichloroethene	0.20	U	ug/L
1,1,1-Trichloroethane	0.20	U	ug/L
1,1,2-Trichloroethane	0.20	U	ug/L
1,1,2,2-Tetrachloroethane	0.20	U	ug/L
1,2-Dichlorobenzene	0.50	U	ug/L
1,2-Dichloroethane	0.20	U	ug/L
1,2-Dichloropropane	0.20	U	ug/L
1,3-Dichlorobenzene	0.50	U	ug/L
1,4-Dichlorobenzene	0.50	U	ug/L
2-Butanone	3.0	U	ug/L
Benzene	0.20	U	ug/L
Bromodichloromethane	0.20	U	ug/L
Bromoform	0.50	U	ug/L
Bromomethane	0.50	U	ug/L
Carbon tetrachloride	0.20	U	ug/L
Chlorobenzene	0.20	U	ug/L
Chloroethane	0.50	U	ug/L
Chloroform	0.20	U	ug/L
Chloromethane	0.50	U	ug/L
cis-1,2-Dichloroethene	0.20	U	ug/L
cis-1,3-Dichloropropene	0.50	U	ug/L
Dibromochloromethane	0.20	U	ug/L
Ethylbenzene	0.20	U	ug/L
m,p-Xylene	0.50	U	ug/L
Methyl-t-butyl ether	0.20	U	ug/L
Methylene chloride	1.0	U	ug/L
o-Xylene	0.50	U	ug/L
Tetrachloroethene	0.20	U	ug/L
Toluene	0.50	U	ug/L
trans-1,2-Dichloroethene	0.20	U	ug/L
trans-1,3-Dichloropropene	0.50	U	ug/L
Trichloroethene	0.20	U	ug/L
Trichlorofluoromethane	0.20	U	ug/L
Vinyl chloride	0.20	U	ug/L

Reference Method: EPA 8270D
Batch ID: P365361

Component	Result	Code	Units
1-Methylnaphthalene	0.10	U	ug/L
1-Naphthylamine	10	U	ug/L
1-Naphthylamine	10	U	ug/L
1,2,4-Trichlorobenzene	0.050	U	ug/L
1,2,4,5-Tetrachlorobenzene	0.050	U	ug/L
1,3-Dinitrobenzene	0.10	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P365361

Component	Result	Code	Units
1,3,5-Trinitrobenzene	0.10	U	ug/L
2-Acetylaminofluorene	1.0	U	ug/L
2-Chloronaphthalene	0.050	U	ug/L
2-Chlorophenol	0.050	U	ug/L
2-Methyl-4,6-dinitrophenol	3.0	U	ug/L
2-Methylnaphthalene	0.10	U	ug/L
2-Naphthylamine	10	U	ug/L
2-Naphthylamine	10	U	ug/L
2-Nitroaniline	0.050	U	ug/L
2-Nitrophenol	0.050	U	ug/L
2-Picoline	1.0	U	ug/L
2,3,4,6-Tetrachlorophenol	0.10	U	ug/L
2,4-Dichlorophenol	0.050	U	ug/L
2,4-Dimethylphenol	0.050	U	ug/L
2,4-Dinitrophenol	10	U	ug/L
2,4-Dinitrotoluene	0.050	U	ug/L
2,4,5-Trichlorophenol	0.050	U	ug/L
2,4,6-Trichlorophenol	0.050	U	ug/L
2,6-Dichlorophenol	0.050	U	ug/L
2,6-Dinitrotoluene	0.050	U	ug/L
3-Methylcholanthrene	0.10	U	ug/L
3,3'-Dichlorobenzidine	10	U	ug/L
4-Aminobiphenyl	4.0	U	ug/L
4-Bromophenyl phenyl ether	0.050	U	ug/L
4-Chloro-3-methylphenol	0.050	U	ug/L
4-Chlorophenyl phenyl ether	0.050	U	ug/L
4-Nitrophenol	10	U	ug/L
5-Nitro-o-toluidine	0.10	U	ug/L
7,12-Dimethylbenz(a)anthracene	0.10	U	ug/L
Acenaphthene	0.025	U	ug/L
Acenaphthylene	0.025	U	ug/L
Acetophenone	0.20	U	ug/L
Aniline	1.0	U	ug/L
Anthracene	0.025	U	ug/L
Azobenzene/1,2-Diphenylhydrazine	0.050	U	ug/L
Benzidine	10	U	ug/L
Benzo(a)anthracene	0.025	U	ug/L
Benzo(a)pyrene	0.025	U	ug/L
Benzo(b)fluoranthene	0.025	U	ug/L
Benzo(g,h,i)perylene	0.025	U	ug/L
Benzo(k)fluoranthene	0.025	U	ug/L
Benzyl alcohol	0.10	U	ug/L
Bis(2-chloroethoxy)methane	0.050	U	ug/L
Bis(2-chloroethyl)ether	0.050	U	ug/L
Bis(2-chloroisopropyl)ether	0.050	U	ug/L
Bis(2-ethylhexyl)phthalate	5.0	U	ug/L
Butyl benzyl phthalate	1.0	U	ug/L
Carbazole	0.050	U	ug/L
Chrysene	0.025	U	ug/L
Di-n-butyl phthalate	2.0	U	ug/L
Di-n-octyl phthalate	0.050	U	ug/L
Dibenzo(a,h)anthracene	0.025	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P365361

Component	Result	Code	Units
Dibenzofuran	0.050	U	ug/L
Diethyl phthalate	2.0	U	ug/L
Dimethyl phthalate	0.050	U	ug/L
Dimethylaminoazobenzene	0.050	U	ug/L
Dinoseb	4.0	U	ug/L
Ethyl methanesulfonate	1.0	U	ug/L
Fluoranthene	0.025	U	ug/L
Fluorene	0.025	U	ug/L
Hexachlorobenzene	0.050	U	ug/L
Hexachlorobutadiene	0.050	U	ug/L
Hexachlorocyclopentadiene	0.050	U	ug/L
Hexachloroethane	0.050	U	ug/L
Hexachloropropene	0.050	U	ug/L
Indeno(1,2,3-cd)pyrene	0.025	U	ug/L
Isophorone	0.050	U	ug/L
Isosafrole	0.050	U	ug/L
m,p-Cresols	0.050	U	ug/L
N-Nitrosodi-n-butylamine	0.050	U	ug/L
N-Nitrosodi-n-propylamine	0.050	U	ug/L
N-Nitrosodiethylamine	1.0	U	ug/L
N-Nitrosodimethylamine	2.0	U	ug/L
N-Nitrosodiphenylamine/ Diphenylamine	0.10	U	ug/L
N-Nitrosomethylethylamine	2.0	U	ug/L
N-Nitrosomorpholine	0.050	U	ug/L
N-Nitrosopiperidine	0.050	U	ug/L
N-Nitrosopyrrolidine	0.050	U	ug/L
Naphthalene	0.10	U	ug/L
Nitrobenzene	0.050	U	ug/L
o-Cresol	0.050	U	ug/L
o-Toluidine	0.10	U	ug/L
Pentachlorobenzene	0.050	U	ug/L
Pentachloroethane	0.050	U	ug/L
Pentachloronitrobenzene	0.050	U	ug/L
Pentachlorophenol	0.50	U	ug/L
Phenacetin	0.10	U	ug/L
Phenanthrene	0.10	U	ug/L
Phenol	0.050	U	ug/L
Pyrene	0.10	U	ug/L
Pyridine	4.0	U	ug/L
Safrole	0.050	U	ug/L

Reference Method: EPA 8321B
Batch ID: P365501

Component	Result	Code	Units
N-Et perfluorooctanesulfonamidoAc acid	25	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	25	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	25	U	ug/Kg
Perfluorodecanoic acid (PFDA)	25	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	25	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	25	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	25	U	ug/Kg

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P365501

Component	Result	Code	Units
Perfluorohexanoic acid (PFHxA)	25	U	ug/Kg
Perfluorononanoic acid (PFNA)	25	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	50	U	ug/Kg
Perfluorooctanoic acid (PFOA)	25	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	25	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	25	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	25	U	ug/Kg

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 6020A
Batch ID: P365364

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	98.2		P	85 - 115
Barium	94.1		P	85 - 115
Cadmium	96.4		P	85 - 115
Chromium	103		P	85 - 115
Lead	90.3		P	85 - 115
Selenium	101		P	85 - 115
Silver	92.8		P	85 - 115

Reference Method: EPA 7473
Batch ID: P365875

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mercury	96.5		P	80 - 120

Reference Method: EPA 8260D
Batch ID: P365490

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1,1-Dichloroethane	93.3	89.6	P/P	70 - 130
1,1-Dichloroethene	112	108	P/P	70 - 130
1,1,1-Trichloroethane	107	103	P/P	70 - 130
1,1,2-Trichloroethane	103	100	P/P	70 - 130
1,1,2,2-Tetrachloroethane	97.7	97.0	P/P	60 - 140
1,2-Dichlorobenzene	113	110	P/P	70 - 130
1,2-Dichloroethane	98.1	94.1	P/P	70 - 130
1,2-Dichloropropane	107	104	P/P	70 - 130
1,3-Dichlorobenzene	112	110	P/P	70 - 130
1,4-Dichlorobenzene	110	108	P/P	70 - 130
2-Butanone	104	100	P/P	60 - 140
Benzene	110	106	P/P	70 - 130
Bromodichloromethane	106	102	P/P	70 - 130
Bromoform	103	99.5	P/P	60 - 140
Bromomethane	109	106	P/P	60 - 140
Carbon tetrachloride	113	108	P/P	70 - 130
Chlorobenzene	109	107	P/P	70 - 130
Chloroethane	104	100	P/P	60 - 140
Chloroform	109	105	P/P	70 - 130
Chloromethane	114	108	P/P	60 - 140
cis-1,2-Dichloroethene	111	107	P/P	70 - 130
cis-1,3-Dichloropropene	103	99.0	P/P	60 - 140
Dibromochloromethane	100	96.8	P/P	60 - 140
Ethylbenzene	106	104	P/P	70 - 130
m,p-Xylene	107	105	P/P	70 - 130
Methyl-t-butyl ether	98.2	94.9	P/P	70 - 130
Methylene chloride	109	105	P/P	70 - 130
o-Xylene	107	105	P/P	70 - 130
Tetrachloroethene	106	103	P/P	70 - 130
Toluene	106	103	P/P	70 - 130
trans-1,2-Dichloroethene	113	110	P/P	70 - 130
trans-1,3-Dichloropropene	94.4	91.5	P/P	60 - 140
Trichloroethene	107	103	P/P	70 - 130
Trichlorofluoromethane	103	98.2	P/P	60 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8260D
Batch ID: P365490

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Vinyl chloride	114	110	P/P	60 - 140

Reference Method: EPA 8260D
Batch ID: P365676

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1,1-Dichloroethane	96.8	96.8	P/P	70 - 130
1,1-Dichloroethene	103	103	P/P	70 - 130
1,1,1-Trichloroethane	92.8	92.2	P/P	70 - 130
1,1,2-Trichloroethane	97.2	102	P/P	70 - 130
1,1,2,2-Tetrachloroethane	99.8	95.8	P/P	60 - 140
1,2-Dichlorobenzene	107	107	P/P	70 - 130
1,2-Dichloroethane	98.2	96.1	P/P	70 - 130
1,2-Dichloropropane	97.8	97.2	P/P	70 - 130
1,3-Dichlorobenzene	106	105	P/P	70 - 130
1,4-Dichlorobenzene	107	106	P/P	70 - 130
2-Butanone	100	97.6	P/P	60 - 140
Benzene	105	105	P/P	70 - 130
Bromodichloromethane	92.4	91.8	P/P	70 - 130
Bromoform	102	99.0	P/P	60 - 140
Bromomethane	99.2	101	P/P	60 - 140
Carbon tetrachloride	95.6	95.6	P/P	70 - 130
Chlorobenzene	106	106	P/P	70 - 130
Chloroethane	108	109	P/P	60 - 140
Chloroform	99.1	98.9	P/P	70 - 130
Chloromethane	107	107	P/P	60 - 140
cis-1,2-Dichloroethene	102	102	P/P	70 - 130
cis-1,3-Dichloropropene	93.5	92.8	P/P	60 - 140
Dibromochloromethane	92.0	89.5	P/P	60 - 140
Ethylbenzene	105	104	P/P	70 - 130
m,p-Xylene	108	108	P/P	70 - 130
Methyl-t-butyl ether	91.9	90.2	P/P	60 - 140
Methylene chloride	104	103	P/P	70 - 130
o-Xylene	105	105	P/P	70 - 130
Tetrachloroethene	99.2	98.8	P/P	70 - 130
Toluene	102	102	P/P	70 - 130
trans-1,2-Dichloroethene	103	103	P/P	70 - 130
trans-1,3-Dichloropropene	91.7	90.2	P/P	60 - 140
Trichloroethene	98.6	98.6	P/P	70 - 130
Trichlorofluoromethane	106	105	P/P	60 - 140
Vinyl chloride	108	108	P/P	60 - 140

Reference Method: EPA 8270D
Batch ID: P365361

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1-Methylnaphthalene	62.7		P	50 - 130
1-Naphthylamine	32.3		P	20 - 130
1,2,4-Trichlorobenzene	60.3		P	50 - 130
1,2,4,5-Tetrachlorobenzene	83.0		P	50 - 130
1,3-Dinitrobenzene	94.6		P	50 - 130
1,3,5-Trinitrobenzene	70.2		P	50 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
 Batch ID: P365361

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2-Acetylaminofluorene	102		P	50 - 130
2-Chloronaphthalene	91.5		P	50 - 130
2-Chlorophenol	75.3		P	50 - 130
2-Methyl-4,6-dinitrophenol	83.6		P	50 - 150
2-Methylnaphthalene	61.0		P	50 - 130
2-Naphthylamine	28.7		P	20 - 130
2-Nitroaniline	71.5		P	50 - 130
2-Nitrophenol	70.0		P	50 - 130
2-Picoline	53.4		P	50 - 130
2,3,4,6-Tetrachlorophenol	110		P	50 - 130
2,4-Dichlorophenol	71.2		P	50 - 130
2,4-Dimethylphenol	55.7		P	50 - 119
2,4-Dinitrophenol	34.8		P	30 - 160
2,4-Dinitrotoluene	78.8		P	50 - 130
2,4,5-Trichlorophenol	62.4		P	50 - 130
2,4,6-Trichlorophenol	68.1		P	50 - 130
2,6-Dichlorophenol	76.6		P	50 - 130
2,6-Dinitrotoluene	76.8		P	50 - 130
3-Methylcholanthrene	92.3		P	50 - 130
3,3'-Dichlorobenzidine	152		P	20 - 200
4-Aminobiphenyl	73.7		P	30 - 130
4-Bromophenyl phenyl ether	81.5		P	50 - 130
4-Chloro-3-methylphenol	80.0		P	50 - 130
4-Chlorophenyl phenyl ether	67.1		P	50 - 130
4-Nitrophenol	69.7		P	15 - 110
5-Nitro-o-toluidine	55.8		P	50 - 130
7,12-Dimethylbenz(a)anthracene	95.6		P	50 - 130
Acenaphthene	74.1		P	50 - 130
Acenaphthylene	64.8		P	50 - 130
Acetophenone	63.5		P	50 - 130
Aniline	120		P	30 - 130
Anthracene	84.1		P	50 - 130
Azobenzene/1,2-Diphenylhydrazine	77.9		P	50 - 130
Benzidine	8.85		P	0.0 - 240
Benzo(a)anthracene	85.5		P	50 - 130
Benzo(a)pyrene	79.0		P	50 - 130
Benzo(b)fluoranthene	83.2		P	50 - 130
Benzo(g,h,i)perylene	81.1		P	50 - 130
Benzo(k)fluoranthene	95.8		P	50 - 130
Benzyl alcohol	77.0		P	50 - 130
Bis(2-chloroethoxy)methane	75.5		P	50 - 130
Bis(2-chloroethyl)ether	65.1		P	50 - 160
Bis(2-chloroisopropyl)ether	76.6		P	50 - 130
Bis(2-ethylhexyl)phthalate	154		P	50 - 160
Butyl benzyl phthalate	104		P	50 - 160
Carbazole	77.2		P	50 - 130
Chrysene	85.9		P	50 - 130
Di-n-butyl phthalate	99.0		P	50 - 130
Di-n-octyl phthalate	92.0		P	50 - 130
Dibenzo(a,h)anthracene	78.2		P	50 - 130
Dibenzofuran	67.7		P	50 - 130
Diethyl phthalate	73.1		P	50 - 130

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P365361

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Dimethyl phthalate	71.4		P	50 - 130
Dimethylaminoazobenzene	103		P	50 - 130
Dinoseb	56.5		P	50 - 150
Ethyl methanesulfonate	55.7		P	50 - 130
Fluoranthene	83.0		P	50 - 130
Fluorene	66.5		P	50 - 130
Hexachlorobenzene	83.4		P	50 - 130
Hexachlorobutadiene	53.4		P	24 - 130
Hexachlorocyclopentadiene	34.9		P	20 - 130
Hexachloroethane	66.2		P	40 - 130
Hexachloropropene	67.0		P	50 - 130
Indeno(1,2,3-cd)pyrene	77.7		P	50 - 130
Isophorone	61.7		P	50 - 130
Isosafrole	80.5		P	50 - 130
m,p-Cresols	61.5		P	50 - 130
N-Nitrosodi-n-butylamine	74.3		P	50 - 130
N-Nitrosodi-n-propylamine	62.4		P	50 - 130
N-Nitrosodiethylamine	60.3		P	50 - 130
N-Nitrosodimethylamine	44.5		P	30 - 130
N-Nitrosodiphenylamine/ Diphenylamine	51.6		P	50 - 150
N-Nitrosomethylethylamine	58.8		P	50 - 130
N-Nitrosomorpholine	62.8		P	50 - 150
N-Nitrosopiperidine	71.5		P	50 - 130
N-Nitrosopyrrolidine	66.2		P	50 - 130
Naphthalene	65.9		P	50 - 130
Nitrobenzene	56.6		P	50 - 130
o-Cresol	67.5		P	50 - 130
o-Toluidine	74.7		P	50 - 130
Pentachlorobenzene	98.6		P	50 - 130
Pentachloroethane	66.8		P	50 - 130
Pentachloronitrobenzene	78.5		P	50 - 130
Pentachlorophenol	126		P	50 - 130
Phenacetin	73.6		P	50 - 130
Phenanthrene	85.3		P	50 - 130
Phenol	43.1		P	15 - 110
Pyrene	88.4		P	50 - 130
Pyridine	23.4		P	20 - 130
Safrole	81.4		P	50 - 130

Reference Method: EPA 8321B
Batch ID: P365501

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
N-Et perfluorooctanesulfonamidoAc acid	116		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	121		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	110		P	40 - 150
Perfluorodecanoic acid (PFDA)	129		P	40 - 150
Perfluorododecanoic acid (PFDoA)	102		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	135		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	141		P	40 - 150
Perfluorohexanoic acid (PFHxA)	101		P	40 - 150
Perfluorononanoic acid (PFNA)	138		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P365501

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Perfluorooctanesulfonic acid (PFOS)	115		P	40 - 150
Perfluorooctanoic acid (PFOA)	144		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	141		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	107		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	144		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 6020A
Batch ID: P365364

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092808	Arsenic	94.9	95.5	P/P	80 - 120
2092808	Barium	93.8	94.0	P/P	80 - 120
2092808	Cadmium	97.9	97.5	P/P	80 - 120
2092808	Chromium	103	103	P/P	80 - 120
2092808	Lead	90.0	92.3	P/P	80 - 120
2092808	Selenium	104	104	P/P	80 - 120
2092808	Silver	92.6	93.3	P/P	80 - 120
2092809	Arsenic	94.9		P	80 - 120
2092809	Barium	92.3		P	80 - 120
2092809	Cadmium	95.8		P	80 - 120
2092809	Chromium	103		P	80 - 120
2092809	Lead	92.9		P	80 - 120
2092809	Selenium	104		P	80 - 120
2092809	Silver	92.1		P	80 - 120

Reference Method: EPA 7473
Batch ID: P365875

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092759	Mercury	104	105	P/P	80 - 120

Reference Method: EPA 8260D
Batch ID: P365490

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2090987	1,1-Dichloroethane	93.6	90.9	P/P	70 - 130
2090987	1,1-Dichloroethene	108	105	P/P	70 - 130
2090987	1,1,1-Trichloroethane	101	97.4	P/P	70 - 130
2090987	1,1,2-Trichloroethane	96.8	94.0	P/P	70 - 130
2090987	1,1,2,2-Tetrachloroethane	102	97.2	P/P	60 - 140
2090987	1,2-Dichlorobenzene	111	106	P/P	70 - 130
2090987	1,2-Dichloroethane	93.0	90.2	P/P	70 - 130
2090987	1,2-Dichloropropane	104	101	P/P	70 - 130
2090987	1,3-Dichlorobenzene	110	105	P/P	70 - 130
2090987	1,4-Dichlorobenzene	108	103	P/P	70 - 130
2090987	2-Butanone	107	105	P/P	60 - 140
2090987	Benzene	105	102	P/P	70 - 130
2090987	Bromodichloromethane	101	98.1	P/P	70 - 130
2090987	Bromoform	99.9	95.3	P/P	60 - 140
2090987	Bromomethane	107	104	P/P	60 - 140
2090987	Carbon tetrachloride	106	102	P/P	70 - 130
2090987	Chlorobenzene	105	102	P/P	70 - 130
2090987	Chloroethane	102	98.9	P/P	60 - 140
2090987	Chloroform	104	101	P/P	70 - 130
2090987	Chloromethane	127	125	P/P	60 - 140
2090987	cis-1,2-Dichloroethene	107	104	P/P	70 - 130
2090987	cis-1,3-Dichloropropene	98.8	96.0	P/P	60 - 140
2090987	Dibromochloromethane	94.2	91.2	P/P	60 - 140
2090987	Ethylbenzene	102	98.9	P/P	70 - 130
2090987	m,p-Xylene	104	100	P/P	70 - 130
2090987	Methyl-t-butyl ether	97.4	95.0	P/P	70 - 130
2090987	Methylene chloride	100	97.4	P/P	70 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8260D
 Batch ID: P365490

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2090987	o-Xylene	105	101	P/P	70 - 130
2090987	Tetrachloroethene	99.8	96.3	P/P	70 - 130
2090987	Toluene	104	101	P/P	70 - 130
2090987	trans-1,2-Dichloroethene	108	105	P/P	70 - 130
2090987	trans-1,3-Dichloropropene	87.8	84.2	P/P	60 - 140
2090987	Trichloroethene	99.2	95.5	P/P	70 - 130
2090987	Trichlorofluoromethane	102	99.8	P/P	60 - 140
2090987	Vinyl chloride	119	116	P/P	60 - 140

Reference Method: EPA 8260D
 Batch ID: P365676

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2094486	1,1-Dichloroethane	93.7	93.0	P/P	70 - 130
2094486	1,1-Dichloroethene	99.9	98.6	P/P	70 - 130
2094486	1,1,1-Trichloroethane	89.7	88.8	P/P	70 - 130
2094486	1,1,2-Trichloroethane	94.4	100	P/P	70 - 130
2094486	1,1,2,2-Tetrachloroethane	96.6	95.3	P/P	60 - 140
2094486	1,2-Dichlorobenzene	99.4	100	P/P	70 - 130
2094486	1,2-Dichloroethane	94.4	92.9	P/P	70 - 130
2094486	1,2-Dichloropropane	94.0	93.4	P/P	70 - 130
2094486	1,3-Dichlorobenzene	99.2	98.7	P/P	70 - 130
2094486	1,4-Dichlorobenzene	99.6	99.5	P/P	70 - 130
2094486	2-Butanone	95.0	96.0	P/P	60 - 140
2094486	Benzene	102	101	P/P	70 - 130
2094486	Bromodichloromethane	89.7	88.8	P/P	70 - 130
2094486	Bromoform	100	98.4	P/P	60 - 140
2094486	Bromomethane	96.0	94.8	P/P	60 - 140
2094486	Carbon tetrachloride	92.8	91.6	P/P	70 - 130
2094486	Chlorobenzene	102	101	P/P	70 - 130
2094486	Chloroethane	119	118	P/P	60 - 140
2094486	Chloroform	95.8	94.8	P/P	70 - 130
2094486	Chloromethane	136	124	P/P	60 - 140
2094486	cis-1,2-Dichloroethene	98.8	97.6	P/P	70 - 130
2094486	cis-1,3-Dichloropropene	90.4	89.8	P/P	60 - 140
2094486	Dibromochloromethane	90.2	87.8	P/P	60 - 140
2094486	Ethylbenzene	100	98.7	P/P	70 - 130
2094486	m,p-Xylene	103	102	P/P	70 - 130
2094486	Methyl-t-butyl ether	88.9	88.8	P/P	60 - 140
2094486	Methylene chloride	94.8	94.0	P/P	70 - 130
2094486	o-Xylene	100	98.6	P/P	70 - 130
2094486	Tetrachloroethene	96.4	93.6	P/P	70 - 130
2094486	Toluene	98.4	97.6	P/P	70 - 130
2094486	trans-1,2-Dichloroethene	99.7	99.0	P/P	70 - 130
2094486	trans-1,3-Dichloropropene	89.2	87.4	P/P	60 - 140
2094486	Trichloroethene	94.2	93.8	P/P	70 - 130
2094486	Trichlorofluoromethane	101	98.6	P/P	60 - 140
2094486	Vinyl chloride	110	107	P/P	60 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P365361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2094006	1-Methylnaphthalene	56.9	58.7	P/P	50 - 130
2094006	1-Naphthylamine	11.6	6.00	F/F	20 - 130
2094006	1,2,4-Trichlorobenzene	50.6	59.7	P/P	50 - 130
2094006	1,2,4,5-Tetrachlorobenzene	86.7	73.4	P/P	50 - 130
2094006	1,3-Dinitrobenzene	91.5	87.0	P/P	50 - 130
2094006	1,3,5-Trinitrobenzene	136	128	P/P	50 - 150
2094006	2-Acetylamino fluorene	89.7	83.8	P/P	50 - 130
2094006	2-Chloronaphthalene	84.5	85.2	P/P	50 - 130
2094006	2-Chlorophenol	71.1	80.0	P/P	50 - 130
2094006	2-Methyl-4,6-dinitrophenol	90.4	96.1	P/P	50 - 150
2094006	2-Methylnaphthalene	55.7	57.4	P/P	50 - 130
2094006	2-Naphthylamine	2.60	1.40	F/F	20 - 130
2094006	2-Nitroaniline	63.2	62.9	P/P	50 - 130
2094006	2-Nitrophenol	69.5	81.0	P/P	50 - 130
2094006	2-Picoline	58.3	61.8	P/P	40 - 130
2094006	2,3,4,6-Tetrachlorophenol	129	108	P/P	50 - 130
2094006	2,4-Dichlorophenol	64.8	80.0	P/P	50 - 130
2094006	2,4-Dimethylphenol	59.9	72.2	P/P	50 - 119
2094006	2,4-Dinitrophenol	57.9	53.1	P/P	30 - 160
2094006	2,4-Dinitrotoluene	84.1	76.3	P/P	50 - 130
2094006	2,4,5-Trichlorophenol	70.7	68.3	P/P	50 - 130
2094006	2,4,6-Trichlorophenol	68.0	67.3	P/P	50 - 130
2094006	2,6-Dichlorophenol	75.6	69.5	P/P	50 - 130
2094006	2,6-Dinitrotoluene	80.9	75.7	P/P	50 - 130
2094006	3-Methylcholanthrene	77.8	76.2	P/P	50 - 130
2094006	3,3'-Dichlorobenzidine	26.2	35.4	P/P	20 - 200
2094006	4-Aminobiphenyl	53.7	32.9	P/P	30 - 130
2094006	4-Bromophenyl phenyl ether	76.4	81.1	P/P	50 - 130
2094006	4-Chloro-3-methylphenol	79.5	86.0	P/P	50 - 130
2094006	4-Chlorophenyl phenyl ether	66.7	62.7	P/P	50 - 130
2094006	4-Nitrophenol	56.1	47.9	P/P	15 - 110
2094006	5-Nitro-o-toluidine	82.2	73.9	P/P	50 - 130
2094006	7,12-Dimethylbenz(a)anthracene	77.8	78.9	P/P	50 - 130
2094006	Acenaphthene	65.5	65.3	P/P	50 - 130
2094006	Acenaphthylene	62.1	60.8	P/P	50 - 130
2094006	Acetophenone	52.0	64.0	P/P	50 - 130
2094006	Aniline	94.6	125	P/P	30 - 130
2094006	Anthracene	79.6	82.9	P/P	50 - 130
2094006	Azobenzene/1,2-Diphenylhydrazine	74.9	80.3	P/P	50 - 130
2094006	Benzidine	0.0	0.0	P/P	0.0 - 240
2094006	Benzo(a)anthracene	88.1	87.3	P/P	50 - 130
2094006	Benzo(a)pyrene	77.1	79.5	P/P	50 - 130
2094006	Benzo(b)fluoranthene	83.9	83.1	P/P	50 - 130
2094006	Benzo(g,h,i)perylene	77.1	78.8	P/P	50 - 130
2094006	Benzo(k)fluoranthene	90.7	97.6	P/P	50 - 130
2094006	Benzyl alcohol	72.9	73.2	P/P	50 - 130
2094006	Bis(2-chloroethoxy)methane	70.1	84.0	P/P	50 - 130
2094006	Bis(2-chloroethyl)ether	62.5	71.9	P/P	50 - 160
2094006	Bis(2-chloroisopropyl)ether	72.8	83.8	P/P	50 - 130
2094006	Bis(2-ethylhexyl)phthalate	120	118	P/P	50 - 160
2094006	Butyl benzyl phthalate	108	106	P/P	50 - 160
2094006	Carbazole	120	123	P/P	50 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
 Batch ID: P365361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2094006	Chrysene	88.0	87.8	P/P	50 - 130
2094006	Di-n-butyl phthalate	96.4	96.9	P/P	50 - 130
2094006	Di-n-octyl phthalate	86.6	89.3	P/P	50 - 130
2094006	Dibenzo(a,h)anthracene	74.5	76.4	P/P	50 - 130
2094006	Dibenzofuran	66.9	63.5	P/P	50 - 130
2094006	Diethyl phthalate	78.4	72.7	P/P	50 - 130
2094006	Dimethyl phthalate	72.0	68.0	P/P	50 - 130
2094006	Dimethylaminoazobenzene	94.1	75.8	P/P	50 - 130
2094006	Dinoseb	85.4	85.2	P/P	50 - 150
2094006	Ethyl methanesulfonate	66.4	70.4	P/P	50 - 130
2094006	Fluoranthene	81.4	83.4	P/P	50 - 130
2094006	Fluorene	65.5	62.8	P/P	50 - 130
2094006	Hexachlorobenzene	77.2	81.6	P/P	50 - 130
2094006	Hexachlorobutadiene	44.1	52.6	P/P	24 - 130
2094006	Hexachlorocyclopentadiene	26.1	32.6	P/P	20 - 130
2094006	Hexachloroethane	56.7	65.6	P/P	40 - 130
2094006	Hexachloropropene	80.8	73.6	P/P	50 - 130
2094006	Indeno(1,2,3-cd)pyrene	75.0	77.9	P/P	50 - 130
2094006	Isophorone	57.6	67.7	P/P	50 - 130
2094006	Isosafrole	81.4	69.5	P/P	50 - 130
2094006	m,p-Cresols	68.1	73.1	P/P	50 - 130
2094006	N-Nitrosodi-n-butylamine	98.2	74.8	P/P	50 - 130
2094006	N-Nitrosodi-n-propylamine	61.8	70.2	P/P	50 - 130
2094006	N-Nitrosodiethylamine	62.7	70.0	P/P	50 - 130
2094006	N-Nitrosodimethylamine	36.2	40.4	P/P	30 - 130
2094006	N-Nitrosodiphenylamine/ Diphenylamine	51.6	53.6	P/P	50 - 150
2094006	N-Nitrosomethylethylamine	73.9	74.7	P/P	50 - 130
2094006	N-Nitrosomorpholine	59.3	81.9	P/P	50 - 150
2094006	N-Nitrosopiperidine	70.2	80.4	P/P	50 - 130
2094006	N-Nitrosopyrrolidine	48.4	61.1	F/P	50 - 130
2094006	Naphthalene	80.8	91.9	P/P	50 - 130
2094006	Nitrobenzene	57.4	67.7	P/P	50 - 130
2094006	o-Cresol	64.3	71.2	P/P	50 - 130
2094006	o-Toluidine	60.1	70.7	P/P	50 - 130
2094006	Pentachlorobenzene	98.9	76.1	P/P	50 - 130
2094006	Pentachloroethane	63.3	65.1	P/P	50 - 130
2094006	Pentachloronitrobenzene	95.0	95.8	P/P	50 - 130
2094006	Pentachlorophenol	128	127	P/P	50 - 130
2094006	Phenacetin	90.0	89.1	P/P	50 - 130
2094006	Phenanthrene	83.3	84.4	P/P	50 - 130
2094006	Phenol	31.6	32.6	P/P	15 - 110
2094006	Pyrene	91.2	91.2	P/P	50 - 130
2094006	Pyridine	38.5	43.4	P/P	20 - 130
2094006	Safrole	81.4	69.5	P/P	50 - 130

Reference Method: EPA 8321B
 Batch ID: P365501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092761	N-Et perfluorooctanesulfonamidoAc acid	152	147	F/P	40 - 150
2092761	N-Me perfluorooctanesulfonamidoAc acid	126	139	P/P	40 - 150
2092761	Perfluorobutanesulfonic acid (PFBS)	115	112	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P365501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2092761	Perfluorodecanoic acid (PFDA)	100	161	P/F	40 - 150
2092761	Perfluorododecanoic acid (PFDoA)	138	131	P/P	40 - 150
2092761	Perfluoroheptanoic acid (PFHpA)	95.1	130	P/P	40 - 150
2092761	Perfluorohexanesulfonic acid (PFHxS)	65.5	57.6	P/P	40 - 150
2092761	Perfluorononanoic acid (PFNA)	169	211	F/F	40 - 150
2092761	Perfluorooctanesulfonic acid (PFOS)	121	121	P/P	40 - 150
2092761	Perfluorooctanoic acid (PFOA)	10.8	4.12	F/F	40 - 150
2092761	Perfluorotetradecanoic acid (PFTeA)	136	226	P/F	40 - 150
2092761	Perfluorotridecanoic acid (PFTriA)	132	163	P/F	40 - 150
2092761	Perfluoroundecanoic acid (PFUnA)	216	173	F/F	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 6020A
 Batch ID: P365364

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092808	Arsenic	0.607	Spike	P	0 - 20
2092808	Barium	0.138	Spike	P	0 - 20
2092808	Cadmium	0.424	Spike	P	0 - 20
2092808	Chromium	0.318	Spike	P	0 - 20
2092808	Lead	2.53	Spike	P	0 - 20
2092808	Selenium	0.587	Spike	P	0 - 20
2092808	Silver	0.798	Spike	P	0 - 20

Reference Method: EPA 7473
 Batch ID: P365875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092759	Mercury	0.998	Spike	P	0 - 20

Reference Method: EPA 8260D
 Batch ID: P365490

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2090987	1,1-Dichloroethane	2.98	Spike	P	0 - 30
2090987	1,1-Dichloroethene	2.97	Spike	P	0 - 30
2090987	1,1,1-Trichloroethane	3.87	Spike	P	0 - 30
2090987	1,1,2-Trichloroethane	3.04	Spike	P	0 - 30
2090987	1,1,2,2-Tetrachloroethane	4.43	Spike	P	0 - 30
2090987	1,2-Dichlorobenzene	4.43	Spike	P	0 - 30
2090987	1,2-Dichloroethane	3.00	Spike	P	0 - 30
2090987	1,2-Dichloropropane	2.83	Spike	P	0 - 30
2090987	1,3-Dichlorobenzene	4.99	Spike	P	0 - 30
2090987	1,4-Dichlorobenzene	4.97	Spike	P	0 - 30
2090987	2-Butanone	1.49	Spike	P	0 - 30
2090987	Benzene	2.85	Spike	P	0 - 30
2090987	Bromodichloromethane	3.01	Spike	P	0 - 30
2090987	Bromoform	4.71	Spike	P	0 - 30
2090987	Bromomethane	2.80	Spike	P	0 - 30
2090987	Carbon tetrachloride	3.37	Spike	P	0 - 30
2090987	Chlorobenzene	3.19	Spike	P	0 - 30
2090987	Chloroethane	3.04	Spike	P	0 - 30
2090987	Chloroform	2.58	Spike	P	0 - 30
2090987	Chloromethane	1.63	Spike	P	0 - 30
2090987	cis-1,2-Dichloroethene	2.90	Spike	P	0 - 30
2090987	cis-1,3-Dichloropropene	2.98	Spike	P	0 - 30
2090987	Dibromochloromethane	3.29	Spike	P	0 - 30
2090987	Ethylbenzene	3.43	Spike	P	0 - 30
2090987	m,p-Xylene	3.83	Spike	P	0 - 30
2090987	Methyl-t-butyl ether	2.41	Spike	P	0 - 30
2090987	Methylene chloride	2.93	Spike	P	0 - 30
2090987	o-Xylene	3.21	Spike	P	0 - 30
2090987	Tetrachloroethene	3.57	Spike	P	0 - 30
2090987	Toluene	2.40	Spike	P	0 - 30
2090987	trans-1,2-Dichloroethene	2.86	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8260D
 Batch ID: P365490

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2090987	trans-1,3-Dichloropropene	4.13	Spike	P	0 - 30
2090987	Trichloroethene	3.75	Spike	P	0 - 30
2090987	Trichlorofluoromethane	2.23	Spike	P	0 - 30
2090987	Vinyl chloride	2.46	Spike	P	0 - 30
LFB	1,1-Dichloroethane	3.99	LCS	P	0 - 30
LFB	1,1-Dichloroethene	3.45	LCS	P	0 - 30
LFB	1,1,1-Trichloroethane	4.08	LCS	P	0 - 30
LFB	1,1,2-Trichloroethane	2.37	LCS	P	0 - 30
LFB	1,1,2,2-Tetrachloroethane	0.719	LCS	P	0 - 30
LFB	1,2-Dichlorobenzene	2.68	LCS	P	0 - 30
LFB	1,2-Dichloroethane	4.16	LCS	P	0 - 30
LFB	1,2-Dichloropropane	2.56	LCS	P	0 - 30
LFB	1,3-Dichlorobenzene	2.34	LCS	P	0 - 30
LFB	1,4-Dichlorobenzene	2.57	LCS	P	0 - 30
LFB	2-Butanone	3.62	LCS	P	0 - 30
LFB	Benzene	3.11	LCS	P	0 - 30
LFB	Bromodichloromethane	3.81	LCS	P	0 - 30
LFB	Bromoform	3.89	LCS	P	0 - 30
LFB	Bromomethane	2.70	LCS	P	0 - 30
LFB	Carbon tetrachloride	3.94	LCS	P	0 - 30
LFB	Chlorobenzene	2.18	LCS	P	0 - 30
LFB	Chloroethane	3.72	LCS	P	0 - 30
LFB	Chloroform	3.74	LCS	P	0 - 30
LFB	Chloromethane	4.59	LCS	P	0 - 30
LFB	cis-1,2-Dichloroethene	3.39	LCS	P	0 - 30
LFB	cis-1,3-Dichloropropene	3.57	LCS	P	0 - 30
LFB	Dibromochloromethane	3.30	LCS	P	0 - 30
LFB	Ethylbenzene	1.96	LCS	P	0 - 30
LFB	m,p-Xylene	2.47	LCS	P	0 - 30
LFB	Methyl-t-butyl ether	3.37	LCS	P	0 - 30
LFB	Methylene chloride	3.50	LCS	P	0 - 30
LFB	o-Xylene	2.40	LCS	P	0 - 30
LFB	Tetrachloroethene	2.58	LCS	P	0 - 30
LFB	Toluene	3.31	LCS	P	0 - 30
LFB	trans-1,2-Dichloroethene	3.01	LCS	P	0 - 30
LFB	trans-1,3-Dichloropropene	3.12	LCS	P	0 - 30
LFB	Trichloroethene	4.34	LCS	P	0 - 30
LFB	Trichlorofluoromethane	4.67	LCS	P	0 - 30
LFB	Vinyl chloride	3.53	LCS	P	0 - 30

Reference Method: EPA 8260D
 Batch ID: P365676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2094486	1,1-Dichloroethane	0.804	Spike	P	0 - 30
2094486	1,1-Dichloroethene	1.36	Spike	P	0 - 30
2094486	1,1,1-Trichloroethane	1.01	Spike	P	0 - 30
2094486	1,1,2-Trichloroethane	6.11	Spike	P	0 - 30
2094486	1,1,2,2-Tetrachloroethane	1.41	Spike	P	0 - 30
2094486	1,2-Dichlorobenzene	0.652	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8260D
 Batch ID: P365676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2094486	1,2-Dichloroethane	1.65	Spike	P	0 - 30
2094486	1,2-Dichloropropane	0.587	Spike	P	0 - 30
2094486	1,3-Dichlorobenzene	0.455	Spike	P	0 - 30
2094486	1,4-Dichlorobenzene	0.0502	Spike	P	0 - 30
2094486	2-Butanone	0.995	Spike	P	0 - 40
2094486	Benzene	1.38	Spike	P	0 - 30
2094486	Bromodichloromethane	0.952	Spike	P	0 - 30
2094486	Bromoform	1.66	Spike	P	0 - 30
2094486	Bromomethane	1.26	Spike	P	0 - 40
2094486	Carbon tetrachloride	1.30	Spike	P	0 - 30
2094486	Chlorobenzene	1.43	Spike	P	0 - 30
2094486	Chloroethane	0.337	Spike	P	0 - 40
2094486	Chloroform	0.997	Spike	P	0 - 30
2094486	Chloromethane	9.80	Spike	P	0 - 40
2094486	cis-1,2-Dichloroethene	1.22	Spike	P	0 - 30
2094486	cis-1,3-Dichloropropene	0.610	Spike	P	0 - 30
2094486	Dibromochloromethane	2.70	Spike	P	0 - 30
2094486	Ethylbenzene	1.46	Spike	P	0 - 30
2094486	m,p-Xylene	1.00	Spike	P	0 - 30
2094486	Methyl-t-butyl ether	0.0563	Spike	P	0 - 30
2094486	Methylene chloride	0.794	Spike	P	0 - 30
2094486	o-Xylene	1.51	Spike	P	0 - 30
2094486	Tetrachloroethene	2.95	Spike	P	0 - 30
2094486	Toluene	0.918	Spike	P	0 - 30
2094486	trans-1,2-Dichloroethene	0.755	Spike	P	0 - 30
2094486	trans-1,3-Dichloropropene	1.98	Spike	P	0 - 30
2094486	Trichloroethene	0.426	Spike	P	0 - 30
2094486	Trichlorofluoromethane	2.80	Spike	P	0 - 40
2094486	Vinyl chloride	2.95	Spike	P	0 - 40
LFB	1,1-Dichloroethane	0.0	LCS	P	0 - 30
LFB	1,1-Dichloroethene	0.194	LCS	P	0 - 30
LFB	1,1,1-Trichloroethane	0.594	LCS	P	0 - 30
LFB	1,1,2-Trichloroethane	5.06	LCS	P	0 - 30
LFB	1,1,2,2-Tetrachloroethane	4.14	LCS	P	0 - 30
LFB	1,2-Dichlorobenzene	0.654	LCS	P	0 - 30
LFB	1,2-Dichloroethane	2.16	LCS	P	0 - 30
LFB	1,2-Dichloropropane	0.667	LCS	P	0 - 30
LFB	1,3-Dichlorobenzene	0.898	LCS	P	0 - 30
LFB	1,4-Dichlorobenzene	0.423	LCS	P	0 - 30
LFB	2-Butanone	2.66	LCS	P	0 - 40
LFB	Benzene	0.190	LCS	P	0 - 30
LFB	Bromodichloromethane	0.597	LCS	P	0 - 30
LFB	Bromoform	2.89	LCS	P	0 - 30
LFB	Bromomethane	1.90	LCS	P	0 - 40
LFB	Carbon tetrachloride	0.0	LCS	P	0 - 30
LFB	Chlorobenzene	0.141	LCS	P	0 - 30
LFB	Chloroethane	0.554	LCS	P	0 - 40
LFB	Chloroform	0.202	LCS	P	0 - 30
LFB	Chloromethane	0.375	LCS	P	0 - 40
LFB	cis-1,2-Dichloroethene	0.148	LCS	P	0 - 30
LFB	cis-1,3-Dichloropropene	0.698	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8260D
 Batch ID: P365676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Dibromochloromethane	2.70	LCS	P	0 - 30
LFB	Ethylbenzene	0.765	LCS	P	0 - 30
LFB	m,p-Xylene	0.509	LCS	P	0 - 30
LFB	Methyl-t-butyl ether	1.87	LCS	P	0 - 30
LFB	Methylene chloride	0.776	LCS	P	0 - 30
LFB	o-Xylene	0.191	LCS	P	0 - 30
LFB	Tetrachloroethene	0.454	LCS	P	0 - 30
LFB	Toluene	0.245	LCS	P	0 - 30
LFB	trans-1,2-Dichloroethene	0.0968	LCS	P	0 - 30
LFB	trans-1,3-Dichloropropene	1.70	LCS	P	0 - 30
LFB	Trichloroethene	0.0507	LCS	P	0 - 30
LFB	Trichlorofluoromethane	0.713	LCS	P	0 - 40
LFB	Vinyl chloride	0.416	LCS	P	0 - 40

Reference Method: EPA 8270D
 Batch ID: P365361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2094006	1-Methylnaphthalene	5.59	Spike	P	0 - 40
2094006	1,2,4-Trichlorobenzene	7.83	Spike	P	0 - 40
2094006	1,2,4,5-Tetrachlorobenzene	7.95	Spike	P	0 - 40
2094006	1,3-Dinitrobenzene	3.60	Spike	P	0 - 40
2094006	1,3,5-Trinitrobenzene	2.63	Spike	P	0 - 40
2094006	2-Acetylaminofluorene	1.90	Spike	P	0 - 40
2094006	2-Chloronaphthalene	7.87	Spike	P	0 - 40
2094006	2-Chlorophenol	3.09	Spike	P	0 - 40
2094006	2-Methyl-4,6-dinitrophenol	2.59	Spike	P	0 - 40
2094006	2-Methylnaphthalene	5.69	Spike	P	0 - 40
2094006	2-Nitroaniline	9.17	Spike	P	0 - 40
2094006	2-Nitrophenol	6.61	Spike	P	0 - 40
2094006	2-Picoline	14.5	Spike	P	0 - 40
2094006	2,3,4,6-Tetrachlorophenol	9.41	Spike	P	0 - 40
2094006	2,4-Dichlorophenol	12.4	Spike	P	0 - 40
2094006	2,4-Dimethylphenol	9.97	Spike	P	0 - 40
2094006	2,4-Dinitrophenol	17.3	Spike	P	0 - 40
2094006	2,4-Dinitrotoluene	18.4	Spike	P	0 - 40
2094006	2,4,5-Trichlorophenol	12.1	Spike	P	0 - 40
2094006	2,4,6-Trichlorophenol	9.73	Spike	P	0 - 40
2094006	2,6-Dichlorophenol	0.288	Spike	P	0 - 40
2094006	2,6-Dinitrotoluene	15.3	Spike	P	0 - 40
2094006	3-Methylcholanthrene	6.62	Spike	P	0 - 40
2094006	3,3'-Dichlorobenzidine	21.3	Spike	P	0 - 40
2094006	4-Aminobiphenyl	39.8	Spike	P	0 - 40
2094006	4-Bromophenyl phenyl ether	2.73	Spike	P	0 - 40
2094006	4-Chloro-3-methylphenol	0.842	Spike	P	0 - 40
2094006	4-Chlorophenyl phenyl ether	14.9	Spike	P	0 - 40
2094006	4-Nitrophenol	24.4	Spike	P	0 - 40
2094006	5-Nitro-o-toluidine	1.94	Spike	P	0 - 40
2094006	7,12-Dimethylbenz(a)anthracene	10.1	Spike	P	0 - 40
2094006	Acenaphthene	9.00	Spike	P	0 - 40

Quality Assurance Report Precision

Reference Method: EPA 8270D
 Batch ID: P365361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2094006	Acenaphthylene	10.8	Spike	P	0 - 40
2094006	Acetophenone	29.3	Spike	P	0 - 40
2094006	Aniline	19.3	Spike	P	0 - 40
2094006	Anthracene	4.64	Spike	P	0 - 40
2094006	Azobenzene/1,2-Diphenylhydrazine	1.74	Spike	P	0 - 40
2094006	Benzo(a)anthracene	9.61	Spike	P	0 - 40
2094006	Benzo(a)pyrene	5.63	Spike	P	0 - 40
2094006	Benzo(b)fluoranthene	9.65	Spike	P	0 - 40
2094006	Benzo(g,h,i)perylene	6.52	Spike	P	0 - 40
2094006	Benzo(k)fluoranthene	1.37	Spike	P	0 - 40
2094006	Benzyl alcohol	8.29	Spike	P	0 - 40
2094006	Bis(2-chloroethoxy)methane	9.38	Spike	P	0 - 40
2094006	Bis(2-chloroethyl)ether	5.31	Spike	P	0 - 40
2094006	Bis(2-chloroisopropyl)ether	5.37	Spike	P	0 - 40
2094006	Bis(2-ethylhexyl)phthalate	10.1	Spike	P	0 - 40
2094006	Butyl benzyl phthalate	10.5	Spike	P	0 - 40
2094006	Carbazole	6.07	Spike	P	0 - 40
2094006	Chrysene	8.92	Spike	P	0 - 40
2094006	Di-n-butyl phthalate	8.18	Spike	P	0 - 40
2094006	Di-n-octyl phthalate	5.63	Spike	P	0 - 40
2094006	Dibenzo(a,h)anthracene	6.18	Spike	P	0 - 40
2094006	Dibenzofuran	13.9	Spike	P	0 - 40
2094006	Diethyl phthalate	16.2	Spike	P	0 - 40
2094006	Dimethyl phthalate	14.4	Spike	P	0 - 40
2094006	Dimethylaminoazobenzene	12.9	Spike	P	0 - 40
2094006	Dinoseb	8.58	Spike	P	0 - 40
2094006	Ethyl methanesulfonate	14.5	Spike	P	0 - 40
2094006	Fluoranthene	6.27	Spike	P	0 - 40
2094006	Fluorene	12.9	Spike	P	0 - 40
2094006	Hexachlorobenzene	3.16	Spike	P	0 - 40
2094006	Hexachlorobutadiene	8.92	Spike	P	0 - 40
2094006	Hexachlorocyclopentadiene	13.5	Spike	P	0 - 40
2094006	Hexachloroethane	5.88	Spike	P	0 - 40
2094006	Hexachloropropene	0.632	Spike	P	0 - 40
2094006	Indeno(1,2,3-cd)pyrene	4.91	Spike	P	0 - 40
2094006	Isophorone	7.45	Spike	P	0 - 40
2094006	Isosafrole	7.10	Spike	P	0 - 40
2094006	m,p-Cresols	1.62	Spike	P	0 - 40
2094006	N-Nitrosodi-n-butylamine	18.5	Spike	P	0 - 40
2094006	N-Nitrosodi-n-propylamine	4.04	Spike	P	0 - 40
2094006	N-Nitrosodiethylamine	19.7	Spike	P	0 - 40
2094006	N-Nitrosodimethylamine	2.28	Spike	P	0 - 40
2094006	N-Nitrosodiphenylamine/ Diphenylamine	4.80	Spike	P	0 - 40
2094006	N-Nitrosomethylethylamine	9.77	Spike	P	0 - 40
2094006	N-Nitrosomorpholine	40.4	Spike	F	0 - 40
2094006	N-Nitrosopiperidine	22.2	Spike	P	0 - 40
2094006	N-Nitrosopyrrolidine	31.7	Spike	P	0 - 40
2094006	Naphthalene	4.17	Spike	P	0 - 40
2094006	Nitrobenzene	7.80	Spike	P	0 - 40
2094006	o-Cresol	1.49	Spike	P	0 - 40
2094006	o-Toluidine	24.8	Spike	P	0 - 40

Quality Assurance Report Precision

Reference Method: EPA 8270D
 Batch ID: P365361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2094006	Pentachlorobenzene	17.5	Spike	P	0 - 40
2094006	Pentachloroethane	11.5	Spike	P	0 - 40
2094006	Pentachloronitrobenzene	9.53	Spike	P	0 - 40
2094006	Pentachlorophenol	9.09	Spike	P	0 - 40
2094006	Phenacetin	7.69	Spike	P	0 - 40
2094006	Phenanthrene	7.39	Spike	P	0 - 40
2094006	Phenol	5.58	Spike	P	0 - 40
2094006	Pyrene	8.70	Spike	P	0 - 40
2094006	Pyridine	3.28	Spike	P	0 - 40
2094006	Safrole	7.10	Spike	P	0 - 40

Reference Method: EPA 8321B
 Batch ID: P365501

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2092761	N-Et perfluorooctanesulfonamidoAc acid	3.17	Spike	P	0 - 35
2092761	N-Me perfluorooctanesulfonamidoAc acid	9.81	Spike	P	0 - 35
2092761	Perfluorobutanesulfonic acid (PFBS)	2.21	Spike	P	0 - 35
2092761	Perfluorodecanoic acid (PFDA)	46.8	Spike	F	0 - 35
2092761	Perfluorododecanoic acid (PFDoA)	5.10	Spike	P	0 - 35
2092761	Perfluoroheptanoic acid (PFHpA)	30.7	Spike	P	0 - 35
2092761	Perfluorohexanesulfonic acid (PFHxS)	12.8	Spike	P	0 - 35
2092761	Perfluorohexanoic acid (PFHxA)	9.26	Spike	P	0 - 35
2092761	Perfluorononanoic acid (PFNA)	21.9	Spike	P	0 - 35
2092761	Perfluorooctanesulfonic acid (PFOS)	0.363	Spike	P	0 - 35
2092761	Perfluorooctanoic acid (PFOA)	89.2	Spike	F	0 - 35
2092761	Perfluorotetradecanoic acid (PFTeA)	49.7	Spike	F	0 - 35
2092761	Perfluorotridecanoic acid (PFTriA)	20.8	Spike	P	0 - 35
2092761	Perfluoroundecanoic acid (PFUnA)	22.2	Spike	P	0 - 35

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
 Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 2092757
Field Sample ID: IDW-1-WATER

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	2-Fluorobiphenyl	60.2	P	30 - 150
EPA 8270D	2-Fluorophenol	54.8	P	20 - 150
EPA 8270D	2,4,6-Tribromophenol	83.2	P	30 - 150
EPA 8270D	Nitrobenzene-d5	57.2	P	30 - 150
EPA 8270D	Phenol-d5	45.2	P	20 - 150
EPA 8270D	Terphenyl-d14	83.2	P	30 - 150

Lab Sample ID: 2092758
Field Sample ID: IDW-2 WATER

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	2-Fluorobiphenyl	60.1	P	30 - 150
EPA 8270D	2-Fluorophenol	48.6	P	20 - 150
EPA 8270D	2,4,6-Tribromophenol	41.6	P	30 - 150
EPA 8270D	Nitrobenzene-d5	51.5	P	30 - 150
EPA 8270D	Phenol-d5	32.9	P	20 - 150
EPA 8270D	Terphenyl-d14	82.2	P	30 - 150

Lab Sample ID: 2092761
Field Sample ID: CENTURION

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	106	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	50.7	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	113	P	30 - 160

Lab Sample ID: 2092762
Field Sample ID: FIREADE

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	110	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	40.8	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	100	P	30 - 160

Lab Sample ID: 2092763
Field Sample ID: TRAINING FOAM

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	98.6	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	150	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	117	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	101	P	30 - 160

Lab Sample ID: 2092764
Field Sample ID: IDW-1-WATER

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8260D	1,2-Dichloroethane-d4	103	P	70 - 130
EPA 8260D	1,4-Dichlorobenzene-d4	93.2	P	70 - 130
EPA 8260D	Dibromofluoromethane	99.4	P	70 - 130

Quality Assurance Report Surrogates

Lab Sample ID: 2092764
Field Sample ID: IDW-1-WATER

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8260D	Toluene-d8	96.4	P	70 - 130

Lab Sample ID: 2092765
Field Sample ID: IDW-2 WATER

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8260D	1,2-Dichloroethane-d4	114	P	70 - 130
EPA 8260D	1,4-Dichlorobenzene-d4	105	P	70 - 130
EPA 8260D	Dibromofluoromethane	101	P	70 - 130
EPA 8260D	Toluene-d8	92.2	P	70 - 130

Lab Sample ID: 2092766
Field Sample ID: TRIP BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8260D	1,2-Dichloroethane-d4	108	P	70 - 130
EPA 8260D	1,4-Dichlorobenzene-d4	105	P	70 - 130
EPA 8260D	Dibromofluoromethane	99.0	P	70 - 130
EPA 8260D	Toluene-d8	93.2	P	70 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A92054

Included Lab Sample IDs: 2092757, 2092758

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1-Naphthylamine	126		P	60 - 130
2-Acetylaminofluorene	108		P	70 - 150
2-Methyl-4,6-dinitrophenol	97.4		P	70 - 130
2-Naphthylamine	94.0		P	60 - 130
2-Picoline	93.8		P	70 - 130
2,4-Dinitrophenol	75.9		P	70 - 130
3,3'-Dichlorobenzidine	77.6		P	50 - 130
4-Aminobiphenyl	102		P	70 - 130
4-Nitrophenol	119		P	70 - 130
Aniline	128		P	70 - 130
Benzidine	104		P	50 - 130
Bis(2-ethylhexyl)phthalate	107		P	70 - 130
Butyl benzyl phthalate	108		P	70 - 130
Di-n-butyl phthalate	104		P	70 - 130
Diethyl phthalate	85.2		P	70 - 130
Dinoseb	95.1		P	70 - 130
Ethyl methanesulfonate	78.1		P	70 - 130
N-Nitrosodiethylamine	96.8		P	70 - 130
N-Nitrosodimethylamine	74.1		P	70 - 130
N-Nitrosomethylethylamine	88.2		P	70 - 130
Pentachlorophenol	123		P	70 - 130
Pyridine	99.7		P	70 - 130

Reference Method: EPA 8270D

Run ID: A92071

Included Lab Sample IDs: 2092757, 2092758

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1-Methylnaphthalene	96.4		P	70 - 130
1,2,4-Trichlorobenzene	98.1		P	70 - 130
1,2,4,5-Tetrachlorobenzene	104		P	70 - 130
1,3-Dinitrobenzene	101		P	70 - 130
1,3,5-Trinitrobenzene	100		P	70 - 130
2-Chloronaphthalene	95.4		P	70 - 130
2-Chlorophenol	97.7		P	70 - 130
2-Methylnaphthalene	101		P	70 - 130
2-Nitroaniline	74.8		P	70 - 130
2-Nitrophenol	73.3		P	70 - 130
2,3,4,6-Tetrachlorophenol	73.0		P	70 - 130
2,4-Dichlorophenol	84.5		P	70 - 130
2,4-Dimethylphenol	91.5		P	70 - 130
2,4-Dinitrotoluene	73.3		P	70 - 130
2,4,5-Trichlorophenol	78.4		P	70 - 130
2,4,6-Trichlorophenol	79.3		P	70 - 130
2,6-Dichlorophenol	99.0		P	70 - 130
2,6-Dinitrotoluene	87.5		P	70 - 130
3-Methylcholanthrene	105		P	70 - 130
4-Bromophenyl phenyl ether	101		P	70 - 130
4-Chloro-3-methylphenol	82.4		P	70 - 130
4-Chlorophenyl phenyl ether	97.0		P	70 - 130
5-Nitro-o-toluidine	96.7		P	70 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A92071

Included Lab Sample IDs: 2092757, 2092758

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
7,12-Dimethylbenz(a)anthracene	95.2		P	70 - 130
Acenaphthene	97.1		P	70 - 130
Acenaphthylene	102		P	70 - 130
Acetophenone	104		P	70 - 130
Anthracene	98.1		P	70 - 130
Azobenzene/1,2-Diphenylhydrazine	84.5		P	70 - 130
Benzo(a)anthracene	96.5		P	70 - 130
Benzo(a)pyrene	95.0		P	70 - 130
Benzo(b)fluoranthene	99.4		P	70 - 130
Benzo(g,h,i)perylene	78.7		P	70 - 130
Benzo(k)fluoranthene	89.0		P	70 - 130
Benzyl alcohol	85.6		P	70 - 130
Bis(2-chloroethoxy)methane	101		P	70 - 130
Bis(2-chloroethyl)ether	94.8		P	70 - 130
Bis(2-chloroisopropyl)ether	90.7		P	70 - 130
Carbazole	103		P	70 - 130
Chrysene	89.9		P	70 - 130
Di-n-octyl phthalate	75.5		P	70 - 130
Dibenzo(a,h)anthracene	76.0		P	70 - 130
Dibenzofuran	95.7		P	70 - 130
Dimethyl phthalate	93.5		P	70 - 130
Dimethylaminoazobenzene	90.0		P	70 - 130
Fluoranthene	102		P	70 - 130
Fluorene	101		P	70 - 130
Hexachlorobenzene	94.1		P	70 - 130
Hexachlorobutadiene	98.2		P	70 - 130
Hexachlorocyclopentadiene	78.3		P	70 - 130
Hexachloroethane	95.5		P	70 - 130
Hexachloropropene	104		P	70 - 130
Indeno(1,2,3-cd)pyrene	79.0		P	70 - 130
Isophorone	83.8		P	70 - 130
Isosafrole	102		P	70 - 130
m,p-Cresols	88.6		P	70 - 130
N-Nitrosodi-n-butylamine	105		P	70 - 130
N-Nitrosodi-n-propylamine	101		P	70 - 130
N-Nitrosodiphenylamine/ Diphenylamine	100		P	70 - 130
N-Nitrosomorpholine	105		P	70 - 130
N-Nitrosopiperidine	101		P	70 - 130
N-Nitrosopyrrolidine	114		P	70 - 130
Naphthalene	95.4		P	70 - 130
Nitrobenzene	91.3		P	70 - 130
o-Cresol	89.4		P	70 - 130
o-Toluidine	109		P	70 - 130
Pentachlorobenzene	100		P	70 - 130
Pentachloroethane	100		P	70 - 130
Pentachloronitrobenzene	101		P	70 - 130
Phenacetin	98.6		P	70 - 130
Phenanthrene	93.3		P	70 - 130
Phenol	105		P	70 - 130
Pyrene	88.4		P	70 - 130
Safrole	102		P	70 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8260D
Run ID: A92112
Included Lab Sample IDs: 2092764

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1,1-Dichloroethane	95.4		P	80 - 120
1,1-Dichloroethene	105		P	80 - 120
1,1,1-Trichloroethane	106		P	80 - 120
1,1,2-Trichloroethane	102		P	80 - 120
1,1,2,2-Tetrachloroethane	98.6		P	80 - 120
1,2-Dichlorobenzene	109		P	80 - 120
1,2-Dichloroethane	102		P	80 - 120
1,2-Dichloropropane	106		P	80 - 120
1,3-Dichlorobenzene	107		P	80 - 120
1,4-Dichlorobenzene	106		P	80 - 120
2-Butanone	106		P	70 - 120
Benzene	107		P	80 - 120
Bromodichloromethane	107		P	80 - 120
Bromoform	96.6		P	80 - 120
Bromomethane	110		P	70 - 130
Carbon tetrachloride	108		P	80 - 120
Chlorobenzene	105		P	80 - 120
Chloroethane	99.8		P	70 - 130
Chloroform	109		P	80 - 120
Chloromethane	108		P	70 - 130
cis-1,2-Dichloroethene	105		P	80 - 120
cis-1,3-Dichloropropene	102		P	80 - 120
Dibromochloromethane	98.9		P	80 - 120
Ethylbenzene	106		P	80 - 120
m,p-Xylene	108		P	80 - 120
Methyl-t-butyl ether	98.8		P	80 - 120
Methylene chloride	106		P	80 - 120
o-Xylene	108		P	80 - 120
Tetrachloroethene	104		P	80 - 120
Toluene	108		P	80 - 120
trans-1,2-Dichloroethene	106		P	80 - 120
trans-1,3-Dichloropropene	91.9		P	80 - 120
Trichloroethene	106		P	80 - 120
Trichlorofluoromethane	99.5		P	70 - 130
Vinyl chloride	103		P	70 - 130

Reference Method: EPA 8260D
Run ID: A92114
Included Lab Sample IDs: 2092765, 2092766

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1,1-Dichloroethane	101		P	80 - 120
1,1-Dichloroethene	100		P	80 - 120
1,1,1-Trichloroethane	92.4		P	80 - 120
1,1,2-Trichloroethane	101		P	80 - 120
1,1,2,2-Tetrachloroethane	103		P	80 - 120
1,2-Dichlorobenzene	104		P	80 - 120
1,2-Dichloroethane	103		P	80 - 120
1,2-Dichloropropane	99.6		P	80 - 120
1,3-Dichlorobenzene	103		P	80 - 120
1,4-Dichlorobenzene	104		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8260D

Run ID: A92114

Included Lab Sample IDs: 2092765, 2092766

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Butanone	97.6		P	80 - 120
Benzene	106		P	80 - 120
Bromodichloromethane	95.6		P	80 - 120
Bromoform	97.7		P	80 - 120
Bromomethane	102		P	70 - 130
Carbon tetrachloride	93.1		P	80 - 120
Chlorobenzene	105		P	80 - 120
Chloroethane	106		P	70 - 130
Chloroform	101		P	80 - 120
Chloromethane	106		P	70 - 130
cis-1,2-Dichloroethene	99.0		P	80 - 120
cis-1,3-Dichloropropene	94.7		P	80 - 120
Dibromochloromethane	94.4		P	80 - 120
Ethylbenzene	107		P	80 - 120
m,p-Xylene	111		P	80 - 120
Methyl-t-butyl ether	92.2		P	80 - 120
Methylene chloride	103		P	80 - 120
o-Xylene	107		P	80 - 120
Tetrachloroethene	102		P	80 - 120
Toluene	106		P	80 - 120
trans-1,2-Dichloroethene	100		P	80 - 120
trans-1,3-Dichloropropene	92.4		P	80 - 120
Trichloroethene	99.2		P	80 - 120
Trichlorofluoromethane	106		P	70 - 130
Vinyl chloride	103		P	70 - 130

Reference Method: EPA 8321B

Run ID: A92155

Included Lab Sample IDs: 2092761, 2092762, 2092763

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
N-Et perfluorooctanesulfonamidoAc acid	119	117	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	127	128	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	94.4	95.0	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	157	129	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	127	145	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	134	152	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	123	135	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	107	110	P/P	60 - 160
Perfluorononanoic acid (PFNA)	118	143	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	115	124	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	132	154	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	114	155	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	144	100	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	117	139	P/P	60 - 160

Reference Method: EPA 7473

Run ID: A92183

Included Lab Sample IDs: 2092759

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 7473
Run ID: A92183
Included Lab Sample IDs: 2092759

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mercury	105	99.4	P/P	80 - 120

Reference Method: EPA 6020A
Run ID: A92190
Included Lab Sample IDs: 2092760

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	96.3	97.2	P/P	90 - 110
Barium	96.6	96.3	P/P	90 - 110
Cadmium	97.9	97.8	P/P	90 - 110
Lead	93.4	93.3	P/P	90 - 110
Silver	94.0	93.8	P/P	90 - 110

Reference Method: EPA 6020A
Run ID: A92282
Included Lab Sample IDs: 2092760

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	99.6	99.1	P/P	90 - 110
Selenium	97.1	99.5	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision SMP	MS
				LCS				
EPA 6020A	Arsenic	98.2		94.9	95.5	94.9		0.607
	Barium	94.1		93.8	94.0	92.3		0.138
	Cadmium	96.4		97.9	97.5	95.8		0.424
	Chromium	103		103	103	103		0.318
	Lead	90.3		90.0	92.3	92.9		2.53
	Selenium	101		104	104	104		0.587
	Silver	92.8		92.6	93.3	92.1		0.798
EPA 7473	Mercury	96.5		104	105			0.998
EPA 8260D	1,1-Dichloroethane	93.3	89.6	93.6	90.9	3.99		2.98
	1,1-Dichloroethane	96.8	96.8	93.7	93.0	0.0		0.804
	1,1-Dichloroethene	112	108	108	105	3.45		2.97
	1,1-Dichloroethene	103	103	99.9	98.6	0.194		1.36
	1,1,1-Trichloroethane	107	103	101	97.4	4.08		3.87
	1,1,1-Trichloroethane	92.8	92.2	89.7	88.8	0.594		1.01
	1,1,2-Trichloroethane	103	100	96.8	94.0	2.37		3.04
	1,1,2-Trichloroethane	97.2	102	94.4	100	5.06		6.11
	1,1,2,2-Tetrachloroethane	97.7	97.0	102	97.2	0.719		4.43
	1,1,2,2-Tetrachloroethane	99.8	95.8	96.6	95.3	4.14		1.41
	1,2-Dichlorobenzene	113	110	111	106	2.68		4.43
	1,2-Dichlorobenzene	107	107	99.4	100	0.654		0.652
	1,2-Dichloroethane	98.1	94.1	93.0	90.2	4.16		3.00
	1,2-Dichloroethane	98.2	96.1	94.4	92.9	2.16		1.65
	1,2-Dichloropropane	107	104	104	101	2.56		2.83
	1,2-Dichloropropane	97.8	97.2	94.0	93.4	0.667		0.587
	1,3-Dichlorobenzene	112	110	110	105	2.34		4.99
	1,3-Dichlorobenzene	106	105	99.2	98.7	0.898		0.455
	1,4-Dichlorobenzene	110	108	108	103	2.57		4.97
	1,4-Dichlorobenzene	107	106	99.6	99.5	0.423		0.0502
	2-Butanone	104	100	107	105	3.62		1.49
	2-Butanone	100	97.6	95.0	96.0	2.66		0.995
	Benzene	110	106	105	102	3.11		2.85
	Benzene	105	105	102	101	0.190		1.38
	Bromodichloromethane	106	102	101	98.1	3.81		3.01
	Bromodichloromethane	92.4	91.8	89.7	88.8	0.597		0.952
	Bromoform	103	99.5	99.9	95.3	3.89		4.71
	Bromoform	102	99.0	100	98.4	2.89		1.66
	Bromomethane	109	106	107	104	2.70		2.80
	Bromomethane	99.2	101	96.0	94.8	1.90		1.26
	Carbon tetrachloride	113	108	106	102	3.94		3.37
	Carbon tetrachloride	95.6	95.6	92.8	91.6	0.0		1.30
	Chlorobenzene	109	107	105	102	2.18		3.19
Chlorobenzene	106	106	102	101	0.141		1.43	
Chloroethane	104	100	102	98.9	3.72		3.04	
Chloroethane	108	109	119	118	0.554		0.337	
Chloroform	109	105	104	101	3.74		2.58	
Chloroform	99.1	98.9	95.8	94.8	0.202		0.997	
Chloromethane	114	108	127	125	4.59		1.63	
Chloromethane	107	107	136	124	0.375		9.80	
cis-1,2-Dichloroethene	111	107	107	104	3.39		2.90	
cis-1,2-Dichloroethene	102	102	98.8	97.6	0.148		1.22	
cis-1,3-Dichloropropene	103	99.0	98.8	96.0	3.57		2.98	
cis-1,3-Dichloropropene	93.5	92.8	90.4	89.8	0.698		0.610	
Dibromochloromethane	100	96.8	94.2	91.2	3.30		3.29	
Dibromochloromethane	92.0	89.5	90.2	87.8	2.70		2.70	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8260D	Ethylbenzene	106	104	102	98.9	1.96		3.43
	Ethylbenzene	105	104	100	98.7	0.765		1.46
	m,p-Xylene	107	105	104	100	2.47		3.83
	m,p-Xylene	108	108	103	102	0.509		1.00
	Methyl-t-butyl ether	98.2	94.9	97.4	95.0	3.37		2.41
	Methyl-t-butyl ether	91.9	90.2	88.9	88.8	1.87		0.0563
	Methylene chloride	109	105	100	97.4	3.50		2.93
	Methylene chloride	104	103	94.8	94.0	0.776		0.794
	o-Xylene	107	105	105	101	2.40		3.21
	o-Xylene	105	105	100	98.6	0.191		1.51
	Tetrachloroethene	106	103	99.8	96.3	2.58		3.57
	Tetrachloroethene	99.2	98.8	96.4	93.6	0.454		2.95
	Toluene	106	103	104	101	3.31		2.40
	Toluene	102	102	98.4	97.6	0.245		0.918
	trans-1,2-Dichloroethene	113	110	108	105	3.01		2.86
	trans-1,2-Dichloroethene	103	103	99.7	99.0	0.0968		0.755
	trans-1,3-Dichloropropene	94.4	91.5	87.8	84.2	3.12		4.13
	trans-1,3-Dichloropropene	91.7	90.2	89.2	87.4	1.70		1.98
	Trichloroethene	107	103	99.2	95.5	4.34		3.75
	Trichloroethene	98.6	98.6	94.2	93.8	0.0507		0.426
	Trichlorofluoromethane	103	98.2	102	99.8	4.67		2.23
	Trichlorofluoromethane	106	105	101	98.6	0.713		2.80
	Vinyl chloride	114	110	119	116	3.53		2.46
	Vinyl chloride	108	108	110	107	0.416		2.95
EPA 8270D	1-Methylnaphthalene	62.7		56.9	58.7			5.59
	1-Naphthylamine	32.3		6.00	11.6			
	1,2,4-Trichlorobenzene	60.3		50.6	59.7			7.83
	1,2,4,5-Tetrachlorobenzene	83.0		73.4	86.7			7.95
	1,3-Dinitrobenzene	94.6		87.0	91.5			3.60
	1,3,5-Trinitrobenzene	70.2		128	136			2.63
	2-Acetylaminofluorene	102		83.8	89.7			1.90
	2-Chloronaphthalene	91.5		84.5	85.2			7.87
	2-Chlorophenol	75.3		71.1	80.0			3.09
	2-Methyl-4,6-dinitrophenol	83.6		90.4	96.1			2.59
	2-Methylnaphthalene	61.0		55.7	57.4			5.69
	2-Naphthylamine	28.7		1.40	2.60			
	2-Nitroaniline	71.5		63.2	62.9			9.17
	2-Nitrophenol	70.0		69.5	81.0			6.61
	2-Picoline	53.4		61.8	58.3			14.5
	2,3,4,6-Tetrachlorophenol	110		108	129			9.41
	2,4-Dichlorophenol	71.2		64.8	80.0			12.4
	2,4-Dimethylphenol	55.7		59.9	72.2			9.97
	2,4-Dinitrophenol	34.8		57.9	53.1			17.3
	2,4-Dinitrotoluene	78.8		84.1	76.3			18.4
	2,4,5-Trichlorophenol	62.4		70.7	68.3			12.1
	2,4,6-Trichlorophenol	68.1		68.0	67.3			9.73
	2,6-Dichlorophenol	76.6		69.5	75.6			0.288
	2,6-Dinitrotoluene	76.8		80.9	75.7			15.3
3-Methylcholanthrene	92.3		76.2	77.8			6.62	
3,3'-Dichlorobenzidine	152		26.2	35.4			21.3	
4-Aminobiphenyl	73.7		32.9	53.7			39.8	
4-Bromophenyl phenyl ether	81.5		76.4	81.1			2.73	
4-Chloro-3-methylphenol	80.0		79.5	86.0			0.842	
4-Chlorophenyl phenyl ether	67.1		66.7	62.7			14.9	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270D	4-Nitrophenol	69.7	56.1	47.9		24.4
	5-Nitro-o-toluidine	55.8	73.9	82.2		1.94
	7,12-Dimethylbenz(a)anthracene	95.6	78.9	77.8		10.1
	Acenaphthene	74.1	65.5	65.3		9.00
	Acenaphthylene	64.8	62.1	60.8		10.8
	Acetophenone	63.5	64.0	52.0		29.3
	Aniline	120	94.6	125		19.3
	Anthracene	84.1	79.6	82.9		4.64
	Azobenzene/1,2-Diphenylhydrazine	77.9	74.9	80.3		1.74
	Benzidine	8.85	0.0	0.0		
	Benzo(a)anthracene	85.5	88.1	87.3		9.61
	Benzo(a)pyrene	79.0	77.1	79.5		5.63
	Benzo(b)fluoranthene	83.2	83.9	83.1		9.65
	Benzo(g,h,i)perylene	81.1	77.1	78.8		6.52
	Benzo(k)fluoranthene	95.8	90.7	97.6		1.37
	Benzyl alcohol	77.0	72.9	73.2		8.29
	Bis(2-chloroethoxy)methane	75.5	70.1	84.0		9.38
	Bis(2-chloroethyl)ether	65.1	62.5	71.9		5.31
	Bis(2-chloroisopropyl)ether	76.6	72.8	83.8		5.37
	Bis(2-ethylhexyl)phthalate	154	120	118		10.1
	Butyl benzyl phthalate	104	108	106		10.5
	Carbazole	77.2	120	123		6.07
	Chrysene	85.9	88.0	87.8		8.92
	Di-n-butyl phthalate	99.0	96.4	96.9		8.18
	Di-n-octyl phthalate	92.0	86.6	89.3		5.63
	Dibenzo(a,h)anthracene	78.2	74.5	76.4		6.18
	Dibenzofuran	67.7	66.9	63.5		13.9
	Diethyl phthalate	73.1	78.4	72.7		16.2
	Dimethyl phthalate	71.4	72.0	68.0		14.4
	Dimethylaminoazobenzene	103	75.8	94.1		12.9
	Dinoseb	56.5	85.2	85.4		8.58
	Ethyl methanesulfonate	55.7	70.4	66.4		14.5
	Fluoranthene	83.0	81.4	83.4		6.27
	Fluorene	66.5	65.5	62.8		12.9
	Hexachlorobenzene	83.4	77.2	81.6		3.16
	Hexachlorobutadiene	53.4	44.1	52.6		8.92
	Hexachlorocyclopentadiene	34.9	26.1	32.6		13.5
	Hexachloroethane	66.2	56.7	65.6		5.88
	Hexachloropropene	67.0	73.6	80.8		0.632
	Indeno(1,2,3-cd)pyrene	77.7	75.0	77.9		4.91
	Isophorone	61.7	57.6	67.7		7.45
	Isosafrole	80.5	69.5	81.4		7.10
	m,p-Cresols	61.5	68.1	73.1		1.62
	N-Nitrosodi-n-butylamine	74.3	74.8	98.2		18.5
	N-Nitrosodi-n-propylamine	62.4	61.8	70.2		4.04
	N-Nitrosodiethylamine	60.3	70.0	62.7		19.7
	N-Nitrosodimethylamine	44.5	36.2	40.4		2.28
N-Nitrosodiphenylamine/ Diphenylamine	51.6	51.6	53.6		4.80	
N-Nitrosomethylethylamine	58.8	74.7	73.9		9.77	
N-Nitrosomorpholine	62.8	81.9	59.3		40.4	
N-Nitrosopiperidine	71.5	80.4	70.2		22.2	
N-Nitrosopyrrolidine	66.2	61.1	48.4		31.7	
Naphthalene	65.9	80.8	91.9		4.17	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8270D	Nitrobenzene	56.6	57.4	67.7		7.80	
	o-Cresol	67.5	64.3	71.2		1.49	
	o-Toluidine	74.7	70.7	60.1		24.8	
	Pentachlorobenzene	98.6	76.1	98.9		17.5	
	Pentachloroethane	66.8	65.1	63.3		11.5	
	Pentachloronitrobenzene	78.5	95.8	95.0		9.53	
	Pentachlorophenol	126	128	127		9.09	
	Phenacetin	73.6	89.1	90.0		7.69	
	Phenanthrene	85.3	83.3	84.4		7.39	
	Phenol	43.1	31.6	32.6		5.58	
	Pyrene	88.4	91.2	91.2		8.70	
	Pyridine	23.4	38.5	43.4		3.28	
	Safrole	81.4	69.5	81.4		7.10	
	EPA 8321B	N-Et perfluorooctanesulfonamidoAc acid	116	152	147		3.17
		N-Me perfluorooctanesulfonamidoAc acid	121	126	139		9.81
		Perfluorobutanesulfonic acid (PFBS)	110	115	112		2.21
Perfluorodecanoic acid (PFDA)		129	100	161		46.8	
Perfluorododecanoic acid (PFDoA)		102	138	131		5.10	
Perfluoroheptanoic acid (PFHpA)		135	95.1	130		30.7	
Perfluorohexanesulfonic acid (PFHxS)		141	65.5	57.6		12.8	
Perfluorohexanoic acid (PFHxA)		101				9.26	
Perfluorononanoic acid (PFNA)		138	169	211		21.9	
Perfluorooctanesulfonic acid (PFOS)		115	121	121		0.363	
Perfluorooctanoic acid (PFOA)		144	10.8	4.12		89.2	
Perfluorotetradecanoic acid (PFTeA)		141	136	226		49.7	
Perfluorotridecanoic acid (PFTriA)		107	132	163		20.8	
Perfluoroundecanoic acid (PFUnA)		144	216	173		22.2	

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 537 mod. / E87570	Perfluorinated compounds in non-potable water by TestAmerica CA.	2092713, 2092714, 2092715, 2092716, 2092717, 2092718, 2092730, 2092731, 2092732, 2092753, 2092754, 2092755, 2092756
EPA 537 mod. / E87570	Perfluorinated compounds in soil by TestAmerica CA.	2092673, 2092674, 2092675, 2092676, 2092677, 2092678, 2092679, 2092680, 2092681, 2092682, 2092683, 2092684, 2092685, 2092686, 2092687, 2092688, 2092689, 2092690, 2092691, 2092692, 2092719, 2092720, 2092721, 2092722, 2092723, 2092724, 2092725, 2092726, 2092727, 2092728, 2092729
EPA 6020A / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting RCRA Projects	2092760
EPA 7473 / E31780	Mercury in aqueous samples using thermal decomposition, amalgamation, and AA spectroscopy.	2092759
EPA 8260D / E31780	Volatile organic pollutants in acid preserved water matrices using GC/MS	2092764, 2092765, 2092766
EPA 8270D / E31780	EPA Method 8270, Semi-volatile organic pollutants including PAHs, excluding PCBs and Toxaphene, in water matrices by GC/MS.	2092757, 2092758
EPA 8321B / E31780	Perfluorinated alkyl substances in solid and liquid waste matrices by HPLC/MS/MS	2092761, 2092762, 2092763

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 537 mod.	06/06/2019	06/12/2019 09:02		06/12/2019 22:44	TestAmerica-Sacramento CA	2092717
	06/06/2019	06/12/2019 09:02		06/12/2019 23:24	TestAmerica-Sacramento CA	2092730
	06/06/2019	06/12/2019 09:02		06/12/2019 23:32	TestAmerica-Sacramento CA	2092731
	06/06/2019	06/12/2019 09:02		06/12/2019 23:40	TestAmerica-Sacramento CA	2092732
	06/06/2019	06/12/2019 09:02		06/12/2019 23:48	TestAmerica-Sacramento CA	2092753
	06/06/2019	06/12/2019 09:02		06/12/2019 23:56	TestAmerica-Sacramento CA	2092754
	06/06/2019	06/12/2019 09:02		06/13/2019 00:04	TestAmerica-Sacramento CA	2092755
	06/06/2019	06/12/2019 09:02		06/15/2019 05:28	TestAmerica-Sacramento CA	2092714
	06/06/2019	06/12/2019 09:02		06/15/2019 05:36	TestAmerica-Sacramento CA	2092715
	06/06/2019	06/12/2019 09:02		06/15/2019 05:44	TestAmerica-Sacramento CA	2092716
	06/06/2019	06/12/2019 09:02		06/15/2019 06:08	TestAmerica-Sacramento CA	2092717
	06/06/2019	06/12/2019 09:02		06/15/2019 06:16	TestAmerica-Sacramento CA	2092755
	06/06/2019	06/12/2019 09:02		06/15/2019 06:24	TestAmerica-Sacramento CA	2092713
	06/06/2019	06/12/2019 09:02		06/15/2019 06:48	TestAmerica-Sacramento CA	2092718
	06/06/2019	06/12/2019 09:02		06/15/2019 07:11	TestAmerica-Sacramento CA	2092756
	06/06/2019	06/12/2019 09:02		06/15/2019 07:19	TestAmerica-Sacramento CA	2092713
	06/06/2019	06/12/2019 09:02		06/15/2019 07:27	TestAmerica-Sacramento CA	2092718
	06/06/2019	06/12/2019 09:02		06/15/2019 07:51	TestAmerica-Sacramento CA	2092756
	06/06/2019	06/17/2019 14:43		07/01/2019 03:07	TestAmerica-Sacramento CA	2092673
	06/06/2019	06/17/2019 14:43		07/01/2019 03:15	TestAmerica-Sacramento CA	2092674
	06/06/2019	06/17/2019 14:43		07/01/2019 03:23	TestAmerica-Sacramento CA	2092675
	06/06/2019	06/17/2019 14:43		07/01/2019 03:31	TestAmerica-Sacramento CA	2092676
	06/06/2019	06/17/2019 14:43		07/01/2019 03:39	TestAmerica-Sacramento CA	2092677
	06/06/2019	06/17/2019 14:43		07/01/2019 03:47	TestAmerica-Sacramento CA	2092678
	06/06/2019	06/17/2019 14:43		07/01/2019 03:55	TestAmerica-Sacramento CA	2092679
	06/06/2019	06/17/2019 14:43		07/01/2019 04:03	TestAmerica-Sacramento CA	2092680
	06/06/2019	06/17/2019 14:43		07/01/2019 04:19	TestAmerica-Sacramento CA	2092681
	06/06/2019	06/17/2019 14:43		07/01/2019 04:27	TestAmerica-Sacramento CA	2092682
	06/06/2019	06/17/2019 14:43		07/01/2019 04:35	TestAmerica-Sacramento CA	2092683
	06/06/2019	06/17/2019 14:43		07/01/2019 04:43	TestAmerica-Sacramento CA	2092684
	06/06/2019	06/17/2019 14:43		07/01/2019 04:51	TestAmerica-Sacramento CA	2092685
	06/06/2019	06/17/2019 14:43		07/01/2019 04:59	TestAmerica-Sacramento CA	2092686
	06/06/2019	06/17/2019 14:43		07/01/2019 05:07	TestAmerica-Sacramento CA	2092687
	06/06/2019	06/17/2019 14:43		07/01/2019 05:15	TestAmerica-Sacramento CA	2092688
	06/06/2019	06/17/2019 14:43		07/01/2019 05:23	TestAmerica-Sacramento CA	2092689
	06/06/2019	06/17/2019 14:43		07/01/2019 05:31	TestAmerica-Sacramento CA	2092690
	06/06/2019	06/17/2019 14:43		07/01/2019 05:47	TestAmerica-Sacramento CA	2092691
	06/06/2019	06/17/2019 14:43		07/01/2019 05:55	TestAmerica-Sacramento CA	2092692
	06/06/2019	06/17/2019 14:43		07/03/2019 04:04	TestAmerica-Sacramento CA	2092673
	06/06/2019	06/17/2019 14:43		07/03/2019 04:12	TestAmerica-Sacramento CA	2092675

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 537 mod.	06/06/2019	06/17/2019 14:43		07/03/2019 04:20	TestAmerica-Sacramento CA	2092676
	06/06/2019	06/17/2019 18:52		06/20/2019 20:24	TestAmerica-Sacramento CA	2092719
	06/06/2019	06/17/2019 18:52		06/20/2019 20:32	TestAmerica-Sacramento CA	2092720
	06/06/2019	06/17/2019 18:52		06/20/2019 20:40	TestAmerica-Sacramento CA	2092721
	06/06/2019	06/17/2019 18:52		06/20/2019 20:48	TestAmerica-Sacramento CA	2092722
	06/06/2019	06/17/2019 18:52		06/20/2019 20:56	TestAmerica-Sacramento CA	2092723
	06/06/2019	06/17/2019 18:52		06/20/2019 21:20	TestAmerica-Sacramento CA	2092724
	06/06/2019	06/17/2019 18:52		06/20/2019 21:28	TestAmerica-Sacramento CA	2092725
	06/06/2019	06/17/2019 18:52		06/20/2019 21:36	TestAmerica-Sacramento CA	2092726
	06/06/2019	06/17/2019 18:52		06/20/2019 21:44	TestAmerica-Sacramento CA	2092727
	06/06/2019	06/17/2019 18:52		06/20/2019 21:52	TestAmerica-Sacramento CA	2092728
	06/06/2019	06/17/2019 18:52		06/20/2019 22:00	TestAmerica-Sacramento CA	2092729
	EPA 6020A	06/06/2019	06/11/2019 11:00	Alexander Thompson	06/18/2019 20:41	Robert K Palmer
06/06/2019		06/11/2019 11:00	Alexander Thompson	06/21/2019 15:44	Robert K Palmer	2092760
EPA 7473	06/06/2019			06/18/2019 14:37	Vijayalakshmi Reddy	2092759
EPA 8260D	06/06/2019	06/12/2019 14:00	Yi Lin Luo	06/12/2019 16:37	Yi Lin Luo	2092764
	06/06/2019	06/13/2019 14:00	Yi Lin Luo	06/13/2019 23:36	Yi Lin Luo	2092766
	06/06/2019	06/13/2019 14:00	Yi Lin Luo	06/14/2019 01:51	Yi Lin Luo	2092765
EPA 8270D	06/06/2019	06/10/2019 09:00	Hoor Shaik	06/11/2019 12:16	Mohammad Ghaffari	2092757
	06/06/2019	06/10/2019 09:00	Hoor Shaik	06/11/2019 13:10	Mohammad Ghaffari	2092758
	06/06/2019	06/10/2019 09:00	Hoor Shaik	06/11/2019 16:22	Mohammad Ghaffari	2092757
	06/06/2019	06/10/2019 09:00	Hoor Shaik	06/11/2019 16:56	Mohammad Ghaffari	2092758
	06/06/2019	06/10/2019 09:00	Hoor Shaik	06/11/2019 17:29	Mohammad Ghaffari	2092758
EPA 8321B	06/06/2019	06/17/2019 09:30	Joshua Hartstein	06/17/2019 11:19	Mohammad Ghaffari	2092761
	06/06/2019	06/17/2019 09:30	Joshua Hartstein	06/17/2019 11:38	Mohammad Ghaffari	2092762
	06/06/2019	06/17/2019 09:30	Joshua Hartstein	06/17/2019 11:58	Mohammad Ghaffari	2092763

Chemical Analysis Report

SIS-2020-02-17-02

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Current Indian River State College Fire Training Facility**
Request ID: **RQ-2020-02-10-21**
Customer: **SIS**
Project ID: **SIS-PFAS**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Road
Twin Towers Bldg. MS# 4515
Tallahassee, FL 32399
Attn: Brandie Stringer

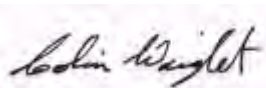
For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

This Report replaces the previous Report Serial Number: 0121529

Report Comment: The results for EQB-5 were confirmed after re-extraction and reanalysis and a comment added to that effect. All results for all samples are unchanged from the previously reported values.

Revision certified by: Colin Wright, Program Administrator

Date Certified: 31-MAR-2020 14:01



NON-CONFORMANCE REPORT INCLUDED

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Pesticides and Priority Organic Pollutants.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 08:35

Field ID: SB-7 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157867	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	1.8		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	1.6		ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.1		ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.63	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	0.47		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.57	I	ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.51		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.32	I	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.26	I	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	3.7		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.81	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.79	I	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.17	I	ug/Kg	P378998	RPD
2157887	SM 2540 G (20th)	% Solid**	89.0	A	%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 08:48

Field ID: SB-7 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157868	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	1.8		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.15	I	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.67	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.51	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	0.72		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.2		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.27	I	ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.62		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.88	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157888	SM 2540 G (20th)	% Solid**	85.4		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 08:56

Field ID: SB-7 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157869	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	0.20	I	ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.30	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.28	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	0.39	I	ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.5		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.16	I	ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.69	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157889	SM 2540 G (20th)	% Solid**	87.7		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:04

Field ID: SB-6 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157870	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	14		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	2.8		ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.94	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	3.1		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.98	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	1.5		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	38		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.89		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.84		ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.52		ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	7.1		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	1.5	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.15	I	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.97	I	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.84	I	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.30	I	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.41	I	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.40	I	ug/Kg	P378998	RPD
2157890	SM 2540 G (20th)	% Solid**	84.8		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:07

Field ID: SB-6 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157871	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	3.1		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.24	I	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.43	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.61		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.54	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	1.9		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	67		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.65		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.40	I	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.62	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.83	I	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.41	I	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157891	SM 2540 G (20th)	% Solid**	87.0		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:10

Field ID: SB-6 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157872	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	0.23	I	ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.13	I	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.36	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	1.1		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.51	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	5.2		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	150		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.49		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.14	I	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.91	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.6		ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.14	I	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157892	SM 2540 G (20th)	% Solid**	87.8		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:23

Field ID: EQB-4

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157886	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P381021	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P381021	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P381021	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P381021	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P381021	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P381021	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P381021	MS
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P381021	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P381021	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P381021	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P381021	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P381021	
		N-Me perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P381021	
		N-Et perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P381021	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P381021	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P381021	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P381021	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P381021	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P381021	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P381021	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P381021	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P381021	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:33

Field ID: SB-5 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157873	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.17	I	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	16		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	13		ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	4.6		ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	7.0		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	3.3		ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	5.8		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	52		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	3.1		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	7.1		ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	4.5		ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	9.6		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	4.8		ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.28	I	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.9		ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	7.5		ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.50	I	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.36	I	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.94		ug/Kg	P378998	RPD
2157894	SM 2540 G (20th)	% Solid**	82.7		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:38

Field ID: SB-5 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157874	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	1.1		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.15	I	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.2		ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	7.4		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	1.7		ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	3.5		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	130		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	1.3		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.12	I	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	I	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	1.8	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.17	I	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.3	I	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.81	I	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	1.2		ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157895	SM 2540 G (20th)	% Solid**	89.0		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:41

Field ID: SB-5 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157875	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.40	I	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	2.1		ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	31		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	6.1		ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	0.27	I	ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	9.3		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	5.2		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	4.2		ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	1.1		ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	19		ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.51		ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157896	SM 2540 G (20th)	% Solid**	88.3		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:48

Field ID: SB-4 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157876	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	2.6		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	1.2		ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.3		ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.56		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	2.1		ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	2.0		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	11		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	1.7		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.39	I	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.55		ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	2.5		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	2.4		ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.21	I	ug/Kg	P378998	RPD
2157897	SM 2540 G (20th)	% Solid**	84.9		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:52

Field ID: SB-4 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157877	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	0.84		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.88		ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.42	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.26	I	ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.66	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	0.87		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	13		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.42	I	ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.21	I	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.15	I	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.80		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.94	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157898	SM 2540 G (20th)	% Solid**	86.2	A	%	P379184	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:55

Field ID: SB-4 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157878	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	0.62		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.27	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	1.4		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	13		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.44	I	ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.16	I	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	I	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157899	SM 2540 G (20th)	% Solid**	86.6		%	P379184	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:10

Field ID: SB-3 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157879	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.69		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.21	I	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.25	I J	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.28	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.39	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.36	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	3.9		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.27	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.37	I	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.89	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157900	SM 2540 G (20th)	% Solid**	87.5		%	P379184	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:13

Field ID: SB-3 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157880	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.24	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	4.3		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.52	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157901	SM 2540 G (20th)	% Solid**	87.0		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:19

Field ID: SB-3 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157881	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	2.4		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.54	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157902	SM 2540 G (20th)	% Solid**	86.5		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:31

Field ID: SB-27 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157882	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.19	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	3.3		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.19	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.16	I	ug/Kg	P379093	
2157903	SM 2540 G (20th)	% Solid**	85.1		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:34

Field ID: SB-27 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157883	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	3.7		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.29	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.55	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157904	SM 2540 G (20th)	% Solid**	89.3		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:37

Field ID: SB-27 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157884	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	3.9		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.48	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157905	SM 2540 G (20th)	% Solid**	86.9		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:46

Field ID: SB-26 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157885	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.36	I	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.26	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.26	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	1.5		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.52	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.52	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379093	
2157906	SM 2540 G (20th)	% Solid**	83.9		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:49

Field ID: SB-26 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157957	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.14	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	2.1		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157979	SM 2540 G (20th)	% Solid**	86.3		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:54

Field ID: SB-26 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157958	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	0.73	I	ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157980	SM 2540 G (20th)	% Solid**	86.8	A	%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:16

Field ID: SB-8 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157959	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	2.9		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.40	I	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	1.0		ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	1.2		ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	1.6		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	0.51	I	ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.83		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.93		ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.6	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	1.3		ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379093	
2157981	SM 2540 G (20th)	% Solid**	91.4		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:22

Field ID: SB-8 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157960	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.85		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.19	I	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	1.3		ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	1.2		ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	1.6		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	1.2		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	2.0		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.39	I	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.1	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.2	I	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.45	I	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157982	SM 2540 G (20th)	% Solid**	88.5		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:26

Field ID: SB-8 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157961	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.82	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	1.4		ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.28	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	2.0		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.67		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.3	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157983	SM 2540 G (20th)	% Solid**	88.2		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:33

Field ID: SB-9 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157962	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.18	I	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.32	I	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.91	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	2.1		ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.47	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	1.3		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	27		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	1.5		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.46	I	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.52	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.17	I	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.29	I	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157984	SM 2540 G (20th)	% Solid**	88.0		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:35

Field ID: SB-9 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157963	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.39	I	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.65	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.73		ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.41	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.63		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	12		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.55		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.0	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157985	SM 2540 G (20th)	% Solid**	89.5		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:38

Field ID: SB-9 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157964	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.23	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.90		ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.22	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.24	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	8.9		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.13	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.44	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.44	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379093	
2157986	SM 2540 G (20th)	% Solid**	92.5		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:08

Field ID: SB-12 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157965	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.91		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.14	I	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.77	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.41	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.40	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.88		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	4.2		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.79		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.63		ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.1	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379093	
Perfluorononanesulfonic acid (PFNS)**	0.16	I	ug/Kg	P379093			
Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379093			
2157987	SM 2540 G (20th)	% Solid**	84.4		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:11

Field ID: SB-12 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157966	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.41	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.25	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.95		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	22		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.52		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379093	
2157988	SM 2540 G (20th)	% Solid**	90.0		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:15

Field ID: SB-12 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157967	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.27	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.32	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.26	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	16		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.29	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.55	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157989	SM 2540 G (20th)	% Solid**	90.3		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:24

Field ID: SB-11 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157968	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	2.4		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.75		ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.85	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	2.0		ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.68	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	1.8		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	5.0		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.62		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.15	I	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.14	I	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	2.3		ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.6	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.40	I	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.16	I	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.24	I	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.27	I	ug/Kg	P379093	
2157990	SM 2540 G (20th)	% Solid**	88.1	A	%	P379186	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:26

Field ID: SB-11 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157969	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.81		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.92	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	3.8		ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.84	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	2.5		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	63		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.86		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.13	I	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.2	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	I	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.85	I	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.25	I	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157991	SM 2540 G (20th)	% Solid**	89.0		%	P379186	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:30

Field ID: SB-11 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157970	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.12	UJ	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	1.5		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	5.2		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	1.4		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	1.8	J	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	65		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.92	J	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	1.4	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.21	I	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	UJ	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.21	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.20	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	UJ	ug/Kg	P379087	MS
2157992	SM 2540 G (20th)	% Solid**	89.8	A	%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:51

Field ID: SB-1 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157971	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.57		ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.13	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	12		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	43		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	12		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.89		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	4.3		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	19		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	11		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	1.7		ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	12		ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	1.8		ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2157993	SM 2540 G (20th)	% Solid**	87.1		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:58

Field ID: SB-14 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157972	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	7.6		ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	3.1		ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.1		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	5.9		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	1.3		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	4.0		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	14		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.9		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.62		ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.70		ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	10		ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	5.5		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.58		ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.0	I	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	1.4		ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.29	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.64		ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.88		ug/Kg	P379087	MS
2157994	SM 2540 G (20th)	% Solid**	85.9		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:02

Field ID: SB-14 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157973	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.36	I	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	5.6		ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.28	I	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.6		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	12		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	4.6		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	13		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	170		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	5.7		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.71		ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	7.2		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.88		ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	6.6		ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.66	I	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.98		ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.27	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2157995	SM 2540 G (20th)	% Solid**	87.3		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:18

Field ID: SB-2 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157975	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.14	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.59	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	3.0		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.41	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	4.1		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	89		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.6		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.73	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.17	I	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.5		ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.20	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.20	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379087	MS
2157997	SM 2540 G (20th)	% Solid**	90.0		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:37

Field ID: EQB-5

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157978	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	I	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	53		ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.1	I	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	1.4	I	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	2.6	I	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Results confirmed in re-extraction.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:41

Field ID: SB-15 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158009	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	9.5		ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	1.2		ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	3.6		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	2.3		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	2.0		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	3.8		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	19		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	2.0		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.27	I	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.37	I	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	3.0		ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	6.6		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.27	I	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.68	I	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.95	I	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.18	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.31	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.21	I	ug/Kg	P379087	MS
2158029	SM 2540 G (20th)	% Solid**	83.4		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:46

Field ID: SB-15 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158010	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.89		ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.18	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.6		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	14		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	3.7		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.37	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	4.3		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.7		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	I	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	7.7		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	2.2		ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	5.4		ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158030	SM 2540 G (20th)	% Solid**	89.7		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:53

Field ID: SB-15 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158011	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	2.8		ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	1.9		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	8.0		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	6.8		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.3		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.41	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	7.9		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	3.2		ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	5.5		ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.20	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379087	MS
2158031	SM 2540 G (20th)	% Solid**	90.2		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:02

Field ID: SB-13 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158012	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	3.9		ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.61		ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.4		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.76		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	1.2		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	4.1		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	8.1		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.3		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.18	I	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	2.6		ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	3.7		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.92	I	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.70	I	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.31	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.14	I	ug/Kg	P379087	MS
2158032	SM 2540 G (20th)	% Solid**	86.9		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:07

Field ID: SB-13 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158013	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.29	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.0		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.77		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.88	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	4.7		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	31		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.9		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	1.6	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.17	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158033	SM 2540 G (20th)	% Solid**	88.1		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:09

Field ID: SB-13 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158014	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.8		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	1.1		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	1.1		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.16	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.9		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	2.5		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	1.9		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.44	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.47		ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.19	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379087	MS
2158034	SM 2540 G (20th)	% Solid**	92.3	A	%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:29

Field ID: SB-17 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158015	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	1.9		ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.48	I	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.93	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.59		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.72	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	3.2		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	7.2		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.3		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.14	I	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	1.7		ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	2.0		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.23	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158035	SM 2540 G (20th)	% Solid**	85.6		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:36

Field ID: SB-17 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158016	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.38	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.69	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.74	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	1.8		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	3.2		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.76		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.13	I	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	1.3	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158036	SM 2540 G (20th)	% Solid**	86.8		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:38

Field ID: SB-17 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158017	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.23	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.57	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.16	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.47	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.63		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.8		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.47		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.92	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.20	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158037	SM 2540 G (20th)	% Solid**	90.1		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:47

Field ID: SB-18 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158018	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.33	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.27	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.16	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.45	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.50	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.2		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.45	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.19	I	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.36	I	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.52	U	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.52	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.23	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379087	MS
2158038	SM 2540 G (20th)	% Solid**	84.0		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:50

Field ID: SB-18 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158019	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.16	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.36	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.22	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.7		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.34	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.22	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158039	SM 2540 G (20th)	% Solid**	85.8		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:54

Field ID: SB-18 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158020	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.33	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.4		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.25	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158040	SM 2540 G (20th)	% Solid**	87.8		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:16

Field ID: SB-19 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158021	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.20	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.26	U	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.19	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.42	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.25	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.2		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.24	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.20	I	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.59	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.23	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379087	MS
2158041	SM 2540 G (20th)	% Solid**	83.9		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:21

Field ID: SB-19 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158022	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.31	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.16	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.6		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.30	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158042	SM 2540 G (20th)	% Solid**	86.8		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:25

Field ID: SB-19 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158023	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.15	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.47	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.17	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.61	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	3.2		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.70		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.92	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.76	I	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379087	MS
2158043	SM 2540 G (20th)	% Solid**	84.7		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:32

Field ID: SB-16 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158024	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	3.5		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.66		ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	4.2		ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	2.9		ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	12		ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.57	I J	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	3.8		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.20	I	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.17	I J	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	2.1		ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	3.4	J	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	UJ	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.2	I	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	16		ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379089	
2158044	SM 2540 G (20th)	% Solid**	92.9	A	%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:35

Field ID: SB-16 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158025	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	1.5		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.63	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.92	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.78		ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.64	I	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.83		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.33	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	1.4	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.52	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	3.5		ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379089	
2158045	SM 2540 G (20th)	% Solid**	82.9		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:38

Field ID: SB-16 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158026	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	2.2		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.39	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.80	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.24	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.25	U	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.71		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.18	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.66	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	28		ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379089	
2158046	SM 2540 G (20th)	% Solid**	86.5		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 07:17

Field ID: EQB-6

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158028	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	2.9	I	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.42	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.1	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	0.42	U	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.1	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.42	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.42	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.2	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.1	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.42	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.2	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.1	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.42	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.42	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.42	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 07:34

Field ID: SB-10 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158027	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	2.3		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.33	I	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.81	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	1.5		ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.82	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	1.8		ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	16		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.59		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.42	I	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.92		ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	1.2	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	I	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158048	SM 2540 G (20th)	% Solid**	90.4		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 07:37

Field ID: SB-10 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158052	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.34	I	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	1.9		ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	9.9		ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	1.2		ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	2.9		ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	54		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	3.2		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.16	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.80	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.16	I	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	1.3		ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158073	SM 2540 G (20th)	% Solid**	89.2		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 07:41

Field ID: SB-10 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158053	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	4.6		ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	33		ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	1.8		ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.17	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	3.0		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.37	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.86	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.52		ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158074	SM 2540 G (20th)	% Solid**	89.1		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:02

Field ID: SB-25 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158054	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.82	I	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158075	SM 2540 G (20th)	% Solid**	87.5		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:06

Field ID: SB-25 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158055	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.86	I	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.13	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158076	SM 2540 G (20th)	% Solid**	88.6		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:08

Field ID: SB-25 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158056	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.88	I	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.47	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158077	SM 2540 G (20th)	% Solid**	89.9		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:22

Field ID: SB-24 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158057	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	2.2		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.16	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.14	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158078	SM 2540 G (20th)	% Solid**	87.2		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:26

Field ID: SB-24 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158058	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	1.1		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.16	I	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158079	SM 2540 G (20th)	% Solid**	90.4	A	%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:32

Field ID: SB-24 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158059	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	3.7		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158080	SM 2540 G (20th)	% Solid**	87.5		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:43

Field ID: SB-23 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158060	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.49		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.82		ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.27	I	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.30	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.23	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	3.9		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.21	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.24	I	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.19	I	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	2.1		ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.52	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	I	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158081	SM 2540 G (20th)	% Solid**	88.8		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:50

Field ID: SB-23 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158061	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.63		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.13	I	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.14	I	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.16	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	6.7		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.44	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379089	
2158082	SM 2540 G (20th)	% Solid**	86.0		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:55

Field ID: SB-23 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158062	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.31	I	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.26	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.32	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	4.1		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158083	SM 2540 G (20th)	% Solid**	86.3		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 09:22

Field ID: SB-20 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158063	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.83		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.67	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.40	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.57		ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	1.5		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.58		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.6	I	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	4.5		ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158084	SM 2540 G (20th)	% Solid**	87.3		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 09:28

Field ID: SB-20 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158064	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.59	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.42	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	2.8		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.26	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.60	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.2	I	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158085	SM 2540 G (20th)	% Solid**	89.5		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 09:34

Field ID: SB-20 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158065	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.27	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.36	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	2.0		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.66	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158086	SM 2540 G (20th)	% Solid**	89.6		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 09:51

Field ID: EQB-7

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158072	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	3.4	I	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 10:15

Field ID: Sed-5 (0-1)

Matrix: SEDIMENT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158066	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.14	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.14	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.14	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.29	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.29	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.17	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	2.6		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.14	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.14	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.14	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.14	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.58	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.29	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.14	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.58	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.29	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.14	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.14	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.14	U	ug/Kg	P379089	
2158088	SM 2540 G (20th)	% Solid**	78.5		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 10:25

Field ID: SW-5

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158070	EPA 8321B	Perfluorooctanoic acid (PFOA)**	70		ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	88		ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	6.2		ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	3.4	I	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.1	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	59		ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	74		ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	44		ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	15		ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.45	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.45	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.1	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.45	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.45	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	100		ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.3	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	5.1		ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	6.3	I	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.5	I	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.3		ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.45	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.45	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 10:37

Field ID: SW-4

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158071	EPA 8321B	Perfluorooctanoic acid (PFOA)**	72		ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	78		ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	8.2		ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	10		ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.4	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	68		ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	87		ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	47		ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	29		ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.56	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.56	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	2.1	I	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.56	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.56	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	130		ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.8	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	7.5		ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	17	I	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	7.2	I	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.4		ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.56	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.56	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 10:57

Field ID: Sed-4 (0-1)

Matrix: SEDIMENT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158067	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.14	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.42	I	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.14	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.28	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.29	I	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.28	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.39	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	5.2		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.24	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.14	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.14	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.30	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.56	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.28	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.14	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.56	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.28	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.14	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.14	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.14	U	ug/Kg	P379089	
2158091	SM 2540 G (20th)	% Solid**	79.9		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 10:48

Field ID: SB-8 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158068	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	UJ	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.74	I J	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.23	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.77	I J	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	UJ	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	1.3		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.38	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.83	I J	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379090	
2158092	SM 2540 G (20th)	% Solid**	90.2		%	P379630	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:06

Field ID: SB-8 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158095	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	I	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	1.3		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.16	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.96		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	2.0		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.14	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	1.3	I	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379090	
2158115	SM 2540 G (20th)	% Solid**	89.2		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:25

Field ID: Sed-6

Matrix: SEDIMENT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158096	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.48	I	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	3.6		ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	2.2		ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	2.2		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.47	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	3.6		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	1.5		ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	4.4		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	1.5		ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.15	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.15	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	2.4		ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.57	I	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.41	I	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	15		ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.40	I	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.15	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	3.2		ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.33	I	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.15	U	ug/Kg	P379090	
Perfluorononanesulfonic acid (PFNS)**	0.19	I	ug/Kg	P379090			
Perfluorodecanesulfonic acid (PFDS)**	0.15	U	ug/Kg	P379090			
2158116	SM 2540 G (20th)	% Solid**	77.2		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:27

Field ID: SB-9 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158097	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	1.2		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.36	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	3.7		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.43	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	I	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.85		ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379090	
2158117	SM 2540 G (20th)	% Solid**	95.8		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:30

Field ID: SB-9 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158098	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.33	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.25	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.61	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.19	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.43	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.43	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.59		ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379090	
2158118	SM 2540 G (20th)	% Solid**	85.7		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:40

Field ID: SB-10 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158099	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.17	I	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	3.1		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	14		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	2.8		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.99		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.42	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	1.0	I	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	1.6		ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	13		ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379090	
2158119	SM 2540 G (20th)	% Solid**	94.8		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:45

Field ID: SB-10 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158100	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.30	I	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	1.2		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	1.8		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	3.6		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.35	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.33	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	3.7		ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	I	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	5.8		ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379090	
2158120	SM 2540 G (20th)	% Solid**	84.8		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:56

Field ID: SB-11 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158101	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.62	I	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	2.0		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.46	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	2.5		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.31	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.47	I	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	I	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.44	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.41	I	ug/Kg	P379090	
Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379090			
Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379090			
2158121	SM 2540 G (20th)	% Solid**	93.3		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 12:03

Field ID: SB-11 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158102	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.56	I	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.53		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	1.2		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.27	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.20	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	2.3		ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	I	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.99	I	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379090	
2158122	SM 2540 G (20th)	% Solid**	84.0		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 12:11

Field ID: SB-21 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158103	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	1.7		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.51		ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090			
Perfluorodecanesulfonic acid (PFDS)**	0.27	I	ug/Kg	P379090			
2158123	SM 2540 G (20th)	% Solid**	90.1	A	%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 12:13

Field ID: SB-21 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158104	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	1.5		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.40	I	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	I	ug/Kg	P379090	
2158124	SM 2540 G (20th)	% Solid**	87.6		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 12:16

Field ID: SB-21 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158105	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.25	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.78	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090			
Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379090			
2158125	SM 2540 G (20th)	% Solid**	87.1		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:51

Field ID: SB-22 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158106	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	1.0		ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.59		ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.41	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.34	I	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	4.7		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.32	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.19	I	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.15	I	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.40	I	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.23	I	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.60		ug/Kg	P379090	
2158126	SM 2540 G (20th)	% Solid**	86.2		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:54

Field ID: SB-22 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158107	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.17	I	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.54	I	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.17	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.54	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.39	I	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	3.5		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.62		ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.25	I	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.15	I	ug/Kg	P379090	
2158127	SM 2540 G (20th)	% Solid**	88.2		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:58

Field ID: SB-22 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158108	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	1.1		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.95	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	1.4		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.40	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.56	I	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379090	
2158128	SM 2540 G (20th)	% Solid**	89.3		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:12

Field ID: SB-12 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158109	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.45	I	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.34	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.31	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	4.2		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.36	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.45	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379090	
2158129	SM 2540 G (20th)	% Solid**	93.1		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:14

Field ID: SB-12 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158110	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.58	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.58	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.58	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	1.2	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.58	U	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	1.3	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.58	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	1.2	U	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.58	U	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.58	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.58	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.58	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.58	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.58	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	2.3	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	1.2	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.58	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.3	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	1.2	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.58	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.58	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.58	U	ug/Kg	P379090	
2158130	SM 2540 G (20th)	% Solid**	85.2		%	P379631	

Ref. Method and Comment:

EPA 8321B: MDLs are elevated due to matrix interference.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:29

Field ID: SB-13 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158111	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	3.5		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	1.4		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	2.1		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.82	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	1.6		ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	2.6		ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.64	I	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379090	
		2158131	SM 2540 G (20th)	Perfluoroheptanesulfonic acid (PFHpS)**	0.29	I	ug/Kg
Perfluorononanesulfonic acid (PFNS)**	0.12			U	ug/Kg	P379090	
Perfluorodecanesulfonic acid (PFDS)**	0.12			U	ug/Kg	P379090	
% Solid**	90.5				%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:32

Field ID: SB-13 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158112	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.28	I	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	2.8		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	1.6		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	5.7		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.63	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.60		ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	9.5		ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.23	I	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.4		ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379090	
2158132	SM 2540 G (20th)	% Solid**	82.9		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:47

Field ID: SB-15 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158113	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	1.3		ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.12	UJ	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.8		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	3.9		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	3.9	J	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.12	UJ	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.81	I	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.58		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	UJ	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	UJ	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	UJ	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	5.0		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	1.0		ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.79	I	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379091	
2158133	SM 2540 G (20th)	% Solid**	86.7	A	%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:50

Field ID: SB-15 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158114	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	1.1		ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.7		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	2.2		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	2.1		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.47	I	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.38	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	4.6		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.74		ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.95	I	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158134	SM 2540 G (20th)	% Solid**	83.7		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:00

Field ID: SB-1 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158143	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.52		ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	2.7		ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.72		ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	6.2		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	13		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	18		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	13		ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	130		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	4.2		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.42	I	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	I	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	1.5		ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	16		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	2.1		ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	18		ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.87	I	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.3		ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.33	I	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.17	I	ug/Kg	P379091	
2158163	SM 2540 G (20th)	% Solid**	91.4		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:02

Field ID: SB-1 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158144	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.32	I	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.6		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	2.1		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	4.6		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.65		ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	6.7		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.64		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	9.4		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.34	I	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	5.9		ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158164	SM 2540 G (20th)	% Solid**	83.5		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:09

Field ID: SB-14 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158145	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.43	I	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	2.7		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	17		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	6.7		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	13		ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	220		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	5.6		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	4.9		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	1.2		ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	14		ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	1.5		ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158165	SM 2540 G (20th)	% Solid**	91.5		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:12

Field ID: SB-14 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158146	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	1.3		ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.4		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	5.1		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	3.7		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.51	I	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	7.8		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.97		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	5.8		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	1.0		ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	6.3		ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.43	I	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158166	SM 2540 G (20th)	% Solid**	84.1		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:31

Field ID: SB-2 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158147	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.21	I	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.99		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	3.3		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.64	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	1.3		ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	53		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.44	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.78	I	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.29	I	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.4	I	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379091	
2158167	SM 2540 G (20th)	% Solid**	90.2		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:34

Field ID: SB-2 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158148	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.15	I	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.69	I	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.99		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.60	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.6		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.26	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	1.2	I	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.21	I	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.6	I	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158168	SM 2540 G (20th)	% Solid**	84.1		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:41

Field ID: SB-17 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158149	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.60	I	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.20	I	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.34	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.18	I	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	3.6		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.32	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.45	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158169	SM 2540 G (20th)	% Solid**	91.5		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:45

Field ID: SB-17 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158150	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.26	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.65	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.37	I	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.93	I	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.52	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158170	SM 2540 G (20th)	% Solid**	83.0		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:58

Field ID: SB-18 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158151	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.22	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.1		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.11	U	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.43	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.43	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158171	SM 2540 G (20th)	% Solid**	93.5	A	%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 15:00

Field ID: SB-18 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158152	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.26	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.26	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.28	I	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158172	SM 2540 G (20th)	% Solid**	83.9		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 15:17

Field ID: SB-19 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158153	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.83		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.22	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	3.2		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.11	U	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.45	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158173	SM 2540 G (20th)	% Solid**	90.9		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 15:19

Field ID: SB-19 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158154	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.98		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379091	
2158174	SM 2540 G (20th)	% Solid**	86.2		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 15:29

Field ID: SB-16 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158155	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	3.8		ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.81	I	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.37	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	1.1		ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.72	I	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.85		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.44	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.86	I	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	80		ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158175	SM 2540 G (20th)	% Solid**	92.3		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 15:32

Field ID: SB-16 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158156	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.36	I	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.58	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.18	I	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.25	U	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.16	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.74	I	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	20		ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158176	SM 2540 G (20th)	% Solid**	84.7		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 07:42

Field ID: EQB-8

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158161	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.52	I	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	1.3	I	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 07:45

Field ID: EQB-9

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158162	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 08:18

Field ID: SB-28 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158157	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	3.0		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.23	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.36	I	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379091	
2158179	SM 2540 G (20th)	% Solid**	90.2		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 08:22

Field ID: SB-28 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158158	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	4.3		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.22	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158180	SM 2540 G (20th)	% Solid**	90.5		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 08:49

Field ID: SB-28 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158159	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.22	I	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.22	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.2		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.25	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.43	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.43	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158181	SM 2540 G (20th)	% Solid**	94.0		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 08:51

Field ID: SB-28 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158160	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.41	I	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	1.0		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.26	I	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.7		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.34	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	1.3	I	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	5.2		ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379091	
2158182	SM 2540 G (20th)	% Solid**	86.2		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 13:57

Field ID: SB-5 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158183	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	3.1		ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	6.3		ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	35		ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	13		ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.53	I	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	83		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	2.6		ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.23	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.23	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	UJ	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	9.6		ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.47	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	7.6		ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	16		ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.5		ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158203	SM 2540 G (20th)	% Solid**	89.0	A	%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 13:59

Field ID: SB-5 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158184	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.89		ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.93	I	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	3.4		ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	4.4		ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.16	I	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	13		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.42	I	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	I	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	3.3		ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	1.6		ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.2		ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.35	I	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158204	SM 2540 G (20th)	% Solid**	83.5		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 14:56

Field ID: SB-3 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158185	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.56	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.56	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.56	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	1.1	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.56	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	1.1	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.56	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	1.2	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.56	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.56	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.56	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.56	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.56	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.56	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	2.2	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	1.1	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.56	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.2	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	1.1	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.56	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.56	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.56	U	ug/Kg	P379092	
2158205	SM 2540 G (20th)	% Solid**	92.7		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. MDL elevated due to matrix interference.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 14:59

Field ID: SB-3 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158186	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.14	I	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.70	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158206	SM 2540 G (20th)	% Solid**	86.1		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:14

Field ID: SB-4 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158187	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.21	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.21	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	1.1		ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	4.1		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.68		ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.43	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.21	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.43	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.21	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379092	
2158207	SM 2540 G (20th)	% Solid**	94.1		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:19

Field ID: SB-4 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158188	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.26	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.26	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.38	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158208	SM 2540 G (20th)	% Solid**	84.2		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:33

Field ID: SB-6 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158189	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.76	I	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	1.8		ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.59	I	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	4.8		ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	27		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	1.2		ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.66	I	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	6.2		ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.18	I	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379092	
2158209	SM 2540 G (20th)	% Solid**	90.9		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:37

Field ID: SB-6 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158190	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.30	I	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.29	I	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.48	I	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.25	I	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	5.8		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.65	I	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158210	SM 2540 G (20th)	% Solid**	84.2		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:48

Field ID: SB-7 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158191	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.29	I	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.49		ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	4.2		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.47		ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.45	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379092	
2158211	SM 2540 G (20th)	% Solid**	91.3		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:49

Field ID: SB-7 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158192	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.34	I	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	1.3		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158212	SM 2540 G (20th)	% Solid**	84.4		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 16:00

Field ID: SB-21 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158193	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.56	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.11	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379092	
2158213	SM 2540 G (20th)	% Solid**	90.5	A	%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 16:02

Field ID: SB-21 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158194	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.64	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158214	SM 2540 G (20th)	% Solid**	85.9		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 07:54

Field ID: EQB-10

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158202	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	2.1	U	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.42	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.1	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	0.42	U	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.1	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.42	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.42	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.2	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.1	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.42	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.2	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.1	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.42	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.42	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.42	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 08:19

Field ID: SB-27 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158195	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	2.0		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.14	I	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158216	SM 2540 G (20th)	% Solid**	88.3		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 08:21

Field ID: SB-27 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158196	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	1.1		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158217	SM 2540 G (20th)	% Solid**	85.2		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 08:41

Field ID: SB-26 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158197	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.76	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158218	SM 2540 G (20th)	% Solid**	87.6		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 08:43

Field ID: SB-26 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158198	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.25	U	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158219	SM 2540 G (20th)	% Solid**	84.1		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 09:31

Field ID: SB-25 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158199	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.22	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.69	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.11	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.44	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.44	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379092	
2158220	SM 2540 G (20th)	% Solid**	92.2		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 09:33

Field ID: SB-25 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158200	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.25	U	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158221	SM 2540 G (20th)	% Solid**	85.5		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 10:23

Field ID: SB-24 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158201	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	3.0		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158222	SM 2540 G (20th)	% Solid**	90.1		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 10:25

Field ID: SB-24 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158223	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	1.6		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.47	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158237	SM 2540 G (20th)	% Solid**	89.3		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 10:50

Field ID: Sed-7 (0-1)

Matrix: SEDIMENT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158224	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.14	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.51	I J	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.27	I	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.43	I	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.14	U	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.40	I	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.32	I	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	1.5		ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.71		ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.14	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.14	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.23	I	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.88	I	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.29	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.14	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.57	U	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.35	I	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.14	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.14	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.14	U	ug/Kg	P379634	
2158238	SM 2540 G (20th)	% Solid**	77.6	A	%	P379932	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 10:53

Field ID: SW-6

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158232	EPA 8321B	Perfluorooctanoic acid (PFOA)**	61		ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	33		ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	21		ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	15		ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.4	I	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	76		ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	14		ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	100		ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	44		ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.42	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.42	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	3.2	I	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	170		ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.1	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	1.0	I	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	67		ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	67		ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.69	I	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.42	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.42	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 11:24

Field ID: SB-20 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158225	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.10	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.10	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.10	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.20	U	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.10	U	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.20	U	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.10	U	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	0.23	I	ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.10	U	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.10	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.10	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.10	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAc acid**	0.10	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAc acid**	0.10	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.41	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.20	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.10	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.41	U	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.20	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.10	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.10	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.10	U	ug/Kg	P379634	
2158240	SM 2540 G (20th)	% Solid**	97.1		%	P379932	

Sample Location: IRSC

Collection Date/Time: 02/13/2020 11:26

Field ID: SB-20 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158226	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	1.3		ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379634	
2158241	SM 2540 G (20th)	% Solid**	88.2		%	P379932	

Sample Location: IRSC

Collection Date/Time: 02/13/2020 14:28

Field ID: SB-22 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158227	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.33	I	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	0.24	U	ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379634	
2158242	SM 2540 G (20th)	% Solid**	86.7		%	P379932	

Sample Location: IRSC

Collection Date/Time: 02/13/2020 14:30

Field ID: SB-22 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158228	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	0.29	I	ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379634	
2158243	SM 2540 G (20th)	% Solid**	88.1		%	P379932	

Sample Location: IRSC

Collection Date/Time: 02/14/2020 07:52

Field ID: EQB-11

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158233	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/14/2020 08:14

Field ID: IDW-4

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158229	EPA 8270E	Acenaphthene	0.25	U	ug/L	P379006	
		Acenaphthylene	0.25	U	ug/L	P379006	
		Acetophenone	2.0	U	ug/L	P379006	
		2-Acetylaminofluorene	10	U	ug/L	P379006	
		4-Aminobiphenyl	40	U	ug/L	P379006	
		Aniline	10	U	ug/L	P379006	
		Anthracene	0.50	U	ug/L	P379006	
		Azobenzene/1,2-Diphenylhydrazine**	0.50	U	ug/L	P379006	
		Benzidine	100	UJ	ug/L	P379006	CCV
		Benzo(a)anthracene	0.25	U	ug/L	P379006	
		Benzo(a)pyrene	0.25	U	ug/L	P379006	
		Benzo(b)fluoranthene	0.25	U	ug/L	P379006	
		Benzo(k)fluoranthene	0.25	U	ug/L	P379006	
		Benzo(g,h,i)perylene	0.25	U	ug/L	P379006	
		Benzyl alcohol	1.0	U	ug/L	P379006	
		Bis(2-chloroethoxy)methane	0.50	U	ug/L	P379006	
		Bis(2-chloroethyl)ether	0.50	U	ug/L	P379006	
		Bis(2-chloroisopropyl)ether	0.50	U	ug/L	P379006	
		Bis(2-ethylhexyl)phthalate	50	U	ug/L	P379006	
		Butyl benzyl phthalate	10	U	ug/L	P379006	
		4-Bromophenyl phenyl ether	0.50	U	ug/L	P379006	
		2-Chloronaphthalene	0.50	U	ug/L	P379006	
		4-Chlorophenyl phenyl ether	0.50	U	ug/L	P379006	
		Carbazole	0.50	U	ug/L	P379006	
		Chrysene	0.25	U	ug/L	P379006	
		m,p-Cresols	0.50	U	ug/L	P379006	
		o-Cresol	0.50	U	ug/L	P379006	
		Di-n-butyl phthalate	20	U	ug/L	P379006	
		Di-n-octyl phthalate	0.50	U	ug/L	P379006	
		Dibenzo(a,h)anthracene	0.25	U	ug/L	P379006	
		Dibenzofuran	0.50	U	ug/L	P379006	
		3,3'-Dichlorobenzidine	100	U	ug/L	P379006	
		Diethyl phthalate	20	U	ug/L	P379006	
		Dimethyl phthalate	0.50	U	ug/L	P379006	
		Dimethylaminoazobenzene	0.50	U	ug/L	P379006	
		7,12-Dimethylbenz(a)anthracene	1.0	U	ug/L	P379006	
		1,3-Dinitrobenzene	1.0	U	ug/L	P379006	
		2,4-Dinitrotoluene	0.50	U	ug/L	P379006	
		2,6-Dinitrotoluene	0.50	U	ug/L	P379006	
		Dinoseb**	40	U	ug/L	P379006	
		Ethyl methanesulfonate	10	U	ug/L	P379006	
		Fluoranthene	0.50	U	ug/L	P379006	
		Fluorene	0.25	U	ug/L	P379006	
		Hexachlorobenzene	0.50	U	ug/L	P379006	

Field ID: IDW-4

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158229	EPA 8270E	Hexachlorobutadiene	0.50	U	ug/L	P379006	
		Hexachlorocyclopentadiene	0.50	U	ug/L	P379006	
		Hexachloroethane	0.50	U	ug/L	P379006	
		Hexachloropropene	0.50	U	ug/L	P379006	
		Indeno(1,2,3-cd)pyrene	0.25	U	ug/L	P379006	
		Isophorone	0.50	U	ug/L	P379006	
		Isosafrole	0.50	U	ug/L	P379006	
		3-Methylcholanthrene	1.0	U	ug/L	P379006	
		2-Methylnaphthalene	1.0	U	ug/L	P379006	
		Naphthalene	1.0	U	ug/L	P379006	
		1-Naphthylamine	100	U	ug/L	P379006	
		2-Naphthylamine	100	U	ug/L	P379006	
		2-Nitroaniline	0.50	U	ug/L	P379006	
		Nitrobenzene	0.50	U	ug/L	P379006	
		5-Nitro-o-toluidine	1.0	U	ug/L	P379006	
		N-Nitrosodi-n-butylamine	0.50	U	ug/L	P379006	
		N-Nitrosodiethylamine	10	U	ug/L	P379006	
		N-Nitrosodimethylamine	20	U	ug/L	P379006	
		N-Nitrosodi-n-propylamine	0.50	U	ug/L	P379006	
		N-Nitrosomethylethylamine	20	U	ug/L	P379006	
		N-Nitrosomorpholine	0.50	U	ug/L	P379006	
		N-Nitrosopiperidine	0.50	U	ug/L	P379006	
		N-Nitrosopyrrolidine	0.50	U	ug/L	P379006	
		Pentachlorobenzene	0.50	U	ug/L	P379006	
		Pentachloroethane**	0.50	U	ug/L	P379006	
		Pentachloronitrobenzene	0.50	U	ug/L	P379006	
		Phenacetin	1.0	U	ug/L	P379006	
		Phenanthrene	1.0	U	ug/L	P379006	
		2-Picoline	10	U	ug/L	P379006	
		Pyrene	1.0	U	ug/L	P379006	
		Pyridine	40	U	ug/L	P379006	
		Safrole	0.50	U	ug/L	P379006	
		1,2,4,5-Tetrachlorobenzene	0.50	U	ug/L	P379006	
		o-Toluidine	1.0	U	ug/L	P379006	
		1,2,4-Trichlorobenzene	0.50	U	ug/L	P379006	
		1,3,5-Trinitrobenzene	1.0	U	ug/L	P379006	
		4-Chloro-3-methylphenol	0.50	U	ug/L	P379006	
		2-Chlorophenol	0.50	U	ug/L	P379006	
		2,4-Dichlorophenol	0.50	U	ug/L	P379006	
		2,6-Dichlorophenol	0.50	U	ug/L	P379006	
		2,4-Dimethylphenol	0.50	U	ug/L	P379006	
		2,4-Dinitrophenol	100	U	ug/L	P379006	
		2-Methyl-4,6-dinitrophenol	30	U	ug/L	P379006	
		2-Nitrophenol	0.50	U	ug/L	P379006	
		4-Nitrophenol	100	U	ug/L	P379006	

Field ID: IDW-4

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158229	EPA 8270E	Pentachlorophenol	5.0	U	ug/L	P379006	
		Phenol	0.50	U	ug/L	P379006	
		2,3,4,6-Tetrachlorophenol	1.0	U	ug/L	P379006	
		2,4,5-Trichlorophenol	0.50	U	ug/L	P379006	
		2,4,6-Trichlorophenol	0.50	U	ug/L	P379006	
		1-Methylnaphthalene	1.0	U	ug/L	P379006	
		N-Nitrosodiphenylamine/ Diphenylamine	1.0	U	ug/L	P379006	
2158230	EPA 7473	Mercury**	0.10	U	ug/L	P379133	
2158231	EPA 6020A	Arsenic	1.25		ug/L	P379203	
		Barium	53.6		ug/L	P379203	
		Cadmium	0.020	U	ug/L	P379203	
		Chromium	2.1		ug/L	P379203	
		Lead	1.10		ug/L	P379203	
		Selenium	1.23		ug/L	P379203	
		Silver	0.010	U	ug/L	P379203	
		2158234	EPA 8321B	Perfluorooctanoic acid (PFOA)**	150		ng/L
Perfluorooctanesulfonic acid (PFOS)**	860				ng/L	P379487	
Perfluorobutanesulfonic acid (PFBS)**	68				ng/L	P379487	
Perfluorodecanoic acid (PFDA)**	2.8			I	ng/L	P379487	
Perfluorododecanoic acid (PFDoA)**	1.0			U	ng/L	P379487	
Perfluoroheptanoic acid (PFHpA)**	390				ng/L	P379487	
Perfluorohexanesulfonic acid (PFHxS)**	550				ng/L	P379487	
Perfluorohexanoic acid (PFHxA)**	500				ng/L	P379487	
Perfluorononanoic acid (PFNA)**	39				ng/L	P379487	
Perfluorotetradecanoic acid (PFTeA)**	0.40			U	ng/L	P379487	
Perfluorotridecanoic acid (PFTriA)**	0.40			U	ng/L	P379487	
Perfluoroundecanoic acid (PFUnA)**	1.0			U	ng/L	P379487	
N-Me perfluorooctanesulfonamidoAc acid**	0.40			U	ng/L	P379487	
N-Et perfluorooctanesulfonamidoAc acid**	0.40			U	ng/L	P379487	
Perfluoropentanoic acid (PFPeA)**	850				ng/L	P379487	
4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0			U	ng/L	P379487	
Perfluoropentanesulfonic acid (PFPeS)**	58				ng/L	P379487	
6:2 Fluorotelomer sulfonate (6:2 FTS)**	610				ng/L	P379487	
8:2 Fluorotelomer sulfonate (8:2 FTS)**	7.1			I	ng/L	P379487	
Perfluoroheptanesulfonic acid (PFHpS)**	21				ng/L	P379487	
Perfluorononanesulfonic acid (PFNS)**	1.4	I	ng/L	P379487			
Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487			
2158235	EPA 8260D	Benzene	0.20	UY	ug/L	P379514	
		Bromodichloromethane	0.20	UY	ug/L	P379514	
		Bromoform	0.50	UY	ug/L	P379514	
		Bromomethane	0.50	UY	ug/L	P379514	
		2-Butanone	3.0	UY	ug/L	P379514	

Field ID: IDW-4

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158235	EPA 8260D	Carbon tetrachloride	0.20	UY	ug/L	P379514	
		Chlorobenzene	0.20	UY	ug/L	P379514	
		Chloroethane	0.50	UY	ug/L	P379514	
		Chloroform	0.20	UY	ug/L	P379514	
		Chloromethane	0.50	UY	ug/L	P379514	
		Dibromochloromethane	0.20	UY	ug/L	P379514	
		1,2-Dichlorobenzene	0.50	UY	ug/L	P379514	
		1,3-Dichlorobenzene	0.50	UY	ug/L	P379514	
		1,4-Dichlorobenzene	0.50	UY	ug/L	P379514	
		1,1-Dichloroethane	0.20	UY	ug/L	P379514	
		1,2-Dichloroethane	0.20	UY	ug/L	P379514	
		1,1-Dichloroethene	0.20	UY	ug/L	P379514	
		cis-1,2-Dichloroethene	0.20	UY	ug/L	P379514	
		trans-1,2-Dichloroethene	0.20	UY	ug/L	P379514	
		1,2-Dichloropropane	0.20	UY	ug/L	P379514	
		cis-1,3-Dichloropropene	0.50	UY	ug/L	P379514	
		trans-1,3-Dichloropropene	0.50	UY	ug/L	P379514	
		Ethylbenzene	0.20	UY	ug/L	P379514	
		Methyl-t-butyl ether	0.20	UY	ug/L	P379514	
		Methylene chloride	1.0	UY	ug/L	P379514	
		1,1,2,2-Tetrachloroethane	0.20	UY	ug/L	P379514	
		Tetrachloroethene	0.20	UY	ug/L	P379514	
		Toluene	0.50	UY	ug/L	P379514	
		1,1,1-Trichloroethane	0.20	UY	ug/L	P379514	
		1,1,2-Trichloroethane	0.20	UY	ug/L	P379514	
		Trichloroethene	0.20	UY	ug/L	P379514	
		Trichlorofluoromethane	0.20	UY	ug/L	P379514	
		Vinyl chloride	0.20	UY	ug/L	P379514	
		o-Xylene	0.50	UY	ug/L	P379514	
		m,p-Xylene	0.50	UY	ug/L	P379514	

Ref. Method and Comment:

EPA 8270E: Insufficient sample to perform matrix spikes. MDLs are elevated due to matrix interference. Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8321B: Insufficient sample to perform matrix spikes.

EPA 8260D: Y - Sample was received with inadequate sample preservation; see NCR report.

Sample Location: IRSC

Collection Date/Time: 02/14/2020 08:14

Field ID: Trip Blank

Matrix: W-TRIP-BLK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158236	EPA 8260D	Benzene	0.20	U	ug/L	P379514	
		Bromodichloromethane	0.20	U	ug/L	P379514	
		Bromoform	0.50	U	ug/L	P379514	
		Bromomethane	0.50	U	ug/L	P379514	
		2-Butanone	3.0	U	ug/L	P379514	
		Carbon tetrachloride	0.20	U	ug/L	P379514	
		Chlorobenzene	0.20	U	ug/L	P379514	
		Chloroethane	0.50	U	ug/L	P379514	
		Chloroform	0.20	U	ug/L	P379514	
		Chloromethane	0.50	U	ug/L	P379514	
		Dibromochloromethane	0.20	U	ug/L	P379514	
		1,2-Dichlorobenzene	0.50	U	ug/L	P379514	
		1,3-Dichlorobenzene	0.50	U	ug/L	P379514	
		1,4-Dichlorobenzene	0.50	U	ug/L	P379514	
		1,1-Dichloroethane	0.20	U	ug/L	P379514	
		1,2-Dichloroethane	0.20	U	ug/L	P379514	
		1,1-Dichloroethene	0.20	U	ug/L	P379514	
		cis-1,2-Dichloroethene	0.20	U	ug/L	P379514	
		trans-1,2-Dichloroethene	0.20	U	ug/L	P379514	
		1,2-Dichloropropane	0.20	U	ug/L	P379514	
		cis-1,3-Dichloropropene	0.50	U	ug/L	P379514	
		trans-1,3-Dichloropropene	0.50	U	ug/L	P379514	
		Ethylbenzene	0.20	U	ug/L	P379514	
		Methyl-t-butyl ether	0.20	U	ug/L	P379514	
		Methylene chloride	1.0	U	ug/L	P379514	
		1,1,2,2-Tetrachloroethane	0.20	U	ug/L	P379514	
		Tetrachloroethene	0.20	U	ug/L	P379514	
		Toluene	0.50	U	ug/L	P379514	
		1,1,1-Trichloroethane	0.20	U	ug/L	P379514	
		1,1,2-Trichloroethane	0.20	U	ug/L	P379514	
		Trichloroethene	0.20	U	ug/L	P379514	
		Trichlorofluoromethane	0.20	U	ug/L	P379514	
		Vinyl chloride	0.20	U	ug/L	P379514	
		o-Xylene	0.50	U	ug/L	P379514	
		m,p-Xylene	0.50	U	ug/L	P379514	

Sample Location: IRSC

Collection Date/Time: 02/13/2020 13:25

Field ID: SB-23 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158326	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.55	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.87		ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	1.1	U	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.52		ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	1.7		ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.55	U	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.44	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	I	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.18	I	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379634	
2158328	SM 2540 G (20th)	% Solid**	92.8		%	P379932	

Sample Location: IRSC

Collection Date/Time: 02/13/2020 13:27

Field ID: SB-23 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158327	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.38	I	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.28	I	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.14	I	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	0.43	I	ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.14	I	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.47	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.53	I	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379634	
2158329	SM 2540 G (20th)	% Solid**	89.0		%	P379932	

Non-Conformance Report

NCR ID: 8206

Event(s)

SIS-2020-02-17-02

Job(s)

TLH-2020-02-17-42

Sample(s)

2158235

Test(s)

NCR Type: SAMPLING

NCR Category: Improper Preservation

Observation: The concentration of residual chlorine is >0.2 ppm.

Resolution: Sample results were Y qualified due to the presence of residual chlorine.

Authorized by/Date: Kerry Tate, Ph.D. 2/25/2020

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 6020A
Batch ID: P379203

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Lead	0.20	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 7473
Batch ID: P379133

Component	Result	Code	Units
Mercury	0.10	U	ug/L

Reference Method: EPA 8260D
Batch ID: P379514

Component	Result	Code	Units
1,1-Dichloroethane	0.20	U	ug/L
1,1-Dichloroethene	0.20	U	ug/L
1,1,1-Trichloroethane	0.20	U	ug/L
1,1,2-Trichloroethane	0.20	U	ug/L
1,1,2,2-Tetrachloroethane	0.20	U	ug/L
1,2-Dichlorobenzene	0.50	U	ug/L
1,2-Dichloroethane	0.20	U	ug/L
1,2-Dichloropropane	0.20	U	ug/L
1,3-Dichlorobenzene	0.50	U	ug/L
1,4-Dichlorobenzene	0.50	U	ug/L
2-Butanone	3.0	U	ug/L
Benzene	0.20	U	ug/L
Bromodichloromethane	0.20	U	ug/L
Bromoform	0.50	U	ug/L
Bromomethane	0.50	U	ug/L
Carbon tetrachloride	0.20	U	ug/L
Chlorobenzene	0.20	U	ug/L
Chloroethane	0.50	U	ug/L
Chloroform	0.20	U	ug/L
Chloromethane	0.50	U	ug/L
cis-1,2-Dichloroethene	0.20	U	ug/L
cis-1,3-Dichloropropene	0.50	U	ug/L
Dibromochloromethane	0.20	U	ug/L
Ethylbenzene	0.20	U	ug/L
m,p-Xylene	0.50	U	ug/L
Methyl-t-butyl ether	0.20	U	ug/L
Methylene chloride	1.0	U	ug/L
o-Xylene	0.50	U	ug/L
Tetrachloroethene	0.20	U	ug/L
Toluene	0.50	U	ug/L
trans-1,2-Dichloroethene	0.20	U	ug/L
trans-1,3-Dichloropropene	0.50	U	ug/L
Trichloroethene	0.20	U	ug/L
Trichlorofluoromethane	0.20	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8260D
Batch ID: P379514

Component	Result	Code	Units
Vinyl chloride	0.20	U	ug/L

Reference Method: EPA 8270E
Batch ID: P379006

Component	Result	Code	Units
1-Methylnaphthalene	0.10	U	ug/L
1-Naphthylamine	10	U	ug/L
1,2,4-Trichlorobenzene	0.050	U	ug/L
1,2,4,5-Tetrachlorobenzene	0.050	U	ug/L
1,3-Dinitrobenzene	0.10	U	ug/L
1,3,5-Trinitrobenzene	0.10	U	ug/L
2-Acetylaminofluorene	1.0	U	ug/L
2-Chloronaphthalene	0.050	U	ug/L
2-Chlorophenol	0.050	U	ug/L
2-Methyl-4,6-dinitrophenol	3.0	U	ug/L
2-Methylnaphthalene	0.10	U	ug/L
2-Naphthylamine	10	U	ug/L
2-Nitroaniline	0.050	U	ug/L
2-Nitrophenol	0.050	U	ug/L
2-Picoline	1.0	U	ug/L
2,3,4,6-Tetrachlorophenol	0.10	U	ug/L
2,4-Dichlorophenol	0.050	U	ug/L
2,4-Dimethylphenol	0.050	U	ug/L
2,4-Dinitrophenol	10	U	ug/L
2,4-Dinitrotoluene	0.050	U	ug/L
2,4,5-Trichlorophenol	0.050	U	ug/L
2,4,6-Trichlorophenol	0.050	U	ug/L
2,6-Dichlorophenol	0.050	U	ug/L
2,6-Dinitrotoluene	0.050	U	ug/L
3-Methylcholanthrene	0.10	U	ug/L
3,3'-Dichlorobenzidine	10	U	ug/L
4-Aminobiphenyl	4.0	U	ug/L
4-Bromophenyl phenyl ether	0.050	U	ug/L
4-Chloro-3-methylphenol	0.050	U	ug/L
4-Chlorophenyl phenyl ether	0.050	U	ug/L
4-Nitrophenol	10	U	ug/L
5-Nitro-o-toluidine	0.10	U	ug/L
7,12-Dimethylbenz(a)anthracene	0.10	U	ug/L
Acenaphthene	0.025	U	ug/L
Acenaphthylene	0.025	U	ug/L
Acetophenone	0.20	U	ug/L
Aniline	1.0	U	ug/L
Anthracene	0.050	U	ug/L
Azobenzene/1,2-Diphenylhydrazine	0.050	U	ug/L
Benzidine	10	U	ug/L
Benzo(a)anthracene	0.025	U	ug/L
Benzo(a)pyrene	0.025	U	ug/L
Benzo(b)fluoranthene	0.025	U	ug/L
Benzo(g,h,i)perylene	0.025	U	ug/L
Benzo(k)fluoranthene	0.025	U	ug/L
Benzyl alcohol	0.10	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P379006

Component	Result	Code	Units
Bis(2-chloroethoxy)methane	0.050	U	ug/L
Bis(2-chloroethyl)ether	0.050	U	ug/L
Bis(2-chloroisopropyl)ether	0.050	U	ug/L
Bis(2-ethylhexyl)phthalate	5.0	U	ug/L
Butyl benzyl phthalate	1.0	U	ug/L
Carbazole	0.050	U	ug/L
Chrysene	0.025	U	ug/L
Di-n-butyl phthalate	2.0	U	ug/L
Di-n-octyl phthalate	0.050	U	ug/L
Dibenzo(a,h)anthracene	0.025	U	ug/L
Dibenzofuran	0.050	U	ug/L
Diethyl phthalate	2.0	U	ug/L
Dimethyl phthalate	0.050	U	ug/L
Dimethylaminoazobenzene	0.050	U	ug/L
Dinoseb	4.0	U	ug/L
Ethyl methanesulfonate	1.0	U	ug/L
Fluoranthene	0.050	U	ug/L
Fluorene	0.025	U	ug/L
Hexachlorobenzene	0.050	U	ug/L
Hexachlorobutadiene	0.050	U	ug/L
Hexachlorocyclopentadiene	0.050	U	ug/L
Hexachloroethane	0.050	U	ug/L
Hexachloropropene	0.050	U	ug/L
Indeno(1,2,3-cd)pyrene	0.025	U	ug/L
Isophorone	0.050	U	ug/L
Isosafrole	0.050	U	ug/L
m,p-Cresols	0.050	U	ug/L
N-Nitrosodi-n-butylamine	0.050	U	ug/L
N-Nitrosodi-n-propylamine	0.050	U	ug/L
N-Nitrosodiethylamine	1.0	U	ug/L
N-Nitrosodimethylamine	2.0	U	ug/L
N-Nitrosodiphenylamine/ Diphenylamine	0.10	U	ug/L
N-Nitrosomethylethylamine	2.0	U	ug/L
N-Nitrosomorpholine	0.050	U	ug/L
N-Nitrosopiperidine	0.050	U	ug/L
N-Nitrosopyrrolidine	0.050	U	ug/L
Naphthalene	0.10	U	ug/L
Nitrobenzene	0.050	U	ug/L
o-Cresol	0.050	U	ug/L
o-Toluidine	0.10	U	ug/L
Pentachlorobenzene	0.050	U	ug/L
Pentachloroethane	0.050	U	ug/L
Pentachloronitrobenzene	0.050	U	ug/L
Pentachlorophenol	0.50	U	ug/L
Phenacetin	0.10	U	ug/L
Phenanthrene	0.10	U	ug/L
Phenol	0.050	U	ug/L
Pyrene	0.10	U	ug/L
Pyridine	4.0	U	ug/L
Safrole	0.050	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P378998

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.19	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.39	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.19	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.097	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.097	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.097	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.097	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.097	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.097	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.097	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.19	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.097	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.19	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.097	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.097	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.19	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.097	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.097	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.39	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.097	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.097	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.097	U	ug/Kg

Reference Method: EPA 8321B
Batch ID: P379087

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P379089

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Reference Method: EPA 8321B
Batch ID: P379090

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P379091

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Reference Method: EPA 8321B
Batch ID: P379092

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P379093

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.19	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.39	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.19	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.096	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.096	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.096	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.096	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.096	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.096	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.096	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.19	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.096	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.19	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.096	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.096	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.19	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.096	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.096	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.39	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.096	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.096	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.096	U	ug/Kg

Reference Method: EPA 8321B
Batch ID: P379487

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	2.0	U	ng/L
6:2 Fluorotelomer sulfonate (6:2 FTS)	4.0	U	ng/L
8:2 Fluorotelomer sulfonate (8:2 FTS)	2.0	U	ng/L
N-Et perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
N-Me perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	1.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	1.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.40	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.40	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	1.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	1.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	0.40	U	ng/L
Perfluorotridecanoic acid (PFTriA)	0.40	U	ng/L
Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P379634

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Reference Method: EPA 8321B
Batch ID: P381021

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	2.0	U	ng/L
6:2 Fluorotelomer sulfonate (6:2 FTS)	4.0	U	ng/L
8:2 Fluorotelomer sulfonate (8:2 FTS)	2.0	U	ng/L
N-Et perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
N-Me perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	1.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	1.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.40	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.40	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	1.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	1.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	0.40	U	ng/L
Perfluorotridecanoic acid (PFTriA)	0.40	U	ng/L
Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 6020A
Batch ID: P379203

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Barium	102		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	98.7		P	85 - 115
Lead	98.5		P	85 - 115
Selenium	99.5		P	85 - 115
Silver	102		P	85 - 115

Reference Method: EPA 7473
Batch ID: P379133

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mercury	102		P	80 - 120

Reference Method: EPA 8260D
Batch ID: P379514

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1,1-Dichloroethane	114	106	P/P	70 - 130
1,1-Dichloroethene	107	110	P/P	70 - 130
1,1,1-Trichloroethane	103	106	P/P	70 - 130
1,1,2-Trichloroethane	104	103	P/P	70 - 130
1,1,2,2-Tetrachloroethane	100	98.3	P/P	60 - 140
1,2-Dichlorobenzene	98.8	103	P/P	70 - 130
1,2-Dichloroethane	109	111	P/P	70 - 130
1,2-Dichloropropane	112	114	P/P	70 - 130
1,3-Dichlorobenzene	98.2	99.4	P/P	70 - 130
1,4-Dichlorobenzene	98.8	103	P/P	70 - 130
2-Butanone	105	103	P/P	60 - 140
Benzene	104	105	P/P	70 - 130
Bromodichloromethane	110	113	P/P	70 - 130
Bromoform	111	108	P/P	60 - 140
Bromomethane	111	106	P/P	60 - 140
Carbon tetrachloride	105	109	P/P	70 - 130
Chlorobenzene	105	104	P/P	70 - 130
Chloroethane	117	120	P/P	60 - 140
Chloroform	106	109	P/P	70 - 130
Chloromethane	107	104	P/P	60 - 140
cis-1,2-Dichloroethene	98.8	101	P/P	70 - 130
cis-1,3-Dichloropropene	105	105	P/P	60 - 140
Dibromochloromethane	99.6	99.4	P/P	60 - 140
Ethylbenzene	105	104	P/P	70 - 130
m,p-Xylene	107	105	P/P	70 - 130
Methyl-t-butyl ether	118	106	P/P	70 - 130
Methylene chloride	128	128	P/P	70 - 130
o-Xylene	106	105	P/P	70 - 130
Tetrachloroethene	104	105	P/P	70 - 130
Toluene	116	116	P/P	70 - 130
trans-1,2-Dichloroethene	123	113	P/P	70 - 130
trans-1,3-Dichloropropene	94.4	94.4	P/P	60 - 140
Trichloroethene	111	115	P/P	70 - 130
Trichlorofluoromethane	114	119	P/P	60 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8260D
Batch ID: P379514

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Vinyl chloride	121	122	P/P	60 - 140

Reference Method: EPA 8270E
Batch ID: P379006

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1-Methylnaphthalene	95.7	93.6	P/P	50 - 130
1-Naphthylamine	34.7	48.8	P/P	20 - 130
1,2,4-Trichlorobenzene	93.7	88.8	P/P	50 - 130
1,2,4,5-Tetrachlorobenzene	85.7	90.0	P/P	50 - 130
1,3-Dinitrobenzene	97.0	99.5	P/P	50 - 130
1,3,5-Trinitrobenzene	94.9	97.2	P/P	50 - 150
2-Acetylaminofluorene	83.0	84.4	P/P	50 - 130
2-Chloronaphthalene	92.3	90.3	P/P	50 - 130
2-Chlorophenol	101	92.3	P/P	50 - 130
2-Methyl-4,6-dinitrophenol	59.7	67.5	P/P	50 - 150
2-Methylnaphthalene	96.9	93.8	P/P	50 - 130
2-Naphthylamine	37.0	40.0	P/P	20 - 130
2-Nitroaniline	92.1	93.6	P/P	50 - 130
2-Nitrophenol	97.4	92.8	P/P	50 - 130
2-Picoline	79.5	84.2	P/P	40 - 130
2,3,4,6-Tetrachlorophenol	120	119	P/P	50 - 130
2,4-Dichlorophenol	93.1	91.4	P/P	50 - 130
2,4-Dimethylphenol	79.0	79.6	P/P	50 - 130
2,4-Dinitrophenol	34.5	42.6	P/P	30 - 160
2,4-Dinitrotoluene	88.9	87.3	P/P	50 - 130
2,4,5-Trichlorophenol	91.8	89.9	P/P	50 - 130
2,4,6-Trichlorophenol	91.0	90.1	P/P	50 - 130
2,6-Dichlorophenol	97.9	102	P/P	50 - 130
2,6-Dinitrotoluene	88.5	88.0	P/P	50 - 130
3-Methylcholanthrene	77.9	77.6	P/P	50 - 130
3,3'-Dichlorobenzidine	193	197	P/P	20 - 200
4-Aminobiphenyl	98.7	96.9	P/P	30 - 130
4-Bromophenyl phenyl ether	98.2	92.4	P/P	50 - 130
4-Chloro-3-methylphenol	87.4	84.3	P/P	50 - 130
4-Chlorophenyl phenyl ether	87.7	84.9	P/P	50 - 130
4-Nitrophenol	61.0	58.5	P/P	15 - 110
5-Nitro-o-toluidine	98.1	99.0	P/P	50 - 130
7,12-Dimethylbenz(a)anthracene	86.6	92.1	P/P	50 - 130
Acenaphthene	92.7	91.8	P/P	50 - 130
Acenaphthylene	88.4	87.5	P/P	50 - 130
Acetophenone	86.8	92.4	P/P	50 - 130
Aniline	88.9	94.1	P/P	30 - 130
Anthracene	96.5	92.7	P/P	50 - 130
Azobenzene/1,2-Diphenylhydrazine	99.1	95.4	P/P	50 - 130
Benzidine	87.2	76.8	P/P	0.0 - 240
Benzo(a)anthracene	95.4	94.5	P/P	50 - 130
Benzo(a)pyrene	84.1	84.9	P/P	50 - 130
Benzo(b)fluoranthene	92.8	86.5	P/P	50 - 130
Benzo(g,h,i)perylene	74.5	72.8	P/P	50 - 130
Benzo(k)fluoranthene	93.2	89.4	P/P	50 - 130
Benzyl alcohol	107	95.3	P/P	50 - 130

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
 Batch ID: P379006

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bis(2-chloroethoxy)methane	87.8	84.3	P/P	50 - 130
Bis(2-chloroethyl)ether	88.0	78.3	P/P	50 - 160
Bis(2-chloroisopropyl)ether	103	94.3	P/P	50 - 130
Bis(2-ethylhexyl)phthalate	105	104	P/P	50 - 160
Butyl benzyl phthalate	100	97.9	P/P	50 - 160
Carbazole	104	92.9	P/P	50 - 130
Chrysene	89.9	87.0	P/P	50 - 130
Di-n-butyl phthalate	102	98.9	P/P	50 - 130
Di-n-octyl phthalate	102	98.0	P/P	50 - 130
Dibenzo(a,h)anthracene	82.5	78.6	P/P	50 - 130
Dibenzofuran	92.5	90.9	P/P	50 - 130
Diethyl phthalate	97.7	96.5	P/P	50 - 130
Dimethyl phthalate	96.9	95.9	P/P	50 - 130
Dimethylaminoazobenzene	88.9	88.9	P/P	50 - 130
Dinoseb	106	105	P/P	50 - 150
Ethyl methanesulfonate	70.0	76.6	P/P	50 - 130
Fluoranthene	95.8	92.6	P/P	50 - 130
Fluorene	87.2	86.0	P/P	50 - 130
Hexachlorobenzene	92.4	89.3	P/P	50 - 130
Hexachlorobutadiene	91.5	86.9	P/P	20 - 130
Hexachlorocyclopentadiene	37.9	38.9	P/P	20 - 130
Hexachloroethane	96.3	91.1	P/P	40 - 130
Hexachloropropene	81.8	87.2	P/P	50 - 130
Indeno(1,2,3-cd)pyrene	79.4	75.7	P/P	50 - 130
Isophorone	89.6	86.1	P/P	50 - 130
Isosafrole	91.2	95.0	P/P	50 - 130
m,p-Cresols	99.4	101	P/P	50 - 130
N-Nitrosodi-n-butylamine	86.2	92.0	P/P	50 - 130
N-Nitrosodi-n-propylamine	108	100	P/P	50 - 130
N-Nitrosodiethylamine	87.3	91.6	P/P	50 - 130
N-Nitrosodimethylamine	94.6	88.0	P/P	30 - 130
N-Nitrosodiphenylamine/ Diphenylamine	90.9	91.3	P/P	50 - 150
N-Nitrosomethylethylamine	75.7	85.2	P/P	50 - 130
N-Nitrosomorpholine	85.5	88.3	P/P	50 - 150
N-Nitrosopiperidine	85.2	92.0	P/P	50 - 130
N-Nitrosopyrrolidine	74.3	79.8	P/P	50 - 130
Naphthalene	93.7	89.1	P/P	50 - 130
Nitrobenzene	98.2	95.2	P/P	50 - 130
o-Cresol	94.8	87.2	P/P	50 - 130
o-Toluidine	87.9	87.3	P/P	50 - 130
Pentachlorobenzene	88.7	89.6	P/P	50 - 130
Pentachloroethane	79.2	85.8	P/P	50 - 130
Pentachloronitrobenzene	87.0	93.2	P/P	50 - 130
Pentachlorophenol	58.6	53.4	P/P	50 - 130
Phenacetin	102	102	P/P	50 - 130
Phenanthrene	97.2	92.9	P/P	50 - 130
Phenol	70.7	63.0	P/P	15 - 110
Pyrene	92.2	90.3	P/P	50 - 130
Pyridine	81.4	81.3	P/P	20 - 130
Safrole	91.2	95.0	P/P	50 - 130

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P378998

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	75.9		P	40 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	68.6		P	40 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	75.8		P	40 - 160
N-Et perfluorooctanesulfonamidoAc acid	71.0		P	40 - 160
N-Me perfluorooctanesulfonamidoAc acid	70.5		P	40 - 160
Perfluorobutanesulfonic acid (PFBS)	101		P	40 - 160
Perfluorodecanesulfonic acid (PFDS)	83.4		P	40 - 160
Perfluorodecanoic acid (PFDA)	84.2		P	40 - 160
Perfluorododecanoic acid (PFDoA)	94.9		P	40 - 160
Perfluoroheptanesulfonic acid (PFHpS)	74.6		P	40 - 160
Perfluoroheptanoic acid (PFHpA)	78.2		P	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	102		P	40 - 160
Perfluorohexanoic acid (PFHxA)	79.4		P	40 - 160
Perfluorononanesulfonic acid (PFNS)	89.7		P	40 - 160
Perfluorononanoic acid (PFNA)	65.3		P	40 - 160
Perfluorooctanesulfonic acid (PFOS)	84.3		P	40 - 160
Perfluorooctanoic acid (PFOA)	61.1		P	40 - 160
Perfluoropentanesulfonic acid (PFPeS)	85.7		P	40 - 160
Perfluoropentanoic acid (PFPeA)	93.2		P	40 - 160
Perfluorotetradecanoic acid (PFTeA)	84.3		P	40 - 160
Perfluorotridecanoic acid (PFTriA)	78.4		P	40 - 160
Perfluoroundecanoic acid (PFUnA)	120		P	40 - 160

Reference Method: EPA 8321B
Batch ID: P379087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	118		P	40 - 150
6:2 Fluorotelomer sulfonate (6:2 FTS)	126		P	40 - 150
8:2 Fluorotelomer sulfonate (8:2 FTS)	140		P	40 - 150
N-Et perfluorooctanesulfonamidoAc acid	145		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	103		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	114		P	40 - 150
Perfluorodecanesulfonic acid (PFDS)	126		P	40 - 150
Perfluorodecanoic acid (PFDA)	98.8		P	40 - 150
Perfluorododecanoic acid (PFDoA)	114		P	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	101		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	132		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	134		P	40 - 150
Perfluorohexanoic acid (PFHxA)	112		P	40 - 150
Perfluorononanesulfonic acid (PFNS)	136		P	40 - 150
Perfluorononanoic acid (PFNA)	105		P	40 - 150
Perfluorooctanesulfonic acid (PFOS)	126		P	40 - 150
Perfluorooctanoic acid (PFOA)	116		P	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	135		P	40 - 150
Perfluoropentanoic acid (PFPeA)	142		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	91.8		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	107		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	129		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P379089

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	148		P	40 - 150
6:2 Fluorotelomer sulfonate (6:2 FTS)	107		P	40 - 150
8:2 Fluorotelomer sulfonate (8:2 FTS)	83.8		P	40 - 150
N-Et perfluorooctanesulfonamidoAc acid	115		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	117		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	136		P	40 - 150
Perfluorodecanesulfonic acid (PFDS)	129		P	40 - 150
Perfluorodecanoic acid (PFDA)	102		P	40 - 150
Perfluorododecanoic acid (PFDoA)	107		P	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	112		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	98.0		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	125		P	40 - 150
Perfluorohexanoic acid (PFHxA)	100		P	40 - 150
Perfluorononanesulfonic acid (PFNS)	116		P	40 - 150
Perfluorononanoic acid (PFNA)	96.0		P	40 - 150
Perfluorooctanesulfonic acid (PFOS)	114		P	40 - 150
Perfluorooctanoic acid (PFOA)	125		P	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	113		P	40 - 150
Perfluoropentanoic acid (PFPeA)	99.5		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	129		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	114		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	138		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P379090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	107		P	40 - 150
6:2 Fluorotelomer sulfonate (6:2 FTS)	92.5		P	40 - 150
8:2 Fluorotelomer sulfonate (8:2 FTS)	125		P	40 - 150
N-Et perfluorooctanesulfonamidoAc acid	79.7		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	78.7		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	93.5		P	40 - 150
Perfluorodecanesulfonic acid (PFDS)	114		P	40 - 150
Perfluorodecanoic acid (PFDA)	79.8		P	40 - 150
Perfluorododecanoic acid (PFDoA)	89.2		P	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	91.8		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	85.7		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	87.2		P	40 - 150
Perfluorohexanoic acid (PFHxA)	117		P	40 - 150
Perfluorononanesulfonic acid (PFNS)	89.6		P	40 - 150
Perfluorononanoic acid (PFNA)	104		P	40 - 150
Perfluorooctanesulfonic acid (PFOS)	95.8		P	40 - 150
Perfluorooctanoic acid (PFOA)	99.6		P	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	96.1		P	40 - 150
Perfluoropentanoic acid (PFPeA)	98.1		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	97.8		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	124		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	121		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P379091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	136		P	40 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	141		P	40 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	129		P	40 - 160
N-Et perfluorooctanesulfonamidoAc acid	113		P	40 - 160
N-Me perfluorooctanesulfonamidoAc acid	115		P	40 - 160
Perfluorobutanesulfonic acid (PFBS)	117		P	40 - 160
Perfluorodecanesulfonic acid (PFDS)	117		P	40 - 160
Perfluorodecanoic acid (PFDA)	125		P	40 - 160
Perfluorododecanoic acid (PFDoA)	152		P	40 - 160
Perfluoroheptanesulfonic acid (PFHpS)	117		P	40 - 160
Perfluoroheptanoic acid (PFHpA)	145		P	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	132		P	40 - 160
Perfluorohexanoic acid (PFHxA)	149		P	40 - 160
Perfluorononanesulfonic acid (PFNS)	152		P	40 - 160
Perfluorononanoic acid (PFNA)	120		P	40 - 160
Perfluorooctanesulfonic acid (PFOS)	113		P	40 - 160
Perfluorooctanoic acid (PFOA)	152		P	40 - 160
Perfluoropentanesulfonic acid (PFPeS)	150		P	40 - 160
Perfluoropentanoic acid (PFPeA)	140		P	40 - 160
Perfluorotetradecanoic acid (PFTeA)	146		P	40 - 160
Perfluorotridecanoic acid (PFTriA)	130		P	40 - 160
Perfluoroundecanoic acid (PFUnA)	128		P	40 - 160

Reference Method: EPA 8321B
Batch ID: P379092

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	109		P	40 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	129		P	40 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	147		P	40 - 160
N-Et perfluorooctanesulfonamidoAc acid	148		P	40 - 160
N-Me perfluorooctanesulfonamidoAc acid	144		P	40 - 160
Perfluorobutanesulfonic acid (PFBS)	127		P	40 - 160
Perfluorodecanesulfonic acid (PFDS)	147		P	40 - 160
Perfluorodecanoic acid (PFDA)	154		P	40 - 160
Perfluorododecanoic acid (PFDoA)	132		P	40 - 160
Perfluoroheptanesulfonic acid (PFHpS)	158		P	40 - 160
Perfluoroheptanoic acid (PFHpA)	144		P	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	153		P	40 - 160
Perfluorononanesulfonic acid (PFNS)	123		P	40 - 160
Perfluorononanoic acid (PFNA)	159		P	40 - 160
Perfluorooctanesulfonic acid (PFOS)	128		P	40 - 160
Perfluorooctanoic acid (PFOA)	121		P	40 - 160
Perfluoropentanesulfonic acid (PFPeS)	151		P	40 - 160
Perfluoropentanoic acid (PFPeA)	152		P	40 - 160
Perfluorotetradecanoic acid (PFTeA)	123		P	40 - 160
Perfluorotridecanoic acid (PFTriA)	158		P	40 - 160
Perfluoroundecanoic acid (PFUnA)	132		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P379093

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	76.0		P	40 - 150
6:2 Fluorotelomer sulfonate (6:2 FTS)	94.7		P	40 - 150
8:2 Fluorotelomer sulfonate (8:2 FTS)	88.0		P	40 - 150
N-Et perfluorooctanesulfonamidoAc acid	76.4		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	85.1		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	113		P	40 - 150
Perfluorodecanesulfonic acid (PFDS)	93.4		P	40 - 150
Perfluorodecanoic acid (PFDA)	106		P	40 - 150
Perfluorododecanoic acid (PFDoA)	146		P	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	80.0		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	93.4		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	123		P	40 - 150
Perfluorohexanoic acid (PFHxA)	126		P	40 - 150
Perfluorononanesulfonic acid (PFNS)	112		P	40 - 150
Perfluorononanoic acid (PFNA)	76.1		P	40 - 150
Perfluorooctanesulfonic acid (PFOS)	104		P	40 - 150
Perfluorooctanoic acid (PFOA)	80.6		P	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	86.1		P	40 - 150
Perfluoropentanoic acid (PFPeA)	106		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	91.7		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	92.4		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	110		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P379487

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	110	120	P/P	30 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	159	136	P/P	30 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	156	124	P/P	30 - 160
N-Et perfluorooctanesulfonamidoAc acid	95.3	77.6	P/P	30 - 160
N-Me perfluorooctanesulfonamidoAc acid	73.6	73.8	P/P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	117	122	P/P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	70.6	69.6	P/P	30 - 160
Perfluorodecanoic acid (PFDA)	88.5	84.8	P/P	30 - 160
Perfluorododecanoic acid (PFDoA)	84.1	66.7	P/P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	76.9	83.7	P/P	30 - 160
Perfluoroheptanoic acid (PFHpA)	99.8	94.8	P/P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	98.5	96.5	P/P	30 - 160
Perfluorohexanoic acid (PFHxA)	88.6	94.3	P/P	30 - 160
Perfluorononanesulfonic acid (PFNS)	93.6	95.5	P/P	30 - 160
Perfluorononanoic acid (PFNA)	122	108	P/P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	85.4	83.9	P/P	30 - 160
Perfluorooctanoic acid (PFOA)	88.8	90.2	P/P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	85.5	88.2	P/P	30 - 160
Perfluoropentanoic acid (PFPeA)	109	94.5	P/P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	47.0	46.9	P/P	30 - 160
Perfluorotridecanoic acid (PFTriA)	53.7	41.8	P/P	30 - 160
Perfluoroundecanoic acid (PFUnA)	102	91.4	P/P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P379634

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	93.2		P	40 - 150
6:2 Fluorotelomer sulfonate (6:2 FTS)	86.6		P	40 - 150
8:2 Fluorotelomer sulfonate (8:2 FTS)	145		P	40 - 150
N-Et perfluorooctanesulfonamidoAc acid	99.7		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	91.2		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	90.7		P	40 - 150
Perfluorodecanesulfonic acid (PFDS)	125		P	40 - 150
Perfluorodecanoic acid (PFDA)	76.7		P	40 - 150
Perfluorododecanoic acid (PFDoA)	82.9		P	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	99.7		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	79.3		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	80.3		P	40 - 150
Perfluorohexanoic acid (PFHxA)	72.2		P	40 - 150
Perfluorononanesulfonic acid (PFNS)	85.4		P	40 - 150
Perfluorononanoic acid (PFNA)	93.0		P	40 - 150
Perfluorooctanesulfonic acid (PFOS)	83.6		P	40 - 150
Perfluorooctanoic acid (PFOA)	114		P	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	142		P	40 - 150
Perfluoropentanoic acid (PFPeA)	110		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	80.3		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	104		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	97.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P381021

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	84.9		P	30 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	127		P	30 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	114		P	30 - 160
N-Et perfluorooctanesulfonamidoAc acid	125		P	30 - 160
N-Me perfluorooctanesulfonamidoAc acid	120		P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	137		P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	114		P	30 - 160
Perfluorodecanoic acid (PFDA)	76.0		P	30 - 160
Perfluorododecanoic acid (PFDoA)	113		P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	73.1		P	30 - 160
Perfluoroheptanoic acid (PFHpA)	84.9		P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	120		P	30 - 160
Perfluorohexanoic acid (PFHxA)	95.9		P	30 - 160
Perfluorononanesulfonic acid (PFNS)	73.0		P	30 - 160
Perfluorononanoic acid (PFNA)	112		P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	95.0		P	30 - 160
Perfluorooctanoic acid (PFOA)	75.1		P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	93.2		P	30 - 160
Perfluoropentanoic acid (PFPeA)	112		P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	64.2		P	30 - 160
Perfluorotridecanoic acid (PFTriA)	82.4		P	30 - 160
Perfluoroundecanoic acid (PFUnA)	89.0		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 6020A
Batch ID: P379203

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158300	Arsenic	104	103	P/P	80 - 120
2158300	Barium	103	99.6	P/P	80 - 120
2158300	Cadmium	107	104	P/P	80 - 120
2158300	Chromium	103	100	P/P	80 - 120
2158300	Lead	99.7	98.0	P/P	80 - 120
2158300	Selenium	98.4	98.9	P/P	80 - 120
2158300	Silver	105	104	P/P	80 - 120
2158951	Arsenic	105		P	80 - 120
2158951	Barium	102		P	80 - 120
2158951	Cadmium	108		P	80 - 120
2158951	Chromium	101		P	80 - 120
2158951	Lead	100		P	80 - 120
2158951	Selenium	101		P	80 - 120
2158951	Silver	104		P	80 - 120

Reference Method: EPA 7473
Batch ID: P379133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158230	Mercury	101	102	P/P	80 - 120

Reference Method: EPA 8260D
Batch ID: P379514

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159749	1,1-Dichloroethane	102	107	P/P	70 - 130
2159749	1,1-Dichloroethene	93.8	96.4	P/P	70 - 130
2159749	1,1,1-Trichloroethane	103	103	P/P	70 - 130
2159749	1,1,2-Trichloroethane	101	105	P/P	70 - 130
2159749	1,1,2,2-Tetrachloroethane	102	108	P/P	60 - 140
2159749	1,2-Dichlorobenzene	98.6	98.6	P/P	70 - 130
2159749	1,2-Dichloroethane	109	114	P/P	70 - 130
2159749	1,2-Dichloropropane	111	118	P/P	70 - 130
2159749	1,3-Dichlorobenzene	97.2	97.2	P/P	70 - 130
2159749	1,4-Dichlorobenzene	98.6	98.6	P/P	70 - 130
2159749	2-Butanone	104	109	P/P	60 - 140
2159749	Benzene	102	108	P/P	70 - 130
2159749	Bromodichloromethane	111	114	P/P	70 - 130
2159749	Bromoform	108	107	P/P	60 - 140
2159749	Bromomethane	104	96.0	P/P	60 - 140
2159749	Carbon tetrachloride	105	104	P/P	70 - 130
2159749	Chlorobenzene	103	104	P/P	70 - 130
2159749	Chloroethane	119	111	P/P	60 - 140
2159749	Chloroform	105	108	P/P	70 - 130
2159749	Chloromethane	107	101	P/P	60 - 140
2159749	cis-1,2-Dichloroethene	97.0	100	P/P	70 - 130
2159749	cis-1,3-Dichloropropene	104	106	P/P	60 - 140
2159749	Dibromochloromethane	97.0	96.1	P/P	60 - 140
2159749	Ethylbenzene	104	107	P/P	70 - 130
2159749	m,p-Xylene	105	108	P/P	70 - 130
2159749	Methyl-t-butyl ether	105	106	P/P	70 - 130
2159749	Methylene chloride	109	113	P/P	70 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8260D
Batch ID: P379514

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159749	o-Xylene	106	108	P/P	70 - 130
2159749	Tetrachloroethene	101	98.2	P/P	70 - 130
2159749	Toluene	115	119	P/P	70 - 130
2159749	trans-1,2-Dichloroethene	108	113	P/P	70 - 130
2159749	trans-1,3-Dichloropropene	92.1	92.9	P/P	60 - 140
2159749	Trichloroethene	106	109	P/P	70 - 130
2159749	Trichlorofluoromethane	114	106	P/P	60 - 140
2159749	Vinyl chloride	120	111	P/P	60 - 140

Reference Method: EPA 8321B
Batch ID: P378998

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2156027	4:2 Fluorotelomer sulfonate (4:2 FTS)	65.3	99.1	P/P	40 - 160
2156027	6:2 Fluorotelomer sulfonate (6:2 FTS)	54.0	91.0	P/P	40 - 160
2156027	8:2 Fluorotelomer sulfonate (8:2 FTS)	61.3	96.6	P/P	40 - 160
2156027	N-Et perfluorooctanesulfonamidoAc acid	55.5	87.8	P/P	40 - 160
2156027	N-Me perfluorooctanesulfonamidoAc acid	60.9	97.7	P/P	40 - 160
2156027	Perfluorobutanesulfonic acid (PFBS)	79.5	128	P/P	40 - 160
2156027	Perfluorodecanesulfonic acid (PFDS)	65.7	99.6	P/P	40 - 160
2156027	Perfluorodecanoic acid (PFDA)	60.3	105	P/P	40 - 160
2156027	Perfluorododecanoic acid (PFDoA)	74.0	117	P/P	40 - 160
2156027	Perfluoroheptanesulfonic acid (PFHpS)	62.6	90.3	P/P	40 - 160
2156027	Perfluoroheptanoic acid (PFHpA)	56.2	94.7	P/P	40 - 160
2156027	Perfluorohexanesulfonic acid (PFHxS)	66.8	116	P/P	40 - 160
2156027	Perfluorohexanoic acid (PFHxA)	77.4	132	P/P	40 - 160
2156027	Perfluorononanesulfonic acid (PFNS)	70.2	118	P/P	40 - 160
2156027	Perfluorononanoic acid (PFNA)	48.9	81.4	P/P	40 - 160
2156027	Perfluorooctanoic acid (PFOA)	43.4	81.7	P/P	40 - 160
2156027	Perfluoropentanesulfonic acid (PFPeS)	74.1	106	P/P	40 - 160
2156027	Perfluoropentanoic acid (PFPeA)	39.2	83.6	F/P	40 - 160
2156027	Perfluorotetradecanoic acid (PFTeA)	77.3	90.2	P/P	40 - 160
2156027	Perfluorotridecanoic acid (PFTriA)	61.6	72.1	P/P	40 - 160
2156027	Perfluoroundecanoic acid (PFUnA)	80.3	126	P/P	40 - 160

Reference Method: EPA 8321B
Batch ID: P379087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157970	4:2 Fluorotelomer sulfonate (4:2 FTS)	102	109	P/P	40 - 150
2157970	6:2 Fluorotelomer sulfonate (6:2 FTS)	114	136	P/P	40 - 150
2157970	8:2 Fluorotelomer sulfonate (8:2 FTS)	129	171	P/F	40 - 150
2157970	N-Et perfluorooctanesulfonamidoAc acid	68.3	80.7	P/P	40 - 150
2157970	N-Me perfluorooctanesulfonamidoAc acid	53.8	70.5	P/P	40 - 150
2157970	Perfluorobutanesulfonic acid (PFBS)	117	126	P/P	40 - 150
2157970	Perfluorodecanesulfonic acid (PFDS)	122	153	P/F	40 - 150
2157970	Perfluorodecanoic acid (PFDA)	126	162	P/F	40 - 150
2157970	Perfluorododecanoic acid (PFDoA)	100	111	P/P	40 - 150
2157970	Perfluoroheptanesulfonic acid (PFHpS)	94.2	130	P/P	40 - 150
2157970	Perfluoroheptanoic acid (PFHpA)	83.0	148	P/P	40 - 150
2157970	Perfluorohexanoic acid (PFHxA)	98.0	95.1	P/P	40 - 150
2157970	Perfluorononanesulfonic acid (PFNS)	98.7	115	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P379087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157970	Perfluorononanoic acid (PFNA)	91.7	210	P/F	40 - 150
2157970	Perfluorooctanoic acid (PFOA)	93.6	182	P/F	40 - 150
2157970	Perfluoropentanesulfonic acid (PFPeS)	112	147	P/P	40 - 150
2157970	Perfluoropentanoic acid (PFPeA)	133	145	P/P	40 - 150
2157970	Perfluorotetradecanoic acid (PFTeA)	91.7	105	P/P	40 - 150
2157970	Perfluorotridecanoic acid (PFTriA)	102	133	P/P	40 - 150
2157970	Perfluoroundecanoic acid (PFUnA)	111	126	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P379089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158024	4:2 Fluorotelomer sulfonate (4:2 FTS)	159	148	F/P	40 - 150
2158024	6:2 Fluorotelomer sulfonate (6:2 FTS)	119	79.7	P/P	40 - 150
2158024	N-Et perfluorooctanesulfonamidoAc acid	104	83.8	P/P	40 - 150
2158024	N-Me perfluorooctanesulfonamidoAc acid	101	89.2	P/P	40 - 150
2158024	Perfluorobutanesulfonic acid (PFBS)	146	115	P/P	40 - 150
2158024	Perfluorodecanesulfonic acid (PFDS)	141	118	P/P	40 - 150
2158024	Perfluorododecanoic acid (PFDoA)	82.4	126	P/P	40 - 150
2158024	Perfluoroheptanesulfonic acid (PFHpS)	100	85.2	P/P	40 - 150
2158024	Perfluorohexanesulfonic acid (PFHxS)	139	106	P/P	40 - 150
2158024	Perfluorohexanoic acid (PFHxA)	112	81.5	P/P	40 - 150
2158024	Perfluorononanesulfonic acid (PFNS)	129	100	P/P	40 - 150
2158024	Perfluorooctanesulfonic acid (PFOS)	162	128	F/P	40 - 150
2158024	Perfluorooctanoic acid (PFOA)	118	65.4	P/P	40 - 150
2158024	Perfluoropentanesulfonic acid (PFPeS)	136	111	P/P	40 - 150
2158024	Perfluorotetradecanoic acid (PFTeA)	136	118	P/P	40 - 150
2158024	Perfluorotridecanoic acid (PFTriA)	173	127	F/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P379090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158068	4:2 Fluorotelomer sulfonate (4:2 FTS)	116	86.0	P/P	40 - 160
2158068	6:2 Fluorotelomer sulfonate (6:2 FTS)	110	89.6	P/P	40 - 160
2158068	8:2 Fluorotelomer sulfonate (8:2 FTS)	106	95.6	P/P	40 - 160
2158068	N-Et perfluorooctanesulfonamidoAc acid	82.6	70.7	P/P	40 - 160
2158068	N-Me perfluorooctanesulfonamidoAc acid	67.5	62.6	P/P	40 - 160
2158068	Perfluorobutanesulfonic acid (PFBS)	109	98.8	P/P	40 - 160
2158068	Perfluorodecanesulfonic acid (PFDS)	107	92.5	P/P	40 - 160
2158068	Perfluorodecanoic acid (PFDA)	123	110	P/P	40 - 160
2158068	Perfluorododecanoic acid (PFDoA)	154	218	P/F	40 - 160
2158068	Perfluoroheptanesulfonic acid (PFHpS)	110	91.5	P/P	40 - 160
2158068	Perfluoroheptanoic acid (PFHpA)	122	164	P/F	40 - 160
2158068	Perfluorohexanesulfonic acid (PFHxS)	129	118	P/P	40 - 160
2158068	Perfluorohexanoic acid (PFHxA)	126	238	P/F	40 - 160
2158068	Perfluorononanesulfonic acid (PFNS)	120	107	P/P	40 - 160
2158068	Perfluorononanoic acid (PFNA)	131	180	P/F	40 - 160
2158068	Perfluorooctanesulfonic acid (PFOS)	112	72.0	P/P	40 - 160
2158068	Perfluorooctanoic acid (PFOA)	97.8	145	P/P	40 - 160
2158068	Perfluoropentanesulfonic acid (PFPeS)	111	121	P/P	40 - 160
2158068	Perfluoropentanoic acid (PFPeA)	133	196	P/F	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P379090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158068	Perfluorotetradecanoic acid (PFTeA)	112	136	P/P	40 - 160
2158068	Perfluorotridecanoic acid (PFTriA)	101	109	P/P	40 - 160
2158068	Perfluoroundecanoic acid (PFUnA)	93.8	110	P/P	40 - 160

Reference Method: EPA 8321B
Batch ID: P379091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158113	4:2 Fluorotelomer sulfonate (4:2 FTS)	139	143	P/P	40 - 160
2158113	6:2 Fluorotelomer sulfonate (6:2 FTS)	121	126	P/P	40 - 160
2158113	8:2 Fluorotelomer sulfonate (8:2 FTS)	139	144	P/P	40 - 160
2158113	N-Et perfluorooctanesulfonamidoAc acid	34.8	31.8	F/F	40 - 160
2158113	N-Me perfluorooctanesulfonamidoAc acid	30.7	27.3	F/F	40 - 160
2158113	Perfluorobutanesulfonic acid (PFBS)	137	136	P/P	40 - 160
2158113	Perfluorodecanesulfonic acid (PFDS)	121	125	P/P	40 - 160
2158113	Perfluorodecanoic acid (PFDA)	116	147	P/P	40 - 160
2158113	Perfluorododecanoic acid (PFDoA)	74.0	116	P/P	40 - 160
2158113	Perfluoroheptanesulfonic acid (PFHpS)	129	139	P/P	40 - 160
2158113	Perfluoroheptanoic acid (PFHpA)	91.7	106	P/P	40 - 160
2158113	Perfluorohexanesulfonic acid (PFHxS)	84.2	89.5	P/P	40 - 160
2158113	Perfluorononanesulfonic acid (PFNS)	94.8	98.8	P/P	40 - 160
2158113	Perfluorononanoic acid (PFNA)	102	146	P/P	40 - 160
2158113	Perfluorooctanesulfonic acid (PFOS)	106	101	P/P	40 - 160
2158113	Perfluorooctanoic acid (PFOA)	109	153	P/P	40 - 160
2158113	Perfluoropentanesulfonic acid (PFPeS)	136	139	P/P	40 - 160
2158113	Perfluoropentanoic acid (PFPeA)	60.3	143	P/P	40 - 160
2158113	Perfluorotetradecanoic acid (PFTeA)	93.0	110	P/P	40 - 160
2158113	Perfluorotridecanoic acid (PFTriA)	80.9	121	P/P	40 - 160
2158113	Perfluoroundecanoic acid (PFUnA)	96.7	122	P/P	40 - 160

Reference Method: EPA 8321B
Batch ID: P379092

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158183	4:2 Fluorotelomer sulfonate (4:2 FTS)	98.2	76.9	P/P	40 - 160
2158183	8:2 Fluorotelomer sulfonate (8:2 FTS)	103	91.6	P/P	40 - 160
2158183	N-Et perfluorooctanesulfonamidoAc acid	48.5	46.5	P/P	40 - 160
2158183	N-Me perfluorooctanesulfonamidoAc acid	31.8	35.2	F/F	40 - 160
2158183	Perfluorobutanesulfonic acid (PFBS)	84.2	84.7	P/P	40 - 160
2158183	Perfluorodecanesulfonic acid (PFDS)	110	111	P/P	40 - 160
2158183	Perfluorodecanoic acid (PFDA)	104	88.1	P/P	40 - 160
2158183	Perfluorododecanoic acid (PFDoA)	113	107	P/P	40 - 160
2158183	Perfluoroheptanesulfonic acid (PFHpS)	130	123	P/P	40 - 160
2158183	Perfluoroheptanoic acid (PFHpA)	92.8	90.4	P/P	40 - 160
2158183	Perfluorohexanesulfonic acid (PFHxS)	119	140	P/P	40 - 160
2158183	Perfluorononanesulfonic acid (PFNS)	92.8	90.4	P/P	40 - 160
2158183	Perfluorononanoic acid (PFNA)	119	140	P/P	40 - 160
2158183	Perfluorooctanesulfonic acid (PFOS)	77.0	52.1	P/P	40 - 160
2158183	Perfluorooctanoic acid (PFOA)	77.0	52.1	P/P	40 - 160
2158183	Perfluorotetradecanoic acid (PFTeA)	87.8	95.7	P/P	40 - 160
2158183	Perfluorotridecanoic acid (PFTriA)	119	104	P/P	40 - 160
2158183	Perfluoroundecanoic acid (PFUnA)	133	107	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P379093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157879	4:2 Fluorotelomer sulfonate (4:2 FTS)	74.4	70.6	P/P	40 - 150
2157879	6:2 Fluorotelomer sulfonate (6:2 FTS)	72.9	86.0	P/P	40 - 150
2157879	8:2 Fluorotelomer sulfonate (8:2 FTS)	88.2	91.8	P/P	40 - 150
2157879	N-Et perfluorooctanesulfonamidoAc acid	64.5	69.2	P/P	40 - 150
2157879	N-Me perfluorooctanesulfonamidoAc acid	65.1	74.3	P/P	40 - 150
2157879	Perfluorobutanesulfonic acid (PFBS)	102	112	P/P	40 - 150
2157879	Perfluorodecanesulfonic acid (PFDS)	85.6	91.9	P/P	40 - 150
2157879	Perfluorodecanoic acid (PFDA)	88.2	103	P/P	40 - 150
2157879	Perfluorododecanoic acid (PFDoA)	79.2	111	P/P	40 - 150
2157879	Perfluoroheptanesulfonic acid (PFHpS)	71.9	78.0	P/P	40 - 150
2157879	Perfluoroheptanoic acid (PFHpA)	72.0	119	P/P	40 - 150
2157879	Perfluorohexanesulfonic acid (PFHxS)	95.7	117	P/P	40 - 150
2157879	Perfluorohexanoic acid (PFHxA)	102	110	P/P	40 - 150
2157879	Perfluorononanesulfonic acid (PFNS)	93.3	103	P/P	40 - 150
2157879	Perfluorononanoic acid (PFNA)	58.3	75.8	P/P	40 - 150
2157879	Perfluorooctanesulfonic acid (PFOS)	90.3	129	P/P	40 - 150
2157879	Perfluorooctanoic acid (PFOA)	54.0	72.2	P/P	40 - 150
2157879	Perfluoropentanesulfonic acid (PFPeS)	83.7	85.4	P/P	40 - 150
2157879	Perfluoropentanoic acid (PFPeA)	73.9	79.6	P/P	40 - 150
2157879	Perfluorotetradecanoic acid (PFTeA)	80.8	107	P/P	40 - 150
2157879	Perfluorotridecanoic acid (PFTriA)	81.9	103	P/P	40 - 150
2157879	Perfluoroundecanoic acid (PFUnA)	99.5	130	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P379634

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158224	4:2 Fluorotelomer sulfonate (4:2 FTS)	122	120	P/P	40 - 160
2158224	6:2 Fluorotelomer sulfonate (6:2 FTS)	126	123	P/P	40 - 160
2158224	8:2 Fluorotelomer sulfonate (8:2 FTS)	138	137	P/P	40 - 160
2158224	N-Et perfluorooctanesulfonamidoAc acid	92.1	96.1	P/P	40 - 160
2158224	N-Me perfluorooctanesulfonamidoAc acid	110	110	P/P	40 - 160
2158224	Perfluorobutanesulfonic acid (PFBS)	114	112	P/P	40 - 160
2158224	Perfluorodecanesulfonic acid (PFDS)	108	114	P/P	40 - 160
2158224	Perfluorodecanoic acid (PFDA)	177	134	F/P	40 - 160
2158224	Perfluorododecanoic acid (PFDoA)	89.3	108	P/P	40 - 160
2158224	Perfluoroheptanesulfonic acid (PFHpS)	113	108	P/P	40 - 160
2158224	Perfluoroheptanoic acid (PFHpA)	97.6	135	P/P	40 - 160
2158224	Perfluorohexanesulfonic acid (PFHxS)	89.5	92.9	P/P	40 - 160
2158224	Perfluorohexanoic acid (PFHxA)	78.5	100	P/P	40 - 160
2158224	Perfluorononanesulfonic acid (PFNS)	82.9	86.2	P/P	40 - 160
2158224	Perfluorononanoic acid (PFNA)	105	117	P/P	40 - 160
2158224	Perfluorooctanesulfonic acid (PFOS)	77.8	87.8	P/P	40 - 160
2158224	Perfluorooctanoic acid (PFOA)	107	135	P/P	40 - 160
2158224	Perfluoropentanesulfonic acid (PFPeS)	110	113	P/P	40 - 160
2158224	Perfluoropentanoic acid (PFPeA)	93.4	124	P/P	40 - 160
2158224	Perfluorotetradecanoic acid (PFTeA)	93.1	110	P/P	40 - 160
2158224	Perfluorotridecanoic acid (PFTriA)	104	145	P/P	40 - 160
2158224	Perfluoroundecanoic acid (PFUnA)	95.3	121	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P381021

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157742	4:2 Fluorotelomer sulfonate (4:2 FTS)	182	191	F/F	30 - 160
2157742	6:2 Fluorotelomer sulfonate (6:2 FTS)	133	125	P/P	30 - 160
2157742	8:2 Fluorotelomer sulfonate (8:2 FTS)	219	192	F/F	30 - 160
2157742	N-Et perfluorooctanesulfonamidoAc acid	107	103	P/P	30 - 160
2157742	N-Me perfluorooctanesulfonamidoAc acid	143	128	P/P	30 - 160
2157742	Perfluorobutanesulfonic acid (PFBS)	158	152	P/P	30 - 160
2157742	Perfluorodecanesulfonic acid (PFDS)	97.5	91.7	P/P	30 - 160
2157742	Perfluorodecanoic acid (PFDA)	89.2	117	P/P	30 - 160
2157742	Perfluorododecanoic acid (PFDoA)	120	129	P/P	30 - 160
2157742	Perfluoroheptanesulfonic acid (PFHpS)	134	139	P/P	30 - 160
2157742	Perfluoroheptanoic acid (PFHpA)	91.5	119	P/P	30 - 160
2157742	Perfluorohexanesulfonic acid (PFHxS)	178	180	F/F	30 - 160
2157742	Perfluorohexanoic acid (PFHxA)	145	130	P/P	30 - 160
2157742	Perfluorononanesulfonic acid (PFNS)	111	110	P/P	30 - 160
2157742	Perfluorononanoic acid (PFNA)	116	112	P/P	30 - 160
2157742	Perfluorooctanesulfonic acid (PFOS)	97.0	89.9	P/P	30 - 160
2157742	Perfluorooctanoic acid (PFOA)	134	122	P/P	30 - 160
2157742	Perfluoropentanesulfonic acid (PFPeS)	159	146	P/P	30 - 160
2157742	Perfluoropentanoic acid (PFPeA)	182	139	F/P	30 - 160
2157742	Perfluorotetradecanoic acid (PFTeA)	94.6	113	P/P	30 - 160
2157742	Perfluorotridecanoic acid (PFTriA)	102	86.6	P/P	30 - 160
2157742	Perfluoroundecanoic acid (PFUnA)	134	117	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 6020A
 Batch ID: P379203

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158300	Arsenic	1.56	Spike	P	0 - 20
2158300	Barium	2.73	Spike	P	0 - 20
2158300	Cadmium	2.58	Spike	P	0 - 20
2158300	Chromium	2.39	Spike	P	0 - 20
2158300	Lead	1.76	Spike	P	0 - 20
2158300	Selenium	0.497	Spike	P	0 - 20
2158300	Silver	1.20	Spike	P	0 - 20

Reference Method: EPA 7473
 Batch ID: P379133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158230	Mercury	0.390	Spike	P	0 - 20

Reference Method: EPA 8260D
 Batch ID: P379514

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159749	1,1-Dichloroethane	4.60	Spike	P	0 - 30
2159749	1,1-Dichloroethene	2.73	Spike	P	0 - 30
2159749	1,1,1-Trichloroethane	0.0	Spike	P	0 - 30
2159749	1,1,2-Trichloroethane	4.12	Spike	P	0 - 30
2159749	1,1,2,2-Tetrachloroethane	5.86	Spike	P	0 - 30
2159749	1,2-Dichlorobenzene	0.101	Spike	P	0 - 30
2159749	1,2-Dichloroethane	4.57	Spike	P	0 - 30
2159749	1,2-Dichloropropane	6.11	Spike	P	0 - 30
2159749	1,3-Dichlorobenzene	0.103	Spike	P	0 - 30
2159749	1,4-Dichlorobenzene	0.101	Spike	P	0 - 30
2159749	2-Butanone	4.54	Spike	P	0 - 30
2159749	Benzene	5.25	Spike	P	0 - 30
2159749	Bromodichloromethane	2.63	Spike	P	0 - 30
2159749	Bromoform	1.44	Spike	P	0 - 30
2159749	Bromomethane	7.72	Spike	P	0 - 30
2159749	Carbon tetrachloride	0.961	Spike	P	0 - 30
2159749	Chlorobenzene	1.54	Spike	P	0 - 30
2159749	Chloroethane	7.04	Spike	P	0 - 30
2159749	Chloroform	2.77	Spike	P	0 - 30
2159749	Chloromethane	5.87	Spike	P	0 - 30
2159749	cis-1,2-Dichloroethene	3.34	Spike	P	0 - 30
2159749	cis-1,3-Dichloropropene	2.09	Spike	P	0 - 30
2159749	Dibromochloromethane	0.881	Spike	P	0 - 30
2159749	Ethylbenzene	2.47	Spike	P	0 - 30
2159749	m,p-Xylene	2.82	Spike	P	0 - 30
2159749	Methyl-t-butyl ether	0.332	Spike	P	0 - 30
2159749	Methylene chloride	3.75	Spike	P	0 - 30
2159749	o-Xylene	1.87	Spike	P	0 - 30
2159749	Tetrachloroethene	2.64	Spike	P	0 - 30
2159749	Toluene	3.12	Spike	P	0 - 30
2159749	trans-1,2-Dichloroethene	3.89	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8260D
 Batch ID: P379514

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159749	trans-1,3-Dichloropropene	0.865	Spike	P	0 - 30
2159749	Trichloroethene	2.83	Spike	P	0 - 30
2159749	Trichlorofluoromethane	7.10	Spike	P	0 - 30
2159749	Vinyl chloride	7.90	Spike	P	0 - 30
LFB	1,1-Dichloroethane	7.77	LCS	P	0 - 30
LFB	1,1-Dichloroethene	2.72	LCS	P	0 - 30
LFB	1,1,1-Trichloroethane	2.91	LCS	P	0 - 30
LFB	1,1,2-Trichloroethane	0.722	LCS	P	0 - 30
LFB	1,1,2,2-Tetrachloroethane	2.01	LCS	P	0 - 30
LFB	1,2-Dichlorobenzene	4.26	LCS	P	0 - 30
LFB	1,2-Dichloroethane	1.54	LCS	P	0 - 30
LFB	1,2-Dichloropropane	1.33	LCS	P	0 - 30
LFB	1,3-Dichlorobenzene	1.11	LCS	P	0 - 30
LFB	1,4-Dichlorobenzene	4.26	LCS	P	0 - 30
LFB	2-Butanone	1.67	LCS	P	0 - 30
LFB	Benzene	1.48	LCS	P	0 - 30
LFB	Bromodichloromethane	2.15	LCS	P	0 - 30
LFB	Bromoform	2.60	LCS	P	0 - 30
LFB	Bromomethane	4.48	LCS	P	0 - 30
LFB	Carbon tetrachloride	3.61	LCS	P	0 - 30
LFB	Chlorobenzene	0.383	LCS	P	0 - 30
LFB	Chloroethane	3.12	LCS	P	0 - 30
LFB	Chloroform	2.80	LCS	P	0 - 30
LFB	Chloromethane	2.80	LCS	P	0 - 30
LFB	cis-1,2-Dichloroethene	2.20	LCS	P	0 - 30
LFB	cis-1,3-Dichloropropene	0.143	LCS	P	0 - 30
LFB	Dibromochloromethane	0.101	LCS	P	0 - 30
LFB	Ethylbenzene	1.24	LCS	P	0 - 30
LFB	m,p-Xylene	2.07	LCS	P	0 - 30
LFB	Methyl-t-butyl ether	10.9	LCS	P	0 - 30
LFB	Methylene chloride	0.0	LCS	P	0 - 30
LFB	o-Xylene	1.28	LCS	P	0 - 30
LFB	Tetrachloroethene	1.53	LCS	P	0 - 30
LFB	Toluene	0.0431	LCS	P	0 - 30
LFB	trans-1,2-Dichloroethene	8.67	LCS	P	0 - 30
LFB	trans-1,3-Dichloropropene	0.0	LCS	P	0 - 30
LFB	Trichloroethene	3.93	LCS	P	0 - 30
LFB	Trichlorofluoromethane	4.07	LCS	P	0 - 30
LFB	Vinyl chloride	1.07	LCS	P	0 - 30

Reference Method: EPA 8270E
 Batch ID: P379006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	1-Methylnaphthalene	2.22	LCS	P	0 - 40
LFB	1-Naphthylamine	33.8	LCS	P	0 - 40
LFB	1,2,4-Trichlorobenzene	5.37	LCS	P	0 - 40
LFB	1,2,4,5-Tetrachlorobenzene	4.89	LCS	P	0 - 40
LFB	1,3-Dinitrobenzene	2.60	LCS	P	0 - 40
LFB	1,3,5-Trinitrobenzene	2.39	LCS	P	0 - 40

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P379006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	2-Acetylaminofluorene	1.67	LCS	P	0 - 40
LFB	2-Chloronaphthalene	2.19	LCS	P	0 - 40
LFB	2-Chlorophenol	8.61	LCS	P	0 - 40
LFB	2-Methyl-4,6-dinitrophenol	12.3	LCS	P	0 - 40
LFB	2-Methylnaphthalene	3.25	LCS	P	0 - 40
LFB	2-Naphthylamine	7.79	LCS	P	0 - 40
LFB	2-Nitroaniline	1.62	LCS	P	0 - 40
LFB	2-Nitrophenol	4.84	LCS	P	0 - 40
LFB	2-Picoline	5.74	LCS	P	0 - 40
LFB	2,3,4,6-Tetrachlorophenol	0.209	LCS	P	0 - 40
LFB	2,4-Dichlorophenol	1.84	LCS	P	0 - 40
LFB	2,4-Dimethylphenol	0.757	LCS	P	0 - 40
LFB	2,4-Dinitrophenol	21.0	LCS	P	0 - 40
LFB	2,4-Dinitrotoluene	1.82	LCS	P	0 - 40
LFB	2,4,5-Trichlorophenol	2.09	LCS	P	0 - 40
LFB	2,4,6-Trichlorophenol	0.994	LCS	P	0 - 40
LFB	2,6-Dichlorophenol	3.91	LCS	P	0 - 40
LFB	2,6-Dinitrotoluene	0.567	LCS	P	0 - 40
LFB	3-Methylcholanthrene	0.386	LCS	P	0 - 40
LFB	3,3'-Dichlorobenzidine	2.02	LCS	P	0 - 40
LFB	4-Aminobiphenyl	1.84	LCS	P	0 - 40
LFB	4-Bromophenyl phenyl ether	6.09	LCS	P	0 - 40
LFB	4-Chloro-3-methylphenol	3.61	LCS	P	0 - 40
LFB	4-Chlorophenyl phenyl ether	3.24	LCS	P	0 - 40
LFB	4-Nitrophenol	4.18	LCS	P	0 - 40
LFB	5-Nitro-o-toluidine	0.913	LCS	P	0 - 40
LFB	7,12-Dimethylbenz(a)anthracene	6.16	LCS	P	0 - 40
LFB	Acenaphthene	0.976	LCS	P	0 - 40
LFB	Acenaphthylene	1.02	LCS	P	0 - 40
LFB	Acetophenone	6.25	LCS	P	0 - 40
LFB	Aniline	5.68	LCS	P	0 - 40
LFB	Anthracene	4.02	LCS	P	0 - 40
LFB	Azobenzene/1,2-Diphenylhydrazine	3.80	LCS	P	0 - 40
LFB	Benzidine	12.7	LCS	P	0 - 40
LFB	Benzo(a)anthracene	0.948	LCS	P	0 - 40
LFB	Benzo(a)pyrene	0.947	LCS	P	0 - 40
LFB	Benzo(b)fluoranthene	7.03	LCS	P	0 - 40
LFB	Benzo(g,h,i)perylene	2.31	LCS	P	0 - 40
LFB	Benzo(k)fluoranthene	4.16	LCS	P	0 - 40
LFB	Benzyl alcohol	11.8	LCS	P	0 - 40
LFB	Bis(2-chloroethoxy)methane	4.07	LCS	P	0 - 40
LFB	Bis(2-chloroethyl)ether	11.7	LCS	P	0 - 40
LFB	Bis(2-chloroisopropyl)ether	8.92	LCS	P	0 - 40
LFB	Bis(2-ethylhexyl)phthalate	0.575	LCS	P	0 - 40
LFB	Butyl benzyl phthalate	2.52	LCS	P	0 - 40
LFB	Carbazole	11.2	LCS	P	0 - 40
LFB	Chrysene	3.28	LCS	P	0 - 40
LFB	Di-n-butyl phthalate	3.38	LCS	P	0 - 40
LFB	Di-n-octyl phthalate	3.61	LCS	P	0 - 40
LFB	Dibenzo(a,h)anthracene	4.84	LCS	P	0 - 40
LFB	Dibenzofuran	1.74	LCS	P	0 - 40

Quality Assurance Report Precision

Reference Method: EPA 8270E
 Batch ID: P379006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Diethyl phthalate	1.24	LCS	P	0 - 40
LFB	Dimethyl phthalate	1.04	LCS	P	0 - 40
LFB	Dimethylaminoazobenzene	0.0	LCS	P	0 - 40
LFB	Dinoseb	0.380	LCS	P	0 - 40
LFB	Ethyl methanesulfonate	9.00	LCS	P	0 - 40
LFB	Fluoranthene	3.40	LCS	P	0 - 40
LFB	Fluorene	1.39	LCS	P	0 - 40
LFB	Hexachlorobenzene	3.41	LCS	P	0 - 40
LFB	Hexachlorobutadiene	5.16	LCS	P	0 - 40
LFB	Hexachlorocyclopentadiene	2.60	LCS	P	0 - 40
LFB	Hexachloroethane	5.55	LCS	P	0 - 40
LFB	Hexachloropropene	6.39	LCS	P	0 - 40
LFB	Indeno(1,2,3-cd)pyrene	4.77	LCS	P	0 - 40
LFB	Isophorone	3.98	LCS	P	0 - 40
LFB	Isosafrole	4.08	LCS	P	0 - 40
LFB	m,p-Cresols	1.94	LCS	P	0 - 40
LFB	N-Nitrosodi-n-butylamine	6.51	LCS	P	0 - 40
LFB	N-Nitrosodi-n-propylamine	7.66	LCS	P	0 - 40
LFB	N-Nitrosodiethylamine	4.81	LCS	P	0 - 40
LFB	N-Nitrosodimethylamine	7.23	LCS	P	0 - 40
LFB	N-Nitrosodiphenylamine/ Diphenylamine	0.439	LCS	P	0 - 40
LFB	N-Nitrosomethylethylamine	11.8	LCS	P	0 - 40
LFB	N-Nitrosomorpholine	3.22	LCS	P	0 - 40
LFB	N-Nitrosopiperidine	7.67	LCS	P	0 - 40
LFB	N-Nitrosopyrrolidine	7.14	LCS	P	0 - 40
LFB	Naphthalene	5.03	LCS	P	0 - 40
LFB	Nitrobenzene	3.10	LCS	P	0 - 40
LFB	o-Cresol	8.35	LCS	P	0 - 40
LFB	o-Toluidine	0.685	LCS	P	0 - 40
LFB	Pentachlorobenzene	1.01	LCS	P	0 - 40
LFB	Pentachloroethane	8.00	LCS	P	0 - 40
LFB	Pentachloronitrobenzene	6.88	LCS	P	0 - 40
LFB	Pentachlorophenol	9.29	LCS	P	0 - 40
LFB	Phenacetin	0.589	LCS	P	0 - 40
LFB	Phenanthrene	4.52	LCS	P	0 - 40
LFB	Phenol	11.5	LCS	P	0 - 40
LFB	Pyrene	2.08	LCS	P	0 - 40
LFB	Pyridine	0.123	LCS	P	0 - 40
LFB	Safrole	4.08	LCS	P	0 - 40

Reference Method: EPA 8321B
 Batch ID: P378998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2156027	4:2 Fluorotelomer sulfonate (4:2 FTS)	41.1	Spike	F	0 - 35
2156027	6:2 Fluorotelomer sulfonate (6:2 FTS)	51.1	Spike	F	0 - 35
2156027	8:2 Fluorotelomer sulfonate (8:2 FTS)	44.7	Spike	F	0 - 35
2156027	N-Et perfluorooctanesulfonamidoAc acid	45.1	Spike	F	0 - 35
2156027	N-Me perfluorooctanesulfonamidoAc acid	46.5	Spike	F	0 - 35
2156027	Perfluorobutanesulfonic acid (PFBS)	46.5	Spike	F	0 - 35

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P378998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2156027	Perfluorodecanesulfonic acid (PFDS)	41.0	Spike	F	0 - 35
2156027	Perfluorodecanoic acid (PFDA)	49.3	Spike	F	0 - 35
2156027	Perfluorododecanoic acid (PFDoA)	45.2	Spike	F	0 - 35
2156027	Perfluoroheptanesulfonic acid (PFHpS)	36.2	Spike	F	0 - 35
2156027	Perfluoroheptanoic acid (PFHpA)	51.0	Spike	F	0 - 35
2156027	Perfluorohexanesulfonic acid (PFHxS)	43.7	Spike	F	0 - 35
2156027	Perfluorohexanoic acid (PFHxA)	52.4	Spike	F	0 - 35
2156027	Perfluorononanesulfonic acid (PFNS)	50.5	Spike	F	0 - 35
2156027	Perfluorononanoic acid (PFNA)	44.6	Spike	F	0 - 35
2156027	Perfluorooctanesulfonic acid (PFOS)	45.2	Spike	F	0 - 35
2156027	Perfluorooctanoic acid (PFOA)	53.9	Spike	F	0 - 35
2156027	Perfluoropentanesulfonic acid (PFPeS)	35.7	Spike	F	0 - 35
2156027	Perfluoropentanoic acid (PFPeA)	46.9	Spike	F	0 - 35
2156027	Perfluorotetradecanoic acid (PFTeA)	15.3	Spike	P	0 - 35
2156027	Perfluorotridecanoic acid (PFTriA)	15.7	Spike	P	0 - 35
2156027	Perfluoroundecanoic acid (PFUnA)	44.1	Spike	F	0 - 35

Reference Method: EPA 8321B
 Batch ID: P379087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157970	4:2 Fluorotelomer sulfonate (4:2 FTS)	6.07	Spike	P	0 - 35
2157970	6:2 Fluorotelomer sulfonate (6:2 FTS)	17.2	Spike	P	0 - 35
2157970	8:2 Fluorotelomer sulfonate (8:2 FTS)	28.1	Spike	P	0 - 35
2157970	N-Et perfluorooctanesulfonamidoAc acid	16.7	Spike	P	0 - 35
2157970	N-Me perfluorooctanesulfonamidoAc acid	26.9	Spike	P	0 - 35
2157970	Perfluorobutanesulfonic acid (PFBS)	7.42	Spike	P	0 - 35
2157970	Perfluorodecanesulfonic acid (PFDS)	22.4	Spike	P	0 - 35
2157970	Perfluorodecanoic acid (PFDA)	25.2	Spike	P	0 - 35
2157970	Perfluorododecanoic acid (PFDoA)	9.63	Spike	P	0 - 35
2157970	Perfluoroheptanesulfonic acid (PFHpS)	29.1	Spike	P	0 - 35
2157970	Perfluoroheptanoic acid (PFHpA)	32.7	Spike	P	0 - 35
2157970	Perfluorohexanesulfonic acid (PFHxS)	15.2	Spike	P	0 - 35
2157970	Perfluorohexanoic acid (PFHxA)	1.74	Spike	P	0 - 35
2157970	Perfluorononanesulfonic acid (PFNS)	13.5	Spike	P	0 - 35
2157970	Perfluorononanoic acid (PFNA)	47.8	Spike	F	0 - 35
2157970	Perfluorooctanesulfonic acid (PFOS)	24.4	Spike	P	0 - 35
2157970	Perfluorooctanoic acid (PFOA)	47.0	Spike	F	0 - 35
2157970	Perfluoropentanesulfonic acid (PFPeS)	25.2	Spike	P	0 - 35
2157970	Perfluoropentanoic acid (PFPeA)	5.35	Spike	P	0 - 35
2157970	Perfluorotetradecanoic acid (PFTeA)	13.4	Spike	P	0 - 35
2157970	Perfluorotridecanoic acid (PFTriA)	26.4	Spike	P	0 - 35
2157970	Perfluoroundecanoic acid (PFUnA)	12.7	Spike	P	0 - 35

Reference Method: EPA 8321B
 Batch ID: P379089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158024	4:2 Fluorotelomer sulfonate (4:2 FTS)	6.73	Spike	P	0 - 35

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P379089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158024	6:2 Fluorotelomer sulfonate (6:2 FTS)	23.6	Spike	P	0 - 35
2158024	8:2 Fluorotelomer sulfonate (8:2 FTS)	19.3	Spike	P	0 - 35
2158024	N-Et perfluorooctanesulfonamidoAc acid	21.6	Spike	P	0 - 35
2158024	N-Me perfluorooctanesulfonamidoAc acid	12.3	Spike	P	0 - 35
2158024	Perfluorobutanesulfonic acid (PFBS)	23.6	Spike	P	0 - 35
2158024	Perfluorodecanesulfonic acid (PFDS)	17.5	Spike	P	0 - 35
2158024	Perfluorodecanoic acid (PFDA)	21.1	Spike	P	0 - 35
2158024	Perfluorododecanoic acid (PFDoA)	31.2	Spike	P	0 - 35
2158024	Perfluoroheptanesulfonic acid (PFHpS)	16.3	Spike	P	0 - 35
2158024	Perfluoroheptanoic acid (PFHpA)	25.5	Spike	P	0 - 35
2158024	Perfluorohexanesulfonic acid (PFHxS)	26.8	Spike	P	0 - 35
2158024	Perfluorohexanoic acid (PFHxA)	11.7	Spike	P	0 - 35
2158024	Perfluorononanesulfonic acid (PFNS)	24.8	Spike	P	0 - 35
2158024	Perfluorononanoic acid (PFNA)	19.8	Spike	P	0 - 35
2158024	Perfluorooctanesulfonic acid (PFOS)	19.5	Spike	P	0 - 35
2158024	Perfluorooctanoic acid (PFOA)	17.1	Spike	P	0 - 35
2158024	Perfluoropentanesulfonic acid (PFPeS)	20.2	Spike	P	0 - 35
2158024	Perfluoropentanoic acid (PFPeA)	41.4	Spike	F	0 - 35
2158024	Perfluorotetradecanoic acid (PFTeA)	13.0	Spike	P	0 - 35
2158024	Perfluorotridecanoic acid (PFTriA)	28.5	Spike	P	0 - 35
2158024	Perfluoroundecanoic acid (PFUnA)	8.80	Spike	P	0 - 35

Reference Method: EPA 8321B

Batch ID: P379090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158068	4:2 Fluorotelomer sulfonate (4:2 FTS)	29.9	Spike	P	0 - 35
2158068	6:2 Fluorotelomer sulfonate (6:2 FTS)	20.2	Spike	P	0 - 35
2158068	8:2 Fluorotelomer sulfonate (8:2 FTS)	10.3	Spike	P	0 - 35
2158068	N-Et perfluorooctanesulfonamidoAc acid	15.5	Spike	P	0 - 35
2158068	N-Me perfluorooctanesulfonamidoAc acid	7.53	Spike	P	0 - 35
2158068	Perfluorobutanesulfonic acid (PFBS)	10.2	Spike	P	0 - 35
2158068	Perfluorodecanesulfonic acid (PFDS)	14.2	Spike	P	0 - 35
2158068	Perfluorodecanoic acid (PFDA)	11.6	Spike	P	0 - 35
2158068	Perfluorododecanoic acid (PFDoA)	34.2	Spike	P	0 - 35
2158068	Perfluoroheptanesulfonic acid (PFHpS)	18.1	Spike	P	0 - 35
2158068	Perfluoroheptanoic acid (PFHpA)	20.9	Spike	P	0 - 35
2158068	Perfluorohexanesulfonic acid (PFHxS)	8.15	Spike	P	0 - 35
2158068	Perfluorohexanoic acid (PFHxA)	44.2	Spike	F	0 - 35
2158068	Perfluorononanesulfonic acid (PFNS)	10.8	Spike	P	0 - 35
2158068	Perfluorononanoic acid (PFNA)	31.9	Spike	P	0 - 35
2158068	Perfluorooctanesulfonic acid (PFOS)	25.8	Spike	P	0 - 35
2158068	Perfluorooctanoic acid (PFOA)	33.1	Spike	P	0 - 35
2158068	Perfluoropentanesulfonic acid (PFPeS)	8.67	Spike	P	0 - 35
2158068	Perfluoropentanoic acid (PFPeA)	28.7	Spike	P	0 - 35
2158068	Perfluorotetradecanoic acid (PFTeA)	19.9	Spike	P	0 - 35
2158068	Perfluorotridecanoic acid (PFTriA)	7.14	Spike	P	0 - 35
2158068	Perfluoroundecanoic acid (PFUnA)	16.2	Spike	P	0 - 35

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P379091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158113	4:2 Fluorotelomer sulfonate (4:2 FTS)	2.93	Spike	P	0 - 35
2158113	6:2 Fluorotelomer sulfonate (6:2 FTS)	2.77	Spike	P	0 - 35
2158113	8:2 Fluorotelomer sulfonate (8:2 FTS)	3.04	Spike	P	0 - 35
2158113	N-Et perfluorooctanesulfonamidoAc acid	9.08	Spike	P	0 - 35
2158113	N-Me perfluorooctanesulfonamidoAc acid	11.6	Spike	P	0 - 35
2158113	Perfluorobutanesulfonic acid (PFBS)	0.693	Spike	P	0 - 35
2158113	Perfluorodecanesulfonic acid (PFDS)	3.68	Spike	P	0 - 35
2158113	Perfluorodecanoic acid (PFDA)	23.6	Spike	P	0 - 35
2158113	Perfluorododecanoic acid (PFDoA)	44.0	Spike	F	0 - 35
2158113	Perfluoroheptanesulfonic acid (PFHpS)	7.18	Spike	P	0 - 35
2158113	Perfluoroheptanoic acid (PFHpA)	7.34	Spike	P	0 - 35
2158113	Perfluorohexanesulfonic acid (PFHxS)	1.48	Spike	P	0 - 35
2158113	Perfluorohexanoic acid (PFHxA)	37.4	Spike	F	0 - 35
2158113	Perfluorononanesulfonic acid (PFNS)	4.12	Spike	P	0 - 35
2158113	Perfluorononanoic acid (PFNA)	35.7	Spike	F	0 - 35
2158113	Perfluorooctanesulfonic acid (PFOS)	3.37	Spike	P	0 - 35
2158113	Perfluorooctanoic acid (PFOA)	27.3	Spike	P	0 - 35
2158113	Perfluoropentanesulfonic acid (PFPeS)	0.973	Spike	P	0 - 35
2158113	Perfluoropentanoic acid (PFPeA)	22.9	Spike	P	0 - 35
2158113	Perfluorotetradecanoic acid (PFTeA)	16.9	Spike	P	0 - 35
2158113	Perfluorotridecanoic acid (PFTriA)	39.8	Spike	F	0 - 35
2158113	Perfluoroundecanoic acid (PFUnA)	23.2	Spike	P	0 - 35

Reference Method: EPA 8321B
 Batch ID: P379092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158183	4:2 Fluorotelomer sulfonate (4:2 FTS)	24.3	Spike	P	0 - 35
2158183	6:2 Fluorotelomer sulfonate (6:2 FTS)	32.7	Spike	P	0 - 35
2158183	8:2 Fluorotelomer sulfonate (8:2 FTS)	11.5	Spike	P	0 - 35
2158183	N-Et perfluorooctanesulfonamidoAc acid	4.28	Spike	P	0 - 35
2158183	N-Me perfluorooctanesulfonamidoAc acid	9.87	Spike	P	0 - 35
2158183	Perfluorobutanesulfonic acid (PFBS)	0.371	Spike	P	0 - 35
2158183	Perfluorodecanesulfonic acid (PFDS)	0.642	Spike	P	0 - 35
2158183	Perfluorodecanoic acid (PFDA)	16.4	Spike	P	0 - 35
2158183	Perfluorododecanoic acid (PFDoA)	5.53	Spike	P	0 - 35
2158183	Perfluoroheptanesulfonic acid (PFHpS)	3.71	Spike	P	0 - 35
2158183	Perfluoroheptanoic acid (PFHpA)	16.4	Spike	P	0 - 35
2158183	Perfluorohexanesulfonic acid (PFHxS)	10.5	Spike	P	0 - 35
2158183	Perfluorohexanoic acid (PFHxA)	19.8	Spike	P	0 - 35
2158183	Perfluorononanesulfonic acid (PFNS)	2.63	Spike	P	0 - 35
2158183	Perfluorononanoic acid (PFNA)	13.4	Spike	P	0 - 35
2158183	Perfluorooctanesulfonic acid (PFOS)	14.0	Spike	P	0 - 35
2158183	Perfluorooctanoic acid (PFOA)	16.6	Spike	P	0 - 35
2158183	Perfluoropentanesulfonic acid (PFPeS)	10.8	Spike	P	0 - 35
2158183	Perfluoropentanoic acid (PFPeA)	18.7	Spike	P	0 - 35
2158183	Perfluorotetradecanoic acid (PFTeA)	8.60	Spike	P	0 - 35
2158183	Perfluorotridecanoic acid (PFTriA)	13.5	Spike	P	0 - 35
2158183	Perfluoroundecanoic acid (PFUnA)	21.5	Spike	P	0 - 35

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P379093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157879	4:2 Fluorotelomer sulfonate (4:2 FTS)	5.14	Spike	P	0 - 35
2157879	6:2 Fluorotelomer sulfonate (6:2 FTS)	16.5	Spike	P	0 - 35
2157879	8:2 Fluorotelomer sulfonate (8:2 FTS)	3.97	Spike	P	0 - 35
2157879	N-Et perfluorooctanesulfonamidoAc acid	7.11	Spike	P	0 - 35
2157879	N-Me perfluorooctanesulfonamidoAc acid	13.2	Spike	P	0 - 35
2157879	Perfluorobutanesulfonic acid (PFBS)	8.93	Spike	P	0 - 35
2157879	Perfluorodecanesulfonic acid (PFDS)	7.05	Spike	P	0 - 35
2157879	Perfluorodecanoic acid (PFDA)	11.0	Spike	P	0 - 35
2157879	Perfluorododecanoic acid (PFDoA)	30.1	Spike	P	0 - 35
2157879	Perfluoroheptanesulfonic acid (PFHpS)	8.14	Spike	P	0 - 35
2157879	Perfluoroheptanoic acid (PFHpA)	43.3	Spike	F	0 - 35
2157879	Perfluorohexanesulfonic acid (PFHxS)	17.5	Spike	P	0 - 35
2157879	Perfluorohexanoic acid (PFHxA)	6.15	Spike	P	0 - 35
2157879	Perfluorononanesulfonic acid (PFNS)	10.1	Spike	P	0 - 35
2157879	Perfluorononanoic acid (PFNA)	20.3	Spike	P	0 - 35
2157879	Perfluorooctanesulfonic acid (PFOS)	12.0	Spike	P	0 - 35
2157879	Perfluorooctanoic acid (PFOA)	23.4	Spike	P	0 - 35
2157879	Perfluoropentanesulfonic acid (PFPeS)	2.09	Spike	P	0 - 35
2157879	Perfluoropentanoic acid (PFPeA)	4.33	Spike	P	0 - 35
2157879	Perfluorotetradecanoic acid (PFTeA)	27.7	Spike	P	0 - 35
2157879	Perfluorotridecanoic acid (PFTriA)	23.1	Spike	P	0 - 35
2157879	Perfluoroundecanoic acid (PFUnA)	22.5	Spike	P	0 - 35

Reference Method: EPA 8321B
 Batch ID: P379487

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	4:2 Fluorotelomer sulfonate (4:2 FTS)	9.06	LCS	P	0 - 30
LFB	6:2 Fluorotelomer sulfonate (6:2 FTS)	15.8	LCS	P	0 - 30
LFB	8:2 Fluorotelomer sulfonate (8:2 FTS)	23.0	LCS	P	0 - 30
LFB	N-Et perfluorooctanesulfonamidoAc acid	20.5	LCS	P	0 - 30
LFB	N-Me perfluorooctanesulfonamidoAc acid	0.259	LCS	P	0 - 30
LFB	Perfluorobutanesulfonic acid (PFBS)	4.31	LCS	P	0 - 30
LFB	Perfluorodecanesulfonic acid (PFDS)	1.46	LCS	P	0 - 30
LFB	Perfluorodecanoic acid (PFDA)	4.27	LCS	P	0 - 30
LFB	Perfluorododecanoic acid (PFDoA)	23.0	LCS	P	0 - 30
LFB	Perfluoroheptanesulfonic acid (PFHpS)	8.42	LCS	P	0 - 30
LFB	Perfluoroheptanoic acid (PFHpA)	5.18	LCS	P	0 - 30
LFB	Perfluorohexanesulfonic acid (PFHxS)	2.05	LCS	P	0 - 30
LFB	Perfluorohexanoic acid (PFHxA)	6.17	LCS	P	0 - 30
LFB	Perfluorononanesulfonic acid (PFNS)	2.03	LCS	P	0 - 30
LFB	Perfluorononanoic acid (PFNA)	11.6	LCS	P	0 - 30
LFB	Perfluorooctanesulfonic acid (PFOS)	1.80	LCS	P	0 - 30
LFB	Perfluorooctanoic acid (PFOA)	1.56	LCS	P	0 - 30
LFB	Perfluoropentanesulfonic acid (PFPeS)	3.03	LCS	P	0 - 30
LFB	Perfluoropentanoic acid (PFPeA)	14.3	LCS	P	0 - 30
LFB	Perfluorotetradecanoic acid (PFTeA)	0.0873	LCS	P	0 - 30
LFB	Perfluorotridecanoic acid (PFTriA)	24.9	LCS	P	0 - 30
LFB	Perfluoroundecanoic acid (PFUnA)	10.7	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P379634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158224	4:2 Fluorotelomer sulfonate (4:2 FTS)	2.16	Spike	P	0 - 35
2158224	6:2 Fluorotelomer sulfonate (6:2 FTS)	2.11	Spike	P	0 - 35
2158224	8:2 Fluorotelomer sulfonate (8:2 FTS)	0.454	Spike	P	0 - 35
2158224	N-Et perfluorooctanesulfonamidoAc acid	4.25	Spike	P	0 - 35
2158224	N-Me perfluorooctanesulfonamidoAc acid	0.415	Spike	P	0 - 35
2158224	Perfluorobutanesulfonic acid (PFBS)	1.72	Spike	P	0 - 35
2158224	Perfluorodecanesulfonic acid (PFDS)	5.17	Spike	P	0 - 35
2158224	Perfluorodecanoic acid (PFDA)	23.9	Spike	P	0 - 35
2158224	Perfluorododecanoic acid (PFDoA)	16.6	Spike	P	0 - 35
2158224	Perfluoroheptanesulfonic acid (PFHpS)	5.11	Spike	P	0 - 35
2158224	Perfluoroheptanoic acid (PFHpA)	28.0	Spike	P	0 - 35
2158224	Perfluorohexanesulfonic acid (PFHxS)	3.78	Spike	P	0 - 35
2158224	Perfluorohexanoic acid (PFHxA)	20.4	Spike	P	0 - 35
2158224	Perfluorononanesulfonic acid (PFNS)	3.80	Spike	P	0 - 35
2158224	Perfluorononanoic acid (PFNA)	9.93	Spike	P	0 - 35
2158224	Perfluorooctanesulfonic acid (PFOS)	6.79	Spike	P	0 - 35
2158224	Perfluorooctanoic acid (PFOA)	18.4	Spike	P	0 - 35
2158224	Perfluoropentanesulfonic acid (PFPeS)	2.10	Spike	P	0 - 35
2158224	Perfluoropentanoic acid (PFPeA)	20.9	Spike	P	0 - 35
2158224	Perfluorotetradecanoic acid (PFTeA)	16.7	Spike	P	0 - 35
2158224	Perfluorotridecanoic acid (PFTriA)	32.3	Spike	P	0 - 35
2158224	Perfluoroundecanoic acid (PFUnA)	21.4	Spike	P	0 - 35

Reference Method: EPA 8321B

Batch ID: P381021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157742	4:2 Fluorotelomer sulfonate (4:2 FTS)	4.48	Spike	P	0 - 30
2157742	6:2 Fluorotelomer sulfonate (6:2 FTS)	6.06	Spike	P	0 - 30
2157742	8:2 Fluorotelomer sulfonate (8:2 FTS)	13.5	Spike	P	0 - 30
2157742	N-Et perfluorooctanesulfonamidoAc acid	3.65	Spike	P	0 - 30
2157742	N-Me perfluorooctanesulfonamidoAc acid	10.9	Spike	P	0 - 30
2157742	Perfluorobutanesulfonic acid (PFBS)	3.73	Spike	P	0 - 30
2157742	Perfluorodecanesulfonic acid (PFDS)	6.16	Spike	P	0 - 30
2157742	Perfluorodecanoic acid (PFDA)	26.6	Spike	P	0 - 30
2157742	Perfluorododecanoic acid (PFDoA)	6.61	Spike	P	0 - 30
2157742	Perfluoroheptanesulfonic acid (PFHpS)	4.00	Spike	P	0 - 30
2157742	Perfluoroheptanoic acid (PFHpA)	26.4	Spike	P	0 - 30
2157742	Perfluorohexanesulfonic acid (PFHxS)	0.970	Spike	P	0 - 30
2157742	Perfluorohexanoic acid (PFHxA)	11.1	Spike	P	0 - 30
2157742	Perfluorononanesulfonic acid (PFNS)	1.26	Spike	P	0 - 30
2157742	Perfluorononanoic acid (PFNA)	2.99	Spike	P	0 - 30
2157742	Perfluorooctanesulfonic acid (PFOS)	7.54	Spike	P	0 - 30
2157742	Perfluorooctanoic acid (PFOA)	9.73	Spike	P	0 - 30
2157742	Perfluoropentanesulfonic acid (PFPeS)	8.44	Spike	P	0 - 30
2157742	Perfluoropentanoic acid (PFPeA)	22.1	Spike	P	0 - 30
2157742	Perfluorotetradecanoic acid (PFTeA)	17.5	Spike	P	0 - 30
2157742	Perfluorotridecanoic acid (PFTriA)	16.3	Spike	P	0 - 30
2157742	Perfluoroundecanoic acid (PFUnA)	13.8	Spike	P	0 - 30

Quality Assurance Report Precision

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2157867
Field Sample ID: SB-7 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	116	P	30 - 160

Lab Sample ID: 2157868
Field Sample ID: SB-7 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	135	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	110	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	104	P	30 - 160

Lab Sample ID: 2157869
Field Sample ID: SB-7 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	108	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	87.3	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	98.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	87.0	P	30 - 160

Lab Sample ID: 2157870
Field Sample ID: SB-6 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	104	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	87.1	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	94.3	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	87.7	P	30 - 160

Lab Sample ID: 2157871
Field Sample ID: SB-6 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	126	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	160	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	151	P	30 - 160

Lab Sample ID: 2157872
Field Sample ID: SB-6 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	148	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	103	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	116	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2157873
 Field Sample ID: SB-5 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	119	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	153	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	151	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	97.7	P	30 - 160

Lab Sample ID: 2157874
 Field Sample ID: SB-5 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	134	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	112	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	114	P	30 - 160

Lab Sample ID: 2157875
 Field Sample ID: SB-5 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	152	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	127	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	126	P	30 - 160

Lab Sample ID: 2157876
 Field Sample ID: SB-4 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	95.6	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	132	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	91.2	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	119	P	30 - 160

Lab Sample ID: 2157877
 Field Sample ID: SB-4 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	122	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	114	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	96.3	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	93.1	P	30 - 160

Lab Sample ID: 2157878
 Field Sample ID: SB-4 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	139	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	143	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	159	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	111	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2157879
 Field Sample ID: SB-3 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	91.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	96.0	P	30 - 160

Lab Sample ID: 2157880
 Field Sample ID: SB-3 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	112	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	114	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	92.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	101	P	30 - 160

Lab Sample ID: 2157881
 Field Sample ID: SB-3 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	129	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	97.0	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	97.8	P	30 - 160

Lab Sample ID: 2157882
 Field Sample ID: SB-27 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	103	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	101	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	88.3	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	121	P	30 - 160

Lab Sample ID: 2157883
 Field Sample ID: SB-27 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	139	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	147	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	122	P	30 - 160

Lab Sample ID: 2157884
 Field Sample ID: SB-27 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	147	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	156	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	117	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2157885
Field Sample ID: SB-26 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	119	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	108	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	86.6	P	30 - 160

Lab Sample ID: 2157886
Field Sample ID: EQB-4

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	78.4	P	30 - 160
EPA 8321B	Perfluorobutanesulfonate-13C	78.4	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	103	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	103	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	77.0	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	77.0	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	64.1	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	64.1	P	30 - 160

Lab Sample ID: 2157957
Field Sample ID: SB-26 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	154	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	155	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	137	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	121	P	30 - 160

Lab Sample ID: 2157958
Field Sample ID: SB-26 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	98.2	P	30 - 160

Lab Sample ID: 2157959
Field Sample ID: SB-8 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	142	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	111	P	30 - 160

Lab Sample ID: 2157960
Field Sample ID: SB-8 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	143	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2157960
 Field Sample ID: SB-8 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorohexanoic acid-13C	111	P	30 - 160

Lab Sample ID: 2157961
 Field Sample ID: SB-8 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	116	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	102	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	98.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	83.0	P	30 - 160

Lab Sample ID: 2157962
 Field Sample ID: SB-9 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	137	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	119	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	102	P	30 - 160

Lab Sample ID: 2157963
 Field Sample ID: SB-9 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	151	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	139	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	159	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	107	P	30 - 160

Lab Sample ID: 2157964
 Field Sample ID: SB-9 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	130	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	148	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	113	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	128	P	30 - 160

Lab Sample ID: 2157965
 Field Sample ID: SB-12 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	81.8	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	86.5	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	96.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	70.7	P	30 - 160

Lab Sample ID: 2157966
 Field Sample ID: SB-12 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	115	P	30 - 160

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Lab Sample ID: 2157966
Field Sample ID: SB-12 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorodecanoic acid-13C	147	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	98.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	106	P	30 - 160

Lab Sample ID: 2157967
Field Sample ID: SB-12 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	129	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	124	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	106	P	30 - 160

Lab Sample ID: 2157968
Field Sample ID: SB-11 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	100	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	85.9	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	76.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	76.8	P	30 - 160

Lab Sample ID: 2157969
Field Sample ID: SB-11 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	114	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	97.3	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	81.0	P	30 - 160

Lab Sample ID: 2157970
Field Sample ID: SB-11 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	132	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	126	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	134	P	30 - 160

Lab Sample ID: 2157971
Field Sample ID: SB-1 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	119	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	136	P	30 - 160

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Lab Sample ID: 2157972
Field Sample ID: SB-14 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	67.8	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	96.8	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	75.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	56.2	P	30 - 160

Lab Sample ID: 2157973
Field Sample ID: SB-14 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	130	P	30 - 160

Lab Sample ID: 2157975
Field Sample ID: SB-2 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	94.9	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	158	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	118	P	30 - 160

Lab Sample ID: 2157978
Field Sample ID: EQB-5

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	151	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	117	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	73.8	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	143	P	30 - 160

Lab Sample ID: 2158009
Field Sample ID: SB-15 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	93.0	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	145	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	116	P	30 - 160

Lab Sample ID: 2158010
Field Sample ID: SB-15 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	86.7	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	130	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	85.1	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	92.3	P	30 - 160

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Lab Sample ID: 2158011
Field Sample ID: SB-15 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	118	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	118	P	30 - 160

Lab Sample ID: 2158012
Field Sample ID: SB-13 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	98.1	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	159	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	122	P	30 - 160

Lab Sample ID: 2158013
Field Sample ID: SB-13 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	94.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	152	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	99.0	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	105	P	30 - 160

Lab Sample ID: 2158014
Field Sample ID: SB-13 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	82.9	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	84.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	80.7	P	30 - 160

Lab Sample ID: 2158015
Field Sample ID: SB-17 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	78.7	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	89.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	88.7	P	30 - 160

Lab Sample ID: 2158016
Field Sample ID: SB-17 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	81.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	140	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	86.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	87.0	P	30 - 160

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Lab Sample ID: 2158017
Field Sample ID: SB-17 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	147	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	126	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	111	P	30 - 160

Lab Sample ID: 2158018
Field Sample ID: SB-18 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	124	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	127	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	124	P	30 - 160

Lab Sample ID: 2158019
Field Sample ID: SB-18 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	91.5	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	138	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	97.7	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	102	P	30 - 160

Lab Sample ID: 2158020
Field Sample ID: SB-18 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	102	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	121	P	30 - 160

Lab Sample ID: 2158021
Field Sample ID: SB-19 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	90.9	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	102	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	85.6	P	30 - 160

Lab Sample ID: 2158022
Field Sample ID: SB-19 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	86.0	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	158	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	94.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	90.5	P	30 - 160

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Lab Sample ID: 2158023
 Field Sample ID: SB-19 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	151	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	130	P	30 - 160

Lab Sample ID: 2158024
 Field Sample ID: SB-16 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	112	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	146	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	133	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	123	P	30 - 160

Lab Sample ID: 2158025
 Field Sample ID: SB-16 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	85.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	117	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	115	P	30 - 160

Lab Sample ID: 2158026
 Field Sample ID: SB-16 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	117	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	95.7	P	30 - 160

Lab Sample ID: 2158027
 Field Sample ID: SB-10 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	153	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	103	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	153	P	30 - 160

Lab Sample ID: 2158028
 Field Sample ID: EQB-6

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	98.9	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	87.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	81.4	P	30 - 160

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Lab Sample ID: 2158052
Field Sample ID: SB-10 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	129	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	145	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	151	P	30 - 160

Lab Sample ID: 2158053
Field Sample ID: SB-10 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	96.3	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	90.7	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	118	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	126	P	30 - 160

Lab Sample ID: 2158054
Field Sample ID: SB-25 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	105	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	112	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	130	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	91.5	P	30 - 160

Lab Sample ID: 2158055
Field Sample ID: SB-25 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	104	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	118	P	30 - 160

Lab Sample ID: 2158056
Field Sample ID: SB-25 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	133	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	101	P	30 - 160

Lab Sample ID: 2158057
Field Sample ID: SB-24 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	126	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	139	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	93.7	P	30 - 160

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Lab Sample ID: 2158058
Field Sample ID: SB-24 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	134	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	106	P	30 - 160

Lab Sample ID: 2158059
Field Sample ID: SB-24 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	143	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	140	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	152	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	143	P	30 - 160

Lab Sample ID: 2158060
Field Sample ID: SB-23 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	98.6	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	95.1	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	71.4	P	30 - 160

Lab Sample ID: 2158061
Field Sample ID: SB-23 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	97.0	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	94.1	P	30 - 160

Lab Sample ID: 2158062
Field Sample ID: SB-23 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	131	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	126	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	135	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	137	P	30 - 160

Lab Sample ID: 2158063
Field Sample ID: SB-20 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	110	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	142	P	30 - 160

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Lab Sample ID: 2158064
Field Sample ID: SB-20 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	127	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	148	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	129	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	125	P	30 - 160

Lab Sample ID: 2158065
Field Sample ID: SB-20 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	129	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	151	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	158	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	143	P	30 - 160

Lab Sample ID: 2158066
Field Sample ID: Sed-5 (0-1)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	139	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	127	P	30 - 160

Lab Sample ID: 2158067
Field Sample ID: Sed-4 (0-1)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	130	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	127	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	125	P	30 - 160

Lab Sample ID: 2158068
Field Sample ID: SB-8 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	91.3	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	110	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	94.0	P	30 - 160

Lab Sample ID: 2158070
Field Sample ID: SW-5

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	91.7	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	98.1	P	30 - 160

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Lab Sample ID: 2158071
Field Sample ID: SW-4

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	94.3	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	84.6	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	92.7	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	83.1	P	30 - 160

Lab Sample ID: 2158072
Field Sample ID: EQB-7

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	114	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	92.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	94.5	P	30 - 160

Lab Sample ID: 2158095
Field Sample ID: SB-8 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	88.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	94.9	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	113	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	99.1	P	30 - 160

Lab Sample ID: 2158096
Field Sample ID: Sed-6

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	86.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	93.4	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	83.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	112	P	30 - 160

Lab Sample ID: 2158097
Field Sample ID: SB-9 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	116	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	144	P	30 - 160

Lab Sample ID: 2158098
Field Sample ID: SB-9 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	84.1	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	110	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	94.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	73.1	P	30 - 160

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Lab Sample ID: 2158099
Field Sample ID: SB-10 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	130	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	157	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	110	P	30 - 160

Lab Sample ID: 2158100
Field Sample ID: SB-10 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	135	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	141	P	30 - 160

Lab Sample ID: 2158101
Field Sample ID: SB-11 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	98.0	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	109	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	81.8	P	30 - 160

Lab Sample ID: 2158102
Field Sample ID: SB-11 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	91.3	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	137	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	121	P	30 - 160

Lab Sample ID: 2158103
Field Sample ID: SB-21 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	115	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	137	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	146	P	30 - 160

Lab Sample ID: 2158104
Field Sample ID: SB-21 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	118	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	150	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	146	P	30 - 160

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Lab Sample ID: 2158105
Field Sample ID: SB-21 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	100	P	30 - 160

Lab Sample ID: 2158106
Field Sample ID: SB-22 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	134	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	148	P	30 - 160

Lab Sample ID: 2158107
Field Sample ID: SB-22 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	117	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	122	P	30 - 160

Lab Sample ID: 2158108
Field Sample ID: SB-22 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	150	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	157	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	151	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	124	P	30 - 160

Lab Sample ID: 2158109
Field Sample ID: SB-12 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	110	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	143	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	115	P	30 - 160

Lab Sample ID: 2158110
Field Sample ID: SB-12 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	96.2	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	135	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	125	P	30 - 160

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Lab Sample ID: 2158111
Field Sample ID: SB-13 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	134	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	142	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	133	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	149	P	30 - 160

Lab Sample ID: 2158112
Field Sample ID: SB-13 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	155	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	153	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	141	P	30 - 160

Lab Sample ID: 2158113
Field Sample ID: SB-15 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	157	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	100	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	86.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	127	P	30 - 160

Lab Sample ID: 2158114
Field Sample ID: SB-15 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	89.1	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	108	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	120	P	30 - 160

Lab Sample ID: 2158143
Field Sample ID: SB-1 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	152	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	156	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	160	P	30 - 160

Lab Sample ID: 2158144
Field Sample ID: SB-1 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	152	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	94.8	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	101	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	119	P	30 - 160

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Lab Sample ID: 2158145
Field Sample ID: SB-14 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	129	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	159	P	30 - 160

Lab Sample ID: 2158146
Field Sample ID: SB-14 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	153	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	108	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	97.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	113	P	30 - 160

Lab Sample ID: 2158147
Field Sample ID: SB-2 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	103	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	107	P	30 - 160

Lab Sample ID: 2158148
Field Sample ID: SB-2 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	155	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	98.5	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	107	P	30 - 160

Lab Sample ID: 2158149
Field Sample ID: SB-17 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	141	P	30 - 160

Lab Sample ID: 2158150
Field Sample ID: SB-17 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	152	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	141	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	158	P	30 - 160

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Lab Sample ID: 2158151
Field Sample ID: SB-18 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	145	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	88.2	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	96.8	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	131	P	30 - 160

Lab Sample ID: 2158152
Field Sample ID: SB-18 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	143	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	156	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	114	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	132	P	30 - 160

Lab Sample ID: 2158153
Field Sample ID: SB-19 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	134	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	157	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	153	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	158	P	30 - 160

Lab Sample ID: 2158154
Field Sample ID: SB-19 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	150	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	141	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	149	P	30 - 160

Lab Sample ID: 2158155
Field Sample ID: SB-16 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	85.4	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	127	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	72.2	P	30 - 160

Lab Sample ID: 2158156
Field Sample ID: SB-16 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	145	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	122	P	30 - 160

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Lab Sample ID: 2158157
Field Sample ID: SB-28 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	155	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	147	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	116	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	140	P	30 - 160

Lab Sample ID: 2158158
Field Sample ID: SB-28 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	85.7	P	30 - 160

Lab Sample ID: 2158159
Field Sample ID: SB-28 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	156	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	147	P	30 - 160

Lab Sample ID: 2158160
Field Sample ID: SB-28 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	152	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	160	P	30 - 160

Lab Sample ID: 2158161
Field Sample ID: EQB-8

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	95.5	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	95.8	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	98.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	75.1	P	30 - 160

Lab Sample ID: 2158162
Field Sample ID: EQB-9

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	133	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	85.9	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	67.2	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	113	P	30 - 160

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Lab Sample ID: 2158183
Field Sample ID: SB-5 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	95.8	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	143	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	124	P	30 - 160

Lab Sample ID: 2158184
Field Sample ID: SB-5 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	76.0	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	137	P	30 - 160

Lab Sample ID: 2158185
Field Sample ID: SB-3 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	137	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	159	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	130	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	154	P	30 - 160

Lab Sample ID: 2158186
Field Sample ID: SB-3 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	147	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	95.4	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	94.0	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	139	P	30 - 160

Lab Sample ID: 2158187
Field Sample ID: SB-4 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	147	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	99.0	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	136	P	30 - 160

Lab Sample ID: 2158188
Field Sample ID: SB-4 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	156	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	150	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	95.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	154	P	30 - 160

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Lab Sample ID: 2158189
Field Sample ID: SB-6 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	156	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	118	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	83.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	134	P	30 - 160

Lab Sample ID: 2158190
Field Sample ID: SB-6 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	146	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	90.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	127	P	30 - 160

Lab Sample ID: 2158191
Field Sample ID: SB-7 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	122	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	133	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	120	P	30 - 160

Lab Sample ID: 2158192
Field Sample ID: SB-7 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	159	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	135	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	101	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	157	P	30 - 160

Lab Sample ID: 2158193
Field Sample ID: SB-21 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	160	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	99.0	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	142	P	30 - 160

Lab Sample ID: 2158194
Field Sample ID: SB-21 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	130	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	110	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	108	P	30 - 160

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Lab Sample ID: 2158195
Field Sample ID: SB-27 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	103	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	87.3	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	103	P	30 - 160

Lab Sample ID: 2158196
Field Sample ID: SB-27 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	138	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	126	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	118	P	30 - 160

Lab Sample ID: 2158197
Field Sample ID: SB-26 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	143	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	142	P	30 - 160

Lab Sample ID: 2158198
Field Sample ID: SB-26 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	110	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	94.7	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	101	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	126	P	30 - 160

Lab Sample ID: 2158199
Field Sample ID: SB-25 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	150	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	93.1	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	99.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	154	P	30 - 160

Lab Sample ID: 2158200
Field Sample ID: SB-25 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	135	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	125	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	94.7	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	115	P	30 - 160

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Lab Sample ID: 2158201
 Field Sample ID: SB-24 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	124	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	83.6	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	103	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	116	P	30 - 160

Lab Sample ID: 2158202
 Field Sample ID: EQB-10

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	134	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	92.9	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	71.3	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	125	P	30 - 160

Lab Sample ID: 2158223
 Field Sample ID: SB-24 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	149	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	113	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	80.2	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	137	P	30 - 160

Lab Sample ID: 2158224
 Field Sample ID: Sed-7 (0-1)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	62.5	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	59.8	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	47.4	P	30 - 160

Lab Sample ID: 2158225
 Field Sample ID: SB-20 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	106	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	119	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	112	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	123	P	30 - 160

Lab Sample ID: 2158226
 Field Sample ID: SB-20 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	154	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	112	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	141	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2158227
Field Sample ID: SB-22 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	137	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	138	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	156	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	153	P	30 - 160

Lab Sample ID: 2158228
Field Sample ID: SB-22 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	153	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	149	P	30 - 160

Lab Sample ID: 2158229
Field Sample ID: IDW-4

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	2-Fluorobiphenyl	62.2	P	30 - 150
EPA 8270E	2-Fluorophenol	62.5	P	20 - 150
EPA 8270E	2,4,6-Tribromophenol	79.8	P	30 - 150
EPA 8270E	Nitrobenzene-d5	78.6	P	30 - 150
EPA 8270E	Phenol-d5	42.6	P	20 - 150
EPA 8270E	Terphenyl-d14	93.4	P	30 - 150

Lab Sample ID: 2158232
Field Sample ID: SW-6

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	101	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	74.2	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	75.1	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	94.9	P	30 - 160

Lab Sample ID: 2158233
Field Sample ID: EQB-11

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	89.5	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	87.6	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	82.1	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	78.1	P	30 - 160

Lab Sample ID: 2158234
Field Sample ID: IDW-4

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	89.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	93.7	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	102	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	66.6	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2158235
Field Sample ID: IDW-4

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8260D	1,2-Dichloroethane-d4	118	P	70 - 130
EPA 8260D	1,4-Dichlorobenzene-d4	99.0	P	70 - 130
EPA 8260D	Dibromofluoromethane	110	P	70 - 130
EPA 8260D	Toluene-d8	95.0	P	70 - 130

Lab Sample ID: 2158236
Field Sample ID: Trip Blank

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8260D	1,2-Dichloroethane-d4	125	P	70 - 130
EPA 8260D	1,4-Dichlorobenzene-d4	97.2	P	70 - 130
EPA 8260D	Dibromofluoromethane	115	P	70 - 130
EPA 8260D	Toluene-d8	96.2	P	70 - 130

Lab Sample ID: 2158326
Field Sample ID: SB-23 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	115	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	125	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	118	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	139	P	30 - 160

Lab Sample ID: 2158327
Field Sample ID: SB-23 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	141	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	121	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 6020A
Run ID: A37839
Included Lab Sample IDs: 2158231

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	96.3	100	P/P	90 - 110

Reference Method: EPA 7473
Run ID: A97620
Included Lab Sample IDs: 2158230

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mercury	97.4	102	P/P	80 - 120

Reference Method: EPA 8270E
Run ID: A97684
Included Lab Sample IDs: 2158229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1-Naphthylamine	92.9		P	60 - 130
2-Acetylaminofluorene	95.6		P	70 - 150
2-Methyl-4,6-dinitrophenol	94.6		P	70 - 130
2-Naphthylamine	76.8		P	60 - 130
2-Picoline	112		P	70 - 130
2,4-Dinitrophenol	74.5		P	70 - 130
3,3'-Dichlorobenzidine	121		P	50 - 130
4-Aminobiphenyl	91.8		P	70 - 130
4-Nitrophenol	98.0		P	70 - 130
Aniline	71.1		P	70 - 130
Benzidine	33.4*		F	50 - 130
Bis(2-ethylhexyl)phthalate	107		P	70 - 130
Butyl benzyl phthalate	108		P	70 - 130
Di-n-butyl phthalate	115		P	70 - 130
Diethyl phthalate	109		P	70 - 130
Dinoseb	87.2		P	70 - 130
Ethyl methanesulfonate	82.3		P	70 - 130
N-Nitrosodiethylamine	104		P	70 - 130
N-Nitrosodimethylamine	109		P	70 - 130
N-Nitrosomethylethylamine	109		P	70 - 130
Pentachlorophenol	74.0		P	70 - 130
Pyridine	114		P	70 - 130

Reference Method: EPA 8270E
Run ID: A97696
Included Lab Sample IDs: 2158229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1-Methylnaphthalene	95.9		P	70 - 130
1,2,4-Trichlorobenzene	94.0		P	70 - 130
1,2,4,5-Tetrachlorobenzene	96.2		P	70 - 130
1,3-Dinitrobenzene	122		P	70 - 130
1,3,5-Trinitrobenzene	123		P	70 - 130
2-Chloronaphthalene	96.3		P	70 - 130
2-Chlorophenol	114		P	70 - 130
2-Methylnaphthalene	96.9		P	70 - 130
2-Nitroaniline	107		P	70 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A97696
 Included Lab Sample IDs: 2158229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Nitrophenol	124		P	70 - 130
2,3,4,6-Tetrachlorophenol	128		P	70 - 130
2,4-Dichlorophenol	106		P	70 - 130
2,4-Dimethylphenol	95.0		P	70 - 130
2,4-Dinitrotoluene	113		P	70 - 130
2,4,5-Trichlorophenol	100		P	70 - 130
2,4,6-Trichlorophenol	115		P	70 - 130
2,6-Dichlorophenol	119		P	70 - 130
2,6-Dinitrotoluene	102		P	70 - 130
3-Methylcholanthrene	115		P	70 - 130
4-Bromophenyl phenyl ether	100		P	70 - 130
4-Chloro-3-methylphenol	104		P	70 - 130
4-Chlorophenyl phenyl ether	96.4		P	70 - 130
5-Nitro-o-toluidine	120		P	70 - 130
7,12-Dimethylbenz(a)anthracene	87.2		P	70 - 130
Acenaphthene	95.7		P	70 - 130
Acenaphthylene	98.5		P	70 - 130
Acetophenone	105		P	70 - 130
Anthracene	99.4		P	70 - 130
Azobenzene/1,2-Diphenylhydrazine	105		P	70 - 130
Benzo(a)anthracene	101		P	70 - 130
Benzo(a)pyrene	103		P	70 - 130
Benzo(b)fluoranthene	90.7		P	70 - 130
Benzo(g,h,i)perylene	103		P	70 - 130
Benzo(k)fluoranthene	104		P	70 - 130
Benzyl alcohol	127		P	70 - 130
Bis(2-chloroethoxy)methane	97.9		P	70 - 130
Bis(2-chloroethyl)ether	99.3		P	70 - 130
Bis(2-chloroisopropyl)ether	95.0		P	70 - 130
Carbazole	101		P	70 - 130
Chrysene	94.3		P	70 - 130
Di-n-octyl phthalate	126		P	70 - 130
Dibenzo(a,h)anthracene	105		P	70 - 130
Dibenzofuran	95.7		P	70 - 130
Dimethyl phthalate	96.9		P	70 - 130
Dimethylaminoazobenzene	128		P	70 - 130
Fluoranthene	100		P	70 - 130
Fluorene	95.3		P	70 - 130
Hexachlorobenzene	98.1		P	70 - 130
Hexachlorobutadiene	94.5		P	70 - 130
Hexachlorocyclopentadiene	103		P	70 - 130
Hexachloroethane	96.9		P	70 - 130
Hexachloropropene	96.4		P	70 - 130
Indeno(1,2,3-cd)pyrene	103		P	70 - 130
Isophorone	102		P	70 - 130
Isosafrole	105		P	70 - 130
m,p-Cresols	104		P	70 - 130
N-Nitrosodi-n-butylamine	112		P	70 - 130
N-Nitrosodi-n-propylamine	110		P	70 - 130
N-Nitrosodiphenylamine/ Diphenylamine	97.2		P	70 - 130
N-Nitrosomorpholine	110		P	70 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A97696
Included Lab Sample IDs: 2158229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
N-Nitrosopiperidine	108		P	70 - 130
N-Nitrosopyrrolidine	122		P	70 - 130
Naphthalene	96.1		P	70 - 130
Nitrobenzene	98.7		P	70 - 130
o-Cresol	101		P	70 - 130
o-Toluidine	108		P	70 - 130
Pentachlorobenzene	94.7		P	70 - 130
Pentachloroethane	98.1		P	70 - 130
Pentachloronitrobenzene	110		P	70 - 130
Phenacetin	122		P	70 - 130
Phenanthrene	95.5		P	70 - 130
Phenol	116		P	70 - 130
Pyrene	97.9		P	70 - 130
Safrole	106		P	70 - 130

Reference Method: EPA 6020A
Run ID: A97772
Included Lab Sample IDs: 2158231

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	96.4	96.4	P/P	90 - 110
Barium	95.8	97.9	P/P	90 - 110
Cadmium	97.9	98.6	P/P	90 - 110
Chromium	92.6	96.9	P/P	90 - 110
Lead	94.8	93.9	P/P	90 - 110
Silver	99.9	101	P/P	90 - 110

Reference Method: EPA 8260D
Run ID: A97777
Included Lab Sample IDs: 2158235, 2158236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1,1-Dichloroethane	98.6		P	80 - 120
1,1-Dichloroethene	91.3		P	80 - 120
1,1,1-Trichloroethane	95.6		P	80 - 120
1,1,2-Trichloroethane	98.2		P	80 - 120
1,1,2,2-Tetrachloroethane	89.4		P	80 - 120
1,2-Dichlorobenzene	96.9		P	80 - 120
1,2-Dichloroethane	103		P	80 - 120
1,2-Dichloropropane	110		P	80 - 120
1,3-Dichlorobenzene	100		P	80 - 120
1,4-Dichlorobenzene	96.9		P	80 - 120
2-Butanone	101		P	70 - 120
Benzene	98.8		P	80 - 120
Bromodichloromethane	100		P	80 - 120
Bromoform	101		P	80 - 120
Bromomethane	104		P	70 - 130
Carbon tetrachloride	102		P	80 - 120
Chlorobenzene	101		P	80 - 120
Chloroethane	108		P	70 - 130
Chloroform	96.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8260D

Run ID: A97777

Included Lab Sample IDs: 2158235, 2158236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloromethane	98.2		P	70 - 130
cis-1,2-Dichloroethene	97.2		P	80 - 120
cis-1,3-Dichloropropene	103		P	80 - 120
Dibromochloromethane	89.8		P	80 - 120
Ethylbenzene	95.9		P	80 - 120
m,p-Xylene	96.2		P	80 - 120
Methyl-t-butyl ether	108		P	80 - 120
Methylene chloride	108		P	80 - 120
o-Xylene	89.0		P	80 - 120
Tetrachloroethene	94.9		P	80 - 120
Toluene	113		P	80 - 120
trans-1,2-Dichloroethene	104		P	80 - 120
trans-1,3-Dichloropropene	91.2		P	80 - 120
Trichloroethene	104		P	80 - 120
Trichlorofluoromethane	107		P	70 - 130
Vinyl chloride	107		P	70 - 130

Reference Method: EPA 8321B

Run ID: A97947

Included Lab Sample IDs: 2157871, 2157873, 2157875, 2157876, 2157878, 2157882, 2157884, 2157957, 2157960, 2157962, 2157964, 2157966, 2157973, 2158024, 2158025, 2158053, 2158054, 2158055, 2158056, 2158057, 2158061, 2158065, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	127	93.6	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	64.7	127	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	69.2	64.7	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	70.3	130	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	73.7	83.7	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	89.5	69.2	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	89.7	70.3	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	95.5	89.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	72.0	77.1	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	72.9	97.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	74.4	88.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	77.1	81.4	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	77.2	85.2	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	80.9	72.0	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	81.4	72.9	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	97.7	74.4	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	102	93.9	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	105	142	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	111	102	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	119	139	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	124	131	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	142	119	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	93.9	96.8	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	96.8	89.4	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	68.8	69.4	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	69.4	77.2	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	71.7	68.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97947

Included Lab Sample IDs: 2157871, 2157873, 2157875, 2157876, 2157878, 2157882, 2157884, 2157957, 2157960, 2157962, 2157964, 2157966, 2157973, 2158024, 2158025, 2158053, 2158054, 2158055, 2158056, 2158057, 2158061, 2158065, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
N-Et perfluorooctanesulfonamidoAc acid	77.2	71.8	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	79.0	107	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	87.3	113	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	88.3	98.6	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	98.6	79.0	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	106	90.2	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	68.0	69.3	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	69.3	72.7	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	72.7	66.3	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	76.5	68.0	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	85.2	106	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	86.6	95.8	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	90.2	109	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	100	102	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	102	85.5	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	109	84.4	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	68.2	109	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	70.6	68.2	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	75.4	81.3	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	82.0	70.6	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	85.5	142	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	105	100	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	81.9	97.6	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	83.5	107	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	90.6	90.8	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	90.8	98.2	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	97.6	83.5	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	98.2	85.0	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	98.8	90.6	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	108	64.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	61.5	88.4	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	64.5	61.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	74.0	73.1	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	79.5	74.0	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	83.6	64.3	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	87.3	79.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	88.4	87.3	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	101	148	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	107	79.3	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	66.0	107	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	68.6	93.6	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	77.5	98.6	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	93.6	66.0	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	94.4	82.2	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	98.6	101	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	67.5	83.8	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	69.7	78.9	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	69.7	72.0	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	72.0	69.7	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97947

Included Lab Sample IDs: 2157871, 2157873, 2157875, 2157876, 2157878, 2157882, 2157884, 2157957, 2157960, 2157962, 2157964, 2157966, 2157973, 2158024, 2158025, 2158053, 2158054, 2158055, 2158056, 2158057, 2158061, 2158065, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoroheptanesulfonic acid (PFHpS)	76.3	69.7	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	78.9	67.5	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	79.4	76.3	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	84.4	85.0	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	102	65.3	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	65.3	96.1	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	78.9	102	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	80.4	88.4	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	81.3	94.7	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	88.4	73.4	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	94.7	80.4	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	98.5	70.2	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	66.3	91.9	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	67.7	66.3	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	68.7	70.4	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	70.5	67.7	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	72.3	107	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	82.6	72.3	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	83.2	82.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	91.9	79.4	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	109	114	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	112	109	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	114	132	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	75.9	76.8	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	83.7	94.5	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	84.1	83.7	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	94.5	99.1	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	97.8	84.1	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	62.5	87.6	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	64.8	62.5	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	65.4	64.8	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	68.2	96.4	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	76.1	74.2	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	79.8	84.4	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	84.4	68.2	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	87.6	74.5	P/P	60 - 160
Perfluorononanoic acid (PFNA)	102	135	P/P	60 - 160
Perfluorononanoic acid (PFNA)	103	82.1	P/P	60 - 160
Perfluorononanoic acid (PFNA)	114	75.7	P/P	60 - 160
Perfluorononanoic acid (PFNA)	69.1	103	P/P	60 - 160
Perfluorononanoic acid (PFNA)	75.7	90.7	P/P	60 - 160
Perfluorononanoic acid (PFNA)	82.1	108	P/P	60 - 160
Perfluorononanoic acid (PFNA)	90.7	98.0	P/P	60 - 160
Perfluorononanoic acid (PFNA)	98.0	64.9	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	66.2	91.1	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	72.6	98.8	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	75.2	72.6	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	76.3	69.4	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	79.5	75.2	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97947

Included Lab Sample IDs: 2157871, 2157873, 2157875, 2157876, 2157878, 2157882, 2157884, 2157957, 2157960, 2157962, 2157964, 2157966, 2157973, 2158024, 2158025, 2158053, 2158054, 2158055, 2158056, 2158057, 2158061, 2158065, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorooctanesulfonic acid (PFOS)	79.9	66.2	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	91.1	79.7	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	98.8	86.0	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	103	93.3	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	109	80.1	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	117	148	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	133	91.5	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	148	133	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	76.3	96.2	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	81.5	76.3	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	93.3	81.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	109	111	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	78.9	98.0	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	79.8	78.9	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	83.3	79.8	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	90.3	111	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.9	99.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	98.0	85.3	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	99.5	90.3	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	110	117	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	65.7	80.9	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	68.3	70.8	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	70.8	65.7	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	80.7	83.0	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	85.5	88.4	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	88.4	80.7	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	90.4	85.5	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	106	87.3	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	63.6	66.7	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	66.7	106	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	68.6	63.6	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	70.1	110	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	78.5	70.1	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	82.9	75.3	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	88.6	78.5	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	106	114	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	114	86.8	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	116	88.8	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	68.8	81.4	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	75.7	116	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	81.4	75.7	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	86.8	129	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	87.3	68.7	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	105	110	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	106	141	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	109	105	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	110	81.9	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	122	109	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	130	106	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97947

Included Lab Sample IDs: 2157871, 2157873, 2157875, 2157876, 2157878, 2157882, 2157884, 2157957, 2157960, 2157962, 2157964, 2157966, 2157973, 2158024, 2158025, 2158053, 2158054, 2158055, 2158056, 2158057, 2158061, 2158065, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoroundecanoic acid (PFUnA)	79.5	130	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	99.6	103	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A97952

Included Lab Sample IDs: 2157970, 2157971, 2157972, 2157973, 2157975, 2158009, 2158010, 2158011, 2158012, 2158013, 2158014, 2158015, 2158016, 2158017, 2158018, 2158019, 2158020, 2158021, 2158022, 2158023, 2158026, 2158052, 2158058, 2158059, 2158060, 2158062, 2158063, 2158064, 2158066, 2158067, 2158105, 2158106, 2158107, 2158108, 2158109, 2158111, 2158112, 2158225, 2158227, 2158228

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	111	136	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	136	127	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	140	91.3	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	67.3	74.8	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	73.2	88.0	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	73.6	67.3	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	74.8	73.2	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	90.1	119	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	126	150	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	127	84.6	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	127	127	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	151	92.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	61.1	89.3	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	79.6	91.6	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	84.7	79.6	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	91.6	61.1	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	95.2	101	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	106	112	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	112	112	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	112	97.0	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	132	88.0	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	142	158	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	154	142	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	97.0	114	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	90.9	100	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	114	120	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	127	114	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	136	94.9	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	84.6	93.1	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	85.6	89.2	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	86.1	85.6	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	89.2	84.6	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	77.2	91.4	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	117	134	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	130	96.3	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	143	117	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	78.8	87.3	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	83.2	86.4	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	86.4	88.4	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	88.4	78.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A97952
Included Lab Sample IDs: 2157886

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
N-Me perfluorooctanesulfonamidoAc acid	81.1	92.9	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	118	130	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	124	94.2	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	130	131	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	67.3	85.7	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	75.5	76.7	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	76.7	67.3	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	79.0	75.5	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	98.8	127	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	101	91.9	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	103	72.7	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	128	139	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	143	128	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	91.9	102	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	97.0	99.4	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	99.4	101	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	104	119	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	107	86.8	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	111	73.8	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	118	98.2	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	63.9	90.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	86.3	63.9	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	86.8	86.3	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	98.2	111	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	80.7	102	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	109	130	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	144	109	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	146	92.6	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	65.4	102	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	80.7	94.1	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	88.5	65.4	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	94.1	88.5	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	83.2	95.8	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	110	95.4	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	76.6	79.8	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	80.4	81.9	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	81.9	76.6	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	82.1	80.4	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	93.3	69.6	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	95.4	106	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	78.4	93.9	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	105	85.4	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	106	142	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	130	81.6	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	145	106	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	67.2	77.7	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	72.1	67.2	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	85.4	72.1	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	93.1	97.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	121	128	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	131	121	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97952

Included Lab Sample IDs: 2157970, 2157971, 2157972, 2157973, 2157975, 2158009, 2158010, 2158011, 2158012, 2158013, 2158014, 2158015, 2158016, 2158017, 2158018, 2158019, 2158020, 2158021, 2158022, 2158023, 2158026, 2158052, 2158058, 2158059, 2158060, 2158062, 2158063, 2158064, 2158066, 2158067, 2158105, 2158106, 2158107, 2158108, 2158109, 2158111, 2158112, 2158225, 2158227, 2158228

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorohexanesulfonic acid (PFHxS)	131	91.7	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	60.5	77.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	65.7	71.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	69.0	65.7	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	71.6	60.5	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	101	115	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	141	152	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	143	111	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	158	141	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	61.8	88.2	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	80.3	83.7	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	82.4	61.8	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	83.7	82.4	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	102	126	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	112	129	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	121	83.7	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	137	112	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	64.4	84.9	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	74.8	83.0	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	76.0	74.8	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	83.0	64.4	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	88.5	104	P/P	60 - 160
Perfluorononanoic acid (PFNA)	103	109	P/P	60 - 160
Perfluorononanoic acid (PFNA)	106	94.7	P/P	60 - 160
Perfluorononanoic acid (PFNA)	109	104	P/P	60 - 160
Perfluorononanoic acid (PFNA)	109	124	P/P	60 - 160
Perfluorononanoic acid (PFNA)	124	106	P/P	60 - 160
Perfluorononanoic acid (PFNA)	86.6	109	P/P	60 - 160
Perfluorononanoic acid (PFNA)	99.5	70.6	P/P	60 - 160
Perfluorononanoic acid (PFNA)	78.7	109	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	116	83.1	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	117	129	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	141	117	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	63.1	83.4	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	76.4	83.3	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	78.2	76.4	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	83.3	63.1	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	96.4	104	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	105	115	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	106	105	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	110	92.4	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	113	152	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	115	87.2	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	149	113	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	87.2	116	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	91.3	98.0	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	103	104	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	104	102	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	107	80.6	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97952

Included Lab Sample IDs: 2157970, 2157971, 2157972, 2157973, 2157975, 2158009, 2158010, 2158011, 2158012, 2158013, 2158014, 2158015, 2158016, 2158017, 2158018, 2158019, 2158020, 2158021, 2158022, 2158023, 2158026, 2158052, 2158058, 2158059, 2158060, 2158062, 2158063, 2158064, 2158066, 2158067, 2158105, 2158106, 2158107, 2158108, 2158109, 2158111, 2158112, 2158225, 2158227, 2158228

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoropentanesulfonic acid (PFPeS)	94.4	96.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	94.5	97.9	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.5	103	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	97.3	94.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	76.7	94.8	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	105	106	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	105	118	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	106	116	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	118	105	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	136	94.2	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	137	102	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	94.2	106	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	78.8	97.4	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	137	94.9	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	149	85.3	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	67.7	88.3	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	73.6	81.2	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	75.4	73.6	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	88.3	75.4	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	94.9	124	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	89.1	111	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	111	113	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	113	108	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	116	64.3	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	60.2	80.4	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	76.1	85.7	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	82.4	76.1	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	85.7	60.2	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	70.7	93.0	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	102	78.8	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	132	142	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	152	91.8	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	155	132	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	78.8	79.8	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	84.1	85.2	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	85.2	102	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	120	118	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98008

Included Lab Sample IDs: 2157867, 2157868, 2157869, 2157870, 2157872, 2157874, 2157877, 2157879, 2157880, 2157881, 2157883, 2157885, 2157958, 2157959, 2157961, 2157963, 2157965, 2157967, 2157968, 2157969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	116	132	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	77.3	85.5	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	79.0	116	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	82.5	79.0	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	85.5	82.5	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	120	93.7	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98008

Included Lab Sample IDs: 2157867, 2157868, 2157869, 2157870, 2157872, 2157874, 2157877, 2157879, 2157880, 2157881, 2157883, 2157885, 2157958, 2157959, 2157961, 2157963, 2157965, 2157967, 2157968, 2157969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
6:2 Fluorotelomer sulfonate (6:2 FTS)	120	120	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	151	120	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	85.2	151	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	93.7	85.2	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	113	122	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	122	97.9	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	135	149	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	85.9	135	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	97.9	85.9	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	74.5	100	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	76.3	74.5	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	79.8	76.3	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	89.4	93.9	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	93.9	79.8	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	104	124	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	111	126	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	126	99.5	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	81.8	104	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	99.5	81.8	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	101	87.8	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	118	101	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	122	132	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	132	118	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	87.8	107	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	104	94.2	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	74.0	91.8	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	84.1	74.0	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	94.2	84.1	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	97.5	104	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	100	95.0	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	120	100	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	125	120	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	128	106	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	95.0	128	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	109	110	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	110	102	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	114	123	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	123	109	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	123	114	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	67.3	85.9	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	72.0	67.3	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	78.1	72.0	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	84.1	78.1	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	86.5	84.1	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	100	82.8	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	117	100	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	132	117	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	82.8	84.1	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	84.1	83.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	109	74.1	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98008

Included Lab Sample IDs: 2157867, 2157868, 2157869, 2157870, 2157872, 2157874, 2157877, 2157879, 2157880, 2157881, 2157883, 2157885, 2157958, 2157959, 2157961, 2157963, 2157965, 2157967, 2157968, 2157969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorohexanesulfonic acid (PFHxS)	125	109	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	133	137	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	137	125	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	74.1	97.5	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	107	74.5	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	129	107	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	158	129	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	159	158	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	74.5	87.1	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	102	82.3	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	116	102	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	122	127	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	127	116	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	82.3	92.7	P/P	60 - 160
Perfluorononanoic acid (PFNA)	63.3	79.5	P/P	60 - 160
Perfluorononanoic acid (PFNA)	68.0	69.5	P/P	60 - 160
Perfluorononanoic acid (PFNA)	69.5	63.3	P/P	60 - 160
Perfluorononanoic acid (PFNA)	79.5	126	P/P	60 - 160
Perfluorononanoic acid (PFNA)	80.2	68.0	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	108	94.1	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	117	119	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	119	108	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	85.8	97.3	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	94.1	85.8	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	103	108	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	76.1	103	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	86.0	76.1	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	95.2	99.8	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	99.8	86.0	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	76.2	91.0	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	83.1	76.2	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	92.2	83.1	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	95.6	92.2	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.7	95.6	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	103	114	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	114	96.0	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	123	132	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	132	114	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	96.0	103	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	115	121	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	121	132	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	129	95.4	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	132	75.4	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	75.4	129	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	112	121	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	121	92.7	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	127	112	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	92.7	96.5	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	96.5	109	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	115	98.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98008

Included Lab Sample IDs: 2157867, 2157868, 2157869, 2157870, 2157872, 2157874, 2157877, 2157879, 2157880, 2157881, 2157883, 2157885, 2157958, 2157959, 2157961, 2157963, 2157965, 2157967, 2157968, 2157969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoroundecanoic acid (PFUnA)	118	115	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	130	118	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	98.3	100	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	98.8	98.3	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98045

Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	70.7	78.5	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	74.9	92.8	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	78.5	74.9	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	78.6	86.9	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	85.2	78.6	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	86.9	89.7	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	86.9		P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	89.7	101	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	92.8	85.2	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	98.8	156	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	125	70.6	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	136	125	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	101	112	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	107	120	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	112	91.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	115	117	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	117	93.3	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	117		P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	76.4	115	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	87.1	101	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	93.3	117	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	98.6	60.6	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	103	122	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	69.6	103	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	104	63.0	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	105	127	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	107	113	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	107		P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	113	107	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	114	104	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	147	141	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	154	147	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	92.4	113	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	76.8	97.2	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	97.2	119	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	102	106	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	123	109	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	123		P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98045

Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
N-Et perfluorooctanesulfonamidoAc acid	124	123	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	124	138	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	134	147	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	138	134	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	147	83.4	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	83.4	124	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	84.6	119	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	94.2	84.6	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	103	110	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	108	103	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	110	108	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	110	97.1	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	113	118	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	86.8	110	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	91.0	112	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	91.0		P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	97.1	91.0	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	114	79.5	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	114	114	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	108	132	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	108	118	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	111	131	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	118	135	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	124	145	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	125	108	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	131	125	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	133	124	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	133		P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	135	133	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	117	119	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	119	107	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	106	80.7	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	108	113	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	115	115	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	115	106	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	80.7	91.3	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	81.1	115	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	91.3	97.5	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	97.5	82.6	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	97.5		P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	101	79.0	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	103	101	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	101	138	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	103	126	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	108	86.4	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	114	61.2	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	126	79.6	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	129	150	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98045

Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorodecanoic acid (PFDA)	138		P	60 - 160
Perfluorodecanoic acid (PFDA)	148	90.9	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	61.2	101	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	70.4	103	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	79.6	70.4	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	82.0	109	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	60.8	68.3	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	68.3	101	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	101	111	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	111	120	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	116	91.7	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	120	95.1	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	62.7	83.4	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	73.7	81.4	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	74.9	73.7	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	81.4	62.7	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	81.4		P	60 - 160
Perfluorododecanoic acid (PFDoA)	95.1	74.9	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	83.1	104	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	88.7	83.1	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	100	138	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	101	104	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	104	82.6	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	104		P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	104	109	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	132	72.3	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	138	140	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	140	132	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	72.3	101	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	85.2	92.2	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	95.0	85.2	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	101	84.1	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	116	119	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	118	131	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	119	80.3	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	121	67.4	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	124	69.3	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	124		P	60 - 160
Perfluoroheptanoic acid (PFHpA)	131	116	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	69.3	118	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	80.3	82.9	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	82.9	124	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	64.3	77.6	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	77.6	133	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	105	73.2	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	111	109	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	125	134	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	134	105	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98045

Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorohexanesulfonic acid (PFHxS)	139	151	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	151	124	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	151		P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	86.7	125	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	95.9	139	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	101	96.1	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	96.1	118	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	102	77.4	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	105	155	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	124	79.9	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	134	60.5	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	137	66.7	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	137		P	60 - 160
Perfluorohexanoic acid (PFHxA)	155	160	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	160	127	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	60.5	88.3	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	66.7	102	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	88.3	137	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	61.4	138	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	73.0	61.4	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	100	103	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	103	99.6	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	104	100	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	110	113	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	87.8	104	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	89.5	91.8	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	91.8	84.0	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	91.8		P	60 - 160
Perfluorononanesulfonic acid (PFNS)	99.6	89.5	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	106	88.3	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	107	106	P/P	60 - 160
Perfluorononanoic acid (PFNA)	128	87.3	P/P	60 - 160
Perfluorononanoic acid (PFNA)	128		P	60 - 160
Perfluorononanoic acid (PFNA)	133	128	P/P	60 - 160
Perfluorononanoic acid (PFNA)	139	65.6	P/P	60 - 160
Perfluorononanoic acid (PFNA)	153	159	P/P	60 - 160
Perfluorononanoic acid (PFNA)	159	159	P/P	60 - 160
Perfluorononanoic acid (PFNA)	159	139	P/P	60 - 160
Perfluorononanoic acid (PFNA)	65.6	133	P/P	60 - 160
Perfluorononanoic acid (PFNA)	86.6	84.2	P/P	60 - 160
Perfluorononanoic acid (PFNA)	87.3	105	P/P	60 - 160
Perfluorononanoic acid (PFNA)	90.7	60.0	P/P	60 - 160
Perfluorononanoic acid (PFNA)	60.7	152	P/P	60 - 160
Perfluorononanoic acid (PFNA)	70.0	60.7	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	111	147	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	114	120	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	116	117	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	117	98.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98045

Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorooctanesulfonic acid (PFOS)	117		P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	139	79.0	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	146	139	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	147	146	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	79.0	116	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	98.8	126	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	101	87.3	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	87.3	96.2	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	123	77.9	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	125	139	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	139	95.0	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	69.9	85.1	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	74.4	75.3	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	75.3	88.2	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	85.1	96.0	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	85.5	125	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	88.2	69.9	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	88.2		P	60 - 160
Perfluorooctanoic acid (PFOA)	95.0	74.4	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	123	94.8	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	94.8	70.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	103	141	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	107	96.2	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	107		P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	107	107	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	115	109	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	138	90.4	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	141	149	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	149	138	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	90.4	107	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.2	109	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	116	96.8	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.8	95.5	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	103	136	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	112	84.0	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	114	86.3	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	115	64.6	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	136	152	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	136	76.2	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	136		P	60 - 160
Perfluoropentanoic acid (PFPeA)	148	114	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	152	148	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	76.2	94.9	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	86.3	103	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	87.2	138	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	94.3	87.2	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	102	114	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	114	115	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98045

Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorotetradecanoic acid (PFTeA)	115	91.5	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	71.9	94.1	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	75.7	76.5	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	76.5	94.0	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	91.5	75.7	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	93.3	111	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	94.0	71.9	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	94.0		P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	67.8	67.2	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	74.4	67.8	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	101	129	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	107	80.2	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	129	78.8	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	65.5	80.4	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	73.3	80.1	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	77.1	101	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	79.7	67.3	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	80.4		P	60 - 160
Perfluorotridecanoic acid (PFTriA)	86.3	66.4	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	80.5	90.1	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	90.1	72.3	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	102	89.1	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	112	130	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	118	76.7	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	124	112	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	127	102	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	127		P	60 - 160
Perfluoroundecanoic acid (PFUnA)	130	85.9	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	71.2	98.2	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	85.9	71.2	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	98.2	127	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	60.7	129	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	72.4	60.7	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98126

Included Lab Sample IDs: 2158113, 2158224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	144	124	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	85.4	107	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	116	112	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	93.9	86.7	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	109	110	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	122	116	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	101	103	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	98.2	88.9	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	69.5	64.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98126

Included Lab Sample IDs: 2158113, 2158224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoroheptanesulfonic acid (PFHpS)	110	107	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	66.5	87.4	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	84.9	81.6	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	68.7	63.4	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	80.8	80.2	P/P	60 - 160
Perfluorononanoic acid (PFNA)	95.0	96.6	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	79.7	82.3	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	107	88.2	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	117	113	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	86.0	85.9	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	78.2	94.2	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	76.7	82.6	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	80.6	114	P/P	60 - 160

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision
				LCS	SMP	MS	
EPA 6020A	Arsenic	103		104	103	105	1.56
	Barium	102		103	99.6	102	2.73
	Cadmium	104		107	104	108	2.58
	Chromium	98.7		103	100	101	2.39
	Lead	98.5		99.7	98.0	100	1.76
	Selenium	99.5		98.4	98.9	101	0.497
	Silver	102		105	104	104	1.20
EPA 7473	Mercury	102		101	102		0.390
EPA 8260D	1,1-Dichloroethane	114	106	102	107	7.77	4.60
	1,1-Dichloroethene	107	110	93.8	96.4	2.72	2.73
	1,1,1-Trichloroethane	103	106	103	103	2.91	0.0
	1,1,2-Trichloroethane	104	103	101	105	0.722	4.12
	1,1,2,2-Tetrachloroethane	100	98.3	102	108	2.01	5.86
	1,2-Dichlorobenzene	98.8	103	98.6	98.6	4.26	0.101
	1,2-Dichloroethane	109	111	109	114	1.54	4.57
	1,2-Dichloropropane	112	114	111	118	1.33	6.11
	1,3-Dichlorobenzene	98.2	99.4	97.2	97.2	1.11	0.103
	1,4-Dichlorobenzene	98.8	103	98.6	98.6	4.26	0.101
	2-Butanone	105	103	104	109	1.67	4.54
	Benzene	104	105	102	108	1.48	5.25
	Bromodichloromethane	110	113	111	114	2.15	2.63
	Bromoform	111	108	108	107	2.60	1.44
	Bromomethane	111	106	104	96.0	4.48	7.72
	Carbon tetrachloride	105	109	105	104	3.61	0.961
	Chlorobenzene	105	104	103	104	0.383	1.54
	Chloroethane	117	120	119	111	3.12	7.04
	Chloroform	106	109	105	108	2.80	2.77
	Chloromethane	107	104	107	101	2.80	5.87
	cis-1,2-Dichloroethene	98.8	101	97.0	100	2.20	3.34
	cis-1,3-Dichloropropene	105	105	104	106	0.143	2.09
	Dibromochloromethane	99.6	99.4	97.0	96.1	0.101	0.881
	Ethylbenzene	105	104	104	107	1.24	2.47
	m,p-Xylene	107	105	105	108	2.07	2.82
	Methyl-t-butyl ether	118	106	105	106	10.9	0.332
	Methylene chloride	128	128	109	113	0.0	3.75
	o-Xylene	106	105	106	108	1.28	1.87
	Tetrachloroethene	104	105	101	98.2	1.53	2.64
	Toluene	116	116	115	119	0.0431	3.12
	trans-1,2-Dichloroethene	123	113	108	113	8.67	3.89
trans-1,3-Dichloropropene	94.4	94.4	92.1	92.9	0.0	0.865	
Trichloroethene	111	115	106	109	3.93	2.83	
Trichlorofluoromethane	114	119	114	106	4.07	7.10	
Vinyl chloride	121	122	120	111	1.07	7.90	
EPA 8270E	1-Methylnaphthalene	95.7	93.6			2.22	
	1-Naphthylamine	48.8	34.7			33.8	
	1,2,4-Trichlorobenzene	93.7	88.8			5.37	
	1,2,4,5-Tetrachlorobenzene	90.0	85.7			4.89	
	1,3-Dinitrobenzene	99.5	97.0			2.60	
	1,3,5-Trinitrobenzene	97.2	94.9			2.39	
	2-Acetylaminofluorene	84.4	83.0			1.67	
	2-Chloronaphthalene	92.3	90.3			2.19	
	2-Chlorophenol	101	92.3			8.61	
	2-Methyl-4,6-dinitrophenol	59.7	67.5			12.3	
2-Methylnaphthalene	96.9	93.8			3.25		

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision SMP	MS
EPA 8270E	2-Naphthylamine	40.0	37.0			7.79	
	2-Nitroaniline	92.1	93.6			1.62	
	2-Nitrophenol	97.4	92.8			4.84	
	2-Picoline	84.2	79.5			5.74	
	2,3,4,6-Tetrachlorophenol	119	120			0.209	
	2,4-Dichlorophenol	93.1	91.4			1.84	
	2,4-Dimethylphenol	79.0	79.6			0.757	
	2,4-Dinitrophenol	34.5	42.6			21.0	
	2,4-Dinitrotoluene	88.9	87.3			1.82	
	2,4,5-Trichlorophenol	91.8	89.9			2.09	
	2,4,6-Trichlorophenol	91.0	90.1			0.994	
	2,6-Dichlorophenol	102	97.9			3.91	
	2,6-Dinitrotoluene	88.5	88.0			0.567	
	3-Methylcholanthrene	77.6	77.9			0.386	
	3,3'-Dichlorobenzidine	193	197			2.02	
	4-Aminobiphenyl	96.9	98.7			1.84	
	4-Bromophenyl phenyl ether	98.2	92.4			6.09	
	4-Chloro-3-methylphenol	87.4	84.3			3.61	
	4-Chlorophenyl phenyl ether	87.7	84.9			3.24	
	4-Nitrophenol	61.0	58.5			4.18	
	5-Nitro-o-toluidine	99.0	98.1			0.913	
	7,12-Dimethylbenz(a)anthracene	92.1	86.6			6.16	
	Acenaphthene	92.7	91.8			0.976	
	Acenaphthylene	88.4	87.5			1.02	
	Acetophenone	92.4	86.8			6.25	
	Aniline	88.9	94.1			5.68	
	Anthracene	96.5	92.7			4.02	
	Azobenzene/1,2-Diphenylhydrazine	99.1	95.4			3.80	
	Benzidine	87.2	76.8			12.7	
	Benzo(a)anthracene	95.4	94.5			0.948	
	Benzo(a)pyrene	84.1	84.9			0.947	
	Benzo(b)fluoranthene	92.8	86.5			7.03	
	Benzo(g,h,i)perylene	74.5	72.8			2.31	
	Benzo(k)fluoranthene	93.2	89.4			4.16	
	Benzyl alcohol	107	95.3			11.8	
	Bis(2-chloroethoxy)methane	87.8	84.3			4.07	
	Bis(2-chloroethyl)ether	88.0	78.3			11.7	
	Bis(2-chloroisopropyl)ether	103	94.3			8.92	
	Bis(2-ethylhexyl)phthalate	105	104			0.575	
	Butyl benzyl phthalate	100	97.9			2.52	
	Carbazole	104	92.9			11.2	
	Chrysene	89.9	87.0			3.28	
	Di-n-butyl phthalate	102	98.9			3.38	
	Di-n-octyl phthalate	102	98.0			3.61	
	Dibenzo(a,h)anthracene	82.5	78.6			4.84	
Dibenzofuran	92.5	90.9			1.74		
Diethyl phthalate	97.7	96.5			1.24		
Dimethyl phthalate	96.9	95.9			1.04		
Dimethylaminoazobenzene	88.9	88.9			0.0		
Dinoseb	105	106			0.380		
Ethyl methanesulfonate	76.6	70.0			9.00		
Fluoranthene	95.8	92.6			3.40		
Fluorene	87.2	86.0			1.39		
Hexachlorobenzene	92.4	89.3			3.41		

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS	
EPA 8270E	Hexachlorobutadiene	91.5	86.9			5.16			
	Hexachlorocyclopentadiene	37.9	38.9			2.60			
	Hexachloroethane	96.3	91.1			5.55			
	Hexachloropropene	87.2	81.8			6.39			
	Indeno(1,2,3-cd)pyrene	79.4	75.7			4.77			
	Isophorone	89.6	86.1			3.98			
	Isosafrole	95.0	91.2			4.08			
	m,p-Cresols	99.4	101			1.94			
	N-Nitrosodi-n-butylamine	92.0	86.2			6.51			
	N-Nitrosodi-n-propylamine	108	100			7.66			
	N-Nitrosodiethylamine	91.6	87.3			4.81			
	N-Nitrosodimethylamine	94.6	88.0			7.23			
	N-Nitrosodiphenylamine/ Diphenylamine	90.9	91.3			0.439			
	N-Nitrosomethylethylamine	85.2	75.7			11.8			
	N-Nitrosomorpholine	88.3	85.5			3.22			
	N-Nitrosopiperidine	92.0	85.2			7.67			
	N-Nitrosopyrrolidine	79.8	74.3			7.14			
	Naphthalene	93.7	89.1			5.03			
	Nitrobenzene	98.2	95.2			3.10			
	o-Cresol	94.8	87.2			8.35			
	o-Toluidine	87.3	87.9			0.685			
	Pentachlorobenzene	89.6	88.7			1.01			
	Pentachloroethane	85.8	79.2			8.00			
	Pentachloronitrobenzene	93.2	87.0			6.88			
	Pentachlorophenol	58.6	53.4			9.29			
	Phenacetin	102	102			0.589			
	Phenanthrene	97.2	92.9			4.52			
	Phenol	70.7	63.0			11.5			
	Pyrene	92.2	90.3			2.08			
	Pyridine	81.4	81.3			0.123			
	Safrole	95.0	91.2			4.08			
	EPA 8321B	4:2 Fluorotelomer sulfonate (4:2 FTS)	75.9		65.3	99.1			41.1
		4:2 Fluorotelomer sulfonate (4:2 FTS)	118		109	102			6.07
4:2 Fluorotelomer sulfonate (4:2 FTS)		148		148	159			6.73	
4:2 Fluorotelomer sulfonate (4:2 FTS)		107		116	86.0			29.9	
4:2 Fluorotelomer sulfonate (4:2 FTS)		136		139	143			2.93	
4:2 Fluorotelomer sulfonate (4:2 FTS)		109		76.9	98.2			24.3	
4:2 Fluorotelomer sulfonate (4:2 FTS)		76.0		74.4	70.6			5.14	
4:2 Fluorotelomer sulfonate (4:2 FTS)		110	120			9.06			
4:2 Fluorotelomer sulfonate (4:2 FTS)		93.2		122	120			2.16	
4:2 Fluorotelomer sulfonate (4:2 FTS)		84.9		182	191			4.48	
6:2 Fluorotelomer sulfonate (6:2 FTS)		68.6		54.0	91.0			51.1	
6:2 Fluorotelomer sulfonate (6:2 FTS)		126		136	114			17.2	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8321B	6:2 Fluorotelomer sulfonate (6:2 FTS)	107		79.7	119			23.6
	6:2 Fluorotelomer sulfonate (6:2 FTS)	92.5		110	89.6			20.2
	6:2 Fluorotelomer sulfonate (6:2 FTS)	141		121	126			2.77
	6:2 Fluorotelomer sulfonate (6:2 FTS)	129						32.7
	6:2 Fluorotelomer sulfonate (6:2 FTS)	94.7		72.9	86.0			16.5
	6:2 Fluorotelomer sulfonate (6:2 FTS)	159	136			15.8		
	6:2 Fluorotelomer sulfonate (6:2 FTS)	86.6		126	123			2.11
	6:2 Fluorotelomer sulfonate (6:2 FTS)	127		133	125			6.06
	8:2 Fluorotelomer sulfonate (8:2 FTS)	75.8		96.6	61.3			44.7
	8:2 Fluorotelomer sulfonate (8:2 FTS)	140		171	129			28.1
	8:2 Fluorotelomer sulfonate (8:2 FTS)	83.8						19.3
	8:2 Fluorotelomer sulfonate (8:2 FTS)	125		106	95.6			10.3
	8:2 Fluorotelomer sulfonate (8:2 FTS)	129		139	144			3.04
	8:2 Fluorotelomer sulfonate (8:2 FTS)	147		91.6	103			11.5
	8:2 Fluorotelomer sulfonate (8:2 FTS)	88.0		88.2	91.8			3.97
	8:2 Fluorotelomer sulfonate (8:2 FTS)	156	124			23.0		
	8:2 Fluorotelomer sulfonate (8:2 FTS)	145		138	137			0.454
	8:2 Fluorotelomer sulfonate (8:2 FTS)	114		219	192			13.5
	N-Et perfluorooctanesulfonamidoAc acid	71.0		55.5	87.8			45.1
	N-Et perfluorooctanesulfonamidoAc acid	145		68.3	80.7			16.7
	N-Et perfluorooctanesulfonamidoAc acid	115		83.8	104			21.6
	N-Et perfluorooctanesulfonamidoAc acid	79.7		82.6	70.7			15.5
	N-Et perfluorooctanesulfonamidoAc acid	113		34.8	31.8			9.08
	N-Et perfluorooctanesulfonamidoAc acid	148		46.5	48.5			4.28
	N-Et perfluorooctanesulfonamidoAc acid	76.4		64.5	69.2			7.11
	N-Et perfluorooctanesulfonamidoAc acid	77.6	95.3			20.5		
	N-Et perfluorooctanesulfonamidoAc acid	99.7		92.1	96.1			4.25
	N-Et perfluorooctanesulfonamidoAc acid	125		107	103			3.65
	N-Me perfluorooctanesulfonamidoAc acid	70.5		60.9	97.7			46.5
	N-Me perfluorooctanesulfonamidoAc acid	103		53.8	70.5			26.9

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	
							SMP	MS
EPA 8321B	N-Me perfluorooctanesulfonamidoAc acid	117		89.2	101			12.3
	N-Me perfluorooctanesulfonamidoAc acid	78.7		67.5	62.6			7.53
	N-Me perfluorooctanesulfonamidoAc acid	115		30.7	27.3			11.6
	N-Me perfluorooctanesulfonamidoAc acid	144		31.8	35.2			9.87
	N-Me perfluorooctanesulfonamidoAc acid	85.1		65.1	74.3			13.2
	N-Me perfluorooctanesulfonamidoAc acid	73.8	73.6			0.259		
	N-Me perfluorooctanesulfonamidoAc acid	91.2		110	110			0.415
	N-Me perfluorooctanesulfonamidoAc acid	120		143	128			10.9
	Perfluorobutanesulfonic acid (PFBS)	101		79.5	128			46.5
	Perfluorobutanesulfonic acid (PFBS)	114		126	117			7.42
	Perfluorobutanesulfonic acid (PFBS)	136		115	146			23.6
	Perfluorobutanesulfonic acid (PFBS)	93.5		109	98.8			10.2
	Perfluorobutanesulfonic acid (PFBS)	117		137	136			0.693
	Perfluorobutanesulfonic acid (PFBS)	127		84.2	84.7			0.371
	Perfluorobutanesulfonic acid (PFBS)	113		102	112			8.93
	Perfluorobutanesulfonic acid (PFBS)	117	122			4.31		
	Perfluorobutanesulfonic acid (PFBS)	90.7		114	112			1.72
	Perfluorobutanesulfonic acid (PFBS)	137		158	152			3.73
	Perfluorodecanesulfonic acid (PFDS)	83.4		65.7	99.6			41.0
	Perfluorodecanesulfonic acid (PFDS)	126		122	153			22.4
	Perfluorodecanesulfonic acid (PFDS)	129		118	141			17.5
	Perfluorodecanesulfonic acid (PFDS)	114		107	92.5			14.2
	Perfluorodecanesulfonic acid (PFDS)	117		121	125			3.68
	Perfluorodecanesulfonic acid (PFDS)	147		111	110			0.642
	Perfluorodecanesulfonic acid (PFDS)	93.4		85.6	91.9			7.05
	Perfluorodecanesulfonic acid (PFDS)	69.6	70.6			1.46		
	Perfluorodecanesulfonic acid (PFDS)	125		108	114			5.17
	Perfluorodecanesulfonic acid (PFDS)	114		97.5	91.7			6.16
	Perfluorodecanoic acid (PFDA)	84.2		60.3	105			49.3
	Perfluorodecanoic acid (PFDA)	98.8		162	126			25.2
	Perfluorodecanoic acid (PFDA)	102						21.1
	Perfluorodecanoic acid (PFDA)	79.8		123	110			11.6

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	
							SMP	MS
EPA 8321B	Perfluorodecanoic acid (PFDA)	125		116	147			23.6
	Perfluorodecanoic acid (PFDA)	154		88.1	104			16.4
	Perfluorodecanoic acid (PFDA)	106		88.2	103			11.0
	Perfluorodecanoic acid (PFDA)	84.8	88.5			4.27		
	Perfluorodecanoic acid (PFDA)	76.7		177	134			23.9
	Perfluorodecanoic acid (PFDA)	76.0		89.2	117			26.6
	Perfluorododecanoic acid (PFDoA)	94.9		74.0	117			45.2
	Perfluorododecanoic acid (PFDoA)	114		100	111			9.63
	Perfluorododecanoic acid (PFDoA)	107		126	82.4			31.2
	Perfluorododecanoic acid (PFDoA)	89.2		154	218			34.2
	Perfluorododecanoic acid (PFDoA)	152		74.0	116			44.0
	Perfluorododecanoic acid (PFDoA)	132		107	113			5.53
	Perfluorododecanoic acid (PFDoA)	146		79.2	111			30.1
	Perfluorododecanoic acid (PFDoA)	66.7	84.1			23.0		
	Perfluorododecanoic acid (PFDoA)	82.9		89.3	108			16.6
	Perfluorododecanoic acid (PFDoA)	113		120	129			6.61
	Perfluoroheptanesulfonic acid (PFHpS)	74.6		90.3	62.6			36.2
	Perfluoroheptanesulfonic acid (PFHpS)	101		130	94.2			29.1
	Perfluoroheptanesulfonic acid (PFHpS)	112		85.2	100			16.3
	Perfluoroheptanesulfonic acid (PFHpS)	91.8		110	91.5			18.1
	Perfluoroheptanesulfonic acid (PFHpS)	117		129	139			7.18
	Perfluoroheptanesulfonic acid (PFHpS)	158		123	130			3.71
	Perfluoroheptanesulfonic acid (PFHpS)	80.0		71.9	78.0			8.14
	Perfluoroheptanesulfonic acid (PFHpS)	76.9	83.7			8.42		
	Perfluoroheptanesulfonic acid (PFHpS)	99.7		113	108			5.11
	Perfluoroheptanesulfonic acid (PFHpS)	73.1		134	139			4.00
	Perfluoroheptanoic acid (PFHpA)	78.2		56.2	94.7			51.0
	Perfluoroheptanoic acid (PFHpA)	132		148	83.0			32.7
	Perfluoroheptanoic acid (PFHpA)	98.0						25.5
	Perfluoroheptanoic acid (PFHpA)	85.7		122	164			20.9
	Perfluoroheptanoic acid (PFHpA)	145		91.7	106			7.34
	Perfluoroheptanoic acid (PFHpA)	144						16.4
	Perfluoroheptanoic acid (PFHpA)	93.4		72.0	119			43.3
	Perfluoroheptanoic acid (PFHpA)	99.8	94.8			5.18		
	Perfluoroheptanoic acid (PFHpA)	79.3		97.6	135			28.0
	Perfluoroheptanoic acid (PFHpA)	84.9		91.5	119			26.4
	Perfluorohexanesulfonic acid (PFHxS)	102		66.8	116			43.7
	Perfluorohexanesulfonic acid (PFHxS)	134						15.2
	Perfluorohexanesulfonic acid (PFHxS)	125		106	139			26.8
	Perfluorohexanesulfonic acid (PFHxS)	87.2		129	118			8.15
Perfluorohexanesulfonic acid (PFHxS)	132		84.2	89.5			1.48	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	
							SMP	MS
EPA 8321B	Perfluorohexanesulfonic acid (PFHxS)	153						10.5
	Perfluorohexanesulfonic acid (PFHxS)	123		95.7	117			17.5
	Perfluorohexanesulfonic acid (PFHxS)	98.5	96.5			2.05		
	Perfluorohexanesulfonic acid (PFHxS)	80.3		89.5	92.9			3.78
	Perfluorohexanesulfonic acid (PFHxS)	120		178	180			0.970
	Perfluorohexanoic acid (PFHxA)	79.4		77.4	132			52.4
	Perfluorohexanoic acid (PFHxA)	112		95.1	98.0			1.74
	Perfluorohexanoic acid (PFHxA)	100		81.5	112			11.7
	Perfluorohexanoic acid (PFHxA)	117		126	238			44.2
	Perfluorohexanoic acid (PFHxA)	149						37.4
	Perfluorohexanoic acid (PFHxA)							19.8
	Perfluorohexanoic acid (PFHxA)	126		102	110			6.15
	Perfluorohexanoic acid (PFHxA)	88.6	94.3			6.17		
	Perfluorohexanoic acid (PFHxA)	72.2		78.5	100			20.4
	Perfluorohexanoic acid (PFHxA)	95.9		145	130			11.1
	Perfluorononanesulfonic acid (PFNS)	89.7		70.2	118			50.5
	Perfluorononanesulfonic acid (PFNS)	136		98.7	115			13.5
	Perfluorononanesulfonic acid (PFNS)	116		100	129			24.8
	Perfluorononanesulfonic acid (PFNS)	89.6		120	107			10.8
	Perfluorononanesulfonic acid (PFNS)	152		94.8	98.8			4.12
	Perfluorononanesulfonic acid (PFNS)	123		90.4	92.8			2.63
	Perfluorononanesulfonic acid (PFNS)	112		93.3	103			10.1
	Perfluorononanesulfonic acid (PFNS)	95.5	93.6			2.03		
	Perfluorononanesulfonic acid (PFNS)	85.4		82.9	86.2			3.80
	Perfluorononanesulfonic acid (PFNS)	73.0		111	110			1.26
	Perfluorononanoic acid (PFNA)	65.3		81.4	48.9			44.6
	Perfluorononanoic acid (PFNA)	105		210	91.7			47.8
	Perfluorononanoic acid (PFNA)	96.0						19.8
	Perfluorononanoic acid (PFNA)	104		131	180			31.9
	Perfluorononanoic acid (PFNA)	120		102	146			35.7
	Perfluorononanoic acid (PFNA)	159		140	119			13.4
	Perfluorononanoic acid (PFNA)	76.1		58.3	75.8			20.3
	Perfluorononanoic acid (PFNA)	122	108			11.6		
	Perfluorononanoic acid (PFNA)	93.0		105	117			9.93
	Perfluorononanoic acid (PFNA)	112		116	112			2.99
	Perfluorooctanesulfonic acid (PFOS)	84.3						45.2
	Perfluorooctanesulfonic acid (PFOS)	126						24.4
	Perfluorooctanesulfonic acid (PFOS)	114		128	162			19.5
	Perfluorooctanesulfonic acid (PFOS)	95.8		112	72.0			25.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision SMP	MS
		LCS	MS	LCS	MS		
EPA 8321B	Perfluorooctanesulfonic acid (PFOS)	113		106	101		3.37
	Perfluorooctanesulfonic acid (PFOS)	128					14.0
	Perfluorooctanesulfonic acid (PFOS)	104		90.3	129		12.0
	Perfluorooctanesulfonic acid (PFOS)	83.9	85.4			1.80	
	Perfluorooctanesulfonic acid (PFOS)	83.6		77.8	87.8		6.79
	Perfluorooctanesulfonic acid (PFOS)	95.0		97.0	89.9		7.54
	Perfluorooctanoic acid (PFOA)	61.1		43.4	81.7		53.9
	Perfluorooctanoic acid (PFOA)	116		182	93.6		47.0
	Perfluorooctanoic acid (PFOA)	125		65.4	118		17.1
	Perfluorooctanoic acid (PFOA)	99.6		97.8	145		33.1
	Perfluorooctanoic acid (PFOA)	152		109	153		27.3
	Perfluorooctanoic acid (PFOA)	121		52.1	77.0		16.6
	Perfluorooctanoic acid (PFOA)	80.6		54.0	72.2		23.4
	Perfluorooctanoic acid (PFOA)	88.8	90.2			1.56	
	Perfluorooctanoic acid (PFOA)	114		107	135		18.4
	Perfluorooctanoic acid (PFOA)	75.1		134	122		9.73
	Perfluoropentanesulfonic acid (PFPeS)	85.7		74.1	106		35.7
	Perfluoropentanesulfonic acid (PFPeS)	135		147	112		25.2
	Perfluoropentanesulfonic acid (PFPeS)	113		111	136		20.2
	Perfluoropentanesulfonic acid (PFPeS)	96.1		111	121		8.67
	Perfluoropentanesulfonic acid (PFPeS)	150		136	139		0.973
	Perfluoropentanesulfonic acid (PFPeS)	151					10.8
	Perfluoropentanesulfonic acid (PFPeS)	86.1		83.7	85.4		2.09
	Perfluoropentanesulfonic acid (PFPeS)	85.5	88.2			3.03	
	Perfluoropentanesulfonic acid (PFPeS)	142		110	113		2.10
	Perfluoropentanesulfonic acid (PFPeS)	93.2		159	146		8.44
	Perfluoropentanoic acid (PFPeA)	93.2		39.2	83.6		46.9
	Perfluoropentanoic acid (PFPeA)	142		145	133		5.35
	Perfluoropentanoic acid (PFPeA)	99.5					41.4
	Perfluoropentanoic acid (PFPeA)	98.1		133	196		28.7
	Perfluoropentanoic acid (PFPeA)	140		60.3	143		22.9
	Perfluoropentanoic acid (PFPeA)	152					18.7
	Perfluoropentanoic acid (PFPeA)	106		73.9	79.6		4.33
	Perfluoropentanoic acid (PFPeA)	109	94.5			14.3	
	Perfluoropentanoic acid (PFPeA)	110		93.4	124		20.9
	Perfluoropentanoic acid (PFPeA)	112		182	139		22.1
	Perfluorotetradecanoic acid (PFTeA)	84.3		77.3	90.2		15.3
	Perfluorotetradecanoic acid (PFTeA)	91.8		91.7	105		13.4
	Perfluorotetradecanoic acid (PFTeA)	129		118	136		13.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	
							SMP	MS
EPA 8321B	Perfluorotetradecanoic acid (PFTeA)	97.8		112	136			19.9
	Perfluorotetradecanoic acid (PFTeA)	146		93.0	110			16.9
	Perfluorotetradecanoic acid (PFTeA)	123		95.7	87.8			8.60
	Perfluorotetradecanoic acid (PFTeA)	91.7		80.8	107			27.7
	Perfluorotetradecanoic acid (PFTeA)	46.9	47.0			0.0873		
	Perfluorotetradecanoic acid (PFTeA)	80.3		93.1	110			16.7
	Perfluorotetradecanoic acid (PFTeA)	64.2		94.6	113			17.5
	Perfluorotridecanoic acid (PFTriA)	78.4		61.6	72.1			15.7
	Perfluorotridecanoic acid (PFTriA)	107		102	133			26.4
	Perfluorotridecanoic acid (PFTriA)	114		127	173			28.5
	Perfluorotridecanoic acid (PFTriA)	124		101	109			7.14
	Perfluorotridecanoic acid (PFTriA)	130		80.9	121			39.8
	Perfluorotridecanoic acid (PFTriA)	158		104	119			13.5
	Perfluorotridecanoic acid (PFTriA)	92.4		81.9	103			23.1
	Perfluorotridecanoic acid (PFTriA)	41.8	53.7			24.9		
	Perfluorotridecanoic acid (PFTriA)	104		104	145			32.3
	Perfluorotridecanoic acid (PFTriA)	82.4		102	86.6			16.3
	Perfluoroundecanoic acid (PFUnA)	120		80.3	126			44.1
	Perfluoroundecanoic acid (PFUnA)	129		111	126			12.7
	Perfluoroundecanoic acid (PFUnA)	138						8.80
	Perfluoroundecanoic acid (PFUnA)	121		93.8	110			16.2
	Perfluoroundecanoic acid (PFUnA)	128		96.7	122			23.2
	Perfluoroundecanoic acid (PFUnA)	132		107	133			21.5
	Perfluoroundecanoic acid (PFUnA)	110		99.5	130			22.5
	Perfluoroundecanoic acid (PFUnA)	91.4	102			10.7		
	Perfluoroundecanoic acid (PFUnA)	97.1		95.3	121			21.4
	Perfluoroundecanoic acid (PFUnA)	89.0		134	117			13.8

Reference Method Descriptions

Method	Description	Associated Samples
EPA 6020A	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting RCRA Projects	2158231
EPA 7473	Mercury in aqueous samples using thermal decomposition, amalgamation, and AA spectroscopy.	2158230
EPA 8260D	Volatile organic pollutants in acid preserved water matrices using GC/MS	2158235, 2158236
EPA 8270E	EPA Method 8270, Semi-volatile organic pollutants including PAHs, excluding PCBs and Toxaphene, in water matrices by GC/MS.	2158229

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Perfluorinated alkyl substances in sediment/solid matrices by HPLC/MS/MS	2157867, 2157868, 2157869, 2157870, 2157871, 2157872, 2157873, 2157874, 2157875, 2157876, 2157877, 2157878, 2157879, 2157880, 2157881, 2157882, 2157883, 2157884, 2157885, 2157957, 2157958, 2157959, 2157960, 2157961, 2157962, 2157963, 2157964, 2157965, 2157966, 2157967, 2157968, 2157969, 2157970, 2157971, 2157972, 2157973, 2157975, 2158009, 2158010, 2158011, 2158012, 2158013, 2158014, 2158015, 2158016, 2158017, 2158018, 2158019, 2158020, 2158021, 2158022, 2158023, 2158024, 2158025, 2158026, 2158027, 2158052, 2158053, 2158054, 2158055, 2158056, 2158057, 2158058, 2158059, 2158060, 2158061, 2158062, 2158063, 2158064, 2158065, 2158066, 2158067, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158105, 2158106, 2158107, 2158108, 2158109, 2158110, 2158111, 2158112, 2158113, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158224, 2158225, 2158226, 2158227, 2158228, 2158326, 2158327
EPA 8321B	Perfluorinated alkyl substances in water matrices by HPLC/MS/MS	2157886, 2157978, 2158028, 2158070, 2158071, 2158072, 2158161, 2158162, 2158202, 2158232, 2158233, 2158234

Reference Method Descriptions

Method	Description	Associated Samples
SM 2540 G (20th)	Percent solid determination before the other sample preparations.	2157887, 2157888, 2157889, 2157890, 2157891, 2157892, 2157894, 2157895, 2157896, 2157897, 2157898, 2157899, 2157900, 2157901, 2157902, 2157903, 2157904, 2157905, 2157906, 2157979, 2157980, 2157981, 2157982, 2157983, 2157984, 2157985, 2157986, 2157987, 2157988, 2157989, 2157990, 2157991, 2157992, 2157993, 2157994, 2157995, 2157997, 2158029, 2158030, 2158031, 2158032, 2158033, 2158034, 2158035, 2158036, 2158037, 2158038, 2158039, 2158040, 2158041, 2158042, 2158043, 2158044, 2158045, 2158046, 2158048, 2158073, 2158074, 2158075, 2158076, 2158077, 2158078, 2158079, 2158080, 2158081, 2158082, 2158083, 2158084, 2158085, 2158086, 2158088, 2158091, 2158092, 2158115, 2158116, 2158117, 2158118, 2158119, 2158120, 2158121, 2158122, 2158123, 2158124, 2158125, 2158126, 2158127, 2158128, 2158129, 2158130, 2158131, 2158132, 2158133, 2158134, 2158163, 2158164, 2158165, 2158166, 2158167, 2158168, 2158169, 2158170, 2158171, 2158172, 2158173, 2158174, 2158175, 2158176, 2158179, 2158180, 2158181, 2158182, 2158203, 2158204, 2158205, 2158206, 2158207, 2158208, 2158209, 2158210, 2158211, 2158212, 2158213, 2158214, 2158216, 2158217, 2158218, 2158219, 2158220, 2158221, 2158222, 2158237, 2158238, 2158240, 2158241, 2158242, 2158243, 2158328, 2158329

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 6020A	02/17/2020	02/19/2020 16:50	Elliott D. Healy	02/24/2020 16:34	Justin Cutchin	2158231
	02/17/2020	02/19/2020 16:50	Elliott D. Healy	02/26/2020 16:43	Justin Cutchin	2158231
EPA 7473	02/17/2020			02/18/2020 14:23	Vijayalakshmi Reddy	2158230
EPA 8260D	02/17/2020	02/24/2020 10:30	Yi Lin Luo	02/24/2020 13:58	Yi Lin Luo	2158235
	02/17/2020	02/24/2020 10:30	Yi Lin Luo	02/24/2020 15:47	Yi Lin Luo	2158236
EPA 8270E	02/17/2020	02/19/2020 10:00	Hoor Shaik	02/20/2020 12:39	Mohammad Ghaffari	2158229
	02/17/2020	02/19/2020 10:00	Hoor Shaik	02/20/2020 18:57	Mohammad Ghaffari	2158229
EPA 8321B	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 06:10	Pramila Ghimire	2157867
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 06:30	Pramila Ghimire	2157868
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 06:49	Pramila Ghimire	2157869
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 07:09	Pramila Ghimire	2157870
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 08:08	Pramila Ghimire	2157872
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 08:47	Pramila Ghimire	2157874
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 09:45	Pramila Ghimire	2157877
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 08:34	Pramila Ghimire	2157871
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 09:13	Pramila Ghimire	2157873
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 09:32	Pramila Ghimire	2157875
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 09:52	Pramila Ghimire	2157876
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 10:11	Pramila Ghimire	2157878
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 14:47	Pramila Ghimire	2157871
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 15:06	Pramila Ghimire	2157873
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 13:14	Pramila Ghimire	2157879
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 13:34	Pramila Ghimire	2157880
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 13:53	Pramila Ghimire	2157881
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 14:52	Pramila Ghimire	2157883
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 15:31	Pramila Ghimire	2157885
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 16:10	Pramila Ghimire	2157958
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 16:29	Pramila Ghimire	2157959	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 17:08	Pramila Ghimire	2157961	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/27/2020 09:54	Pramila Ghimire	2157963	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/27/2020 10:34	Pramila Ghimire	2157965	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/27/2020 11:13	Pramila Ghimire	2157967	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/27/2020 11:32	Pramila Ghimire	2157968	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/27/2020 11:52	Pramila Ghimire	2157969	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 10:31	Pramila Ghimire	2157882	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 10:50	Pramila Ghimire	2157884	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 11:10	Pramila Ghimire	2157957	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 11:49	Pramila Ghimire	2157960	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 12:08	Pramila Ghimire	2157962	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 12:47	Pramila Ghimire	2157964	

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 13:07	Pramila Ghimire	2157966
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/01/2020 23:27	Mohammad Ghaffari	2157970
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/01/2020 23:47	Mohammad Ghaffari	2157971
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 00:06	Mohammad Ghaffari	2157972
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 00:26	Mohammad Ghaffari	2157973
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 01:05	Mohammad Ghaffari	2157975
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 01:24	Mohammad Ghaffari	2158009
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 01:44	Mohammad Ghaffari	2158010
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 02:03	Mohammad Ghaffari	2158011
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 02:23	Mohammad Ghaffari	2158012
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 02:42	Mohammad Ghaffari	2158013
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 03:02	Mohammad Ghaffari	2158014
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 03:22	Mohammad Ghaffari	2158015
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 04:01	Mohammad Ghaffari	2158016
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 04:20	Mohammad Ghaffari	2158017
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 04:40	Mohammad Ghaffari	2158018
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 04:59	Mohammad Ghaffari	2158019
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 05:19	Mohammad Ghaffari	2158020
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 05:38	Mohammad Ghaffari	2158021
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 05:58	Mohammad Ghaffari	2158022
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 06:17	Mohammad Ghaffari	2158023
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 10:47	Mohammad Ghaffari	2157973
	02/17/2020	02/21/2020 10:00	Pramila Ghimire	02/29/2020 14:36	Mohammad Ghaffari	2157886
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 00:21	Mohammad Ghaffari	2158026
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 01:20	Mohammad Ghaffari	2158052
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 03:17	Mohammad Ghaffari	2158058
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 03:37	Mohammad Ghaffari	2158059
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 04:16	Mohammad Ghaffari	2158060
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 04:55	Mohammad Ghaffari	2158062
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 05:14	Mohammad Ghaffari	2158063
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 05:34	Mohammad Ghaffari	2158064
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 06:13	Mohammad Ghaffari	2158066
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 06:32	Mohammad Ghaffari	2158067
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 03:01	Mohammad Ghaffari	2158024
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 03:21	Mohammad Ghaffari	2158025
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 03:41	Mohammad Ghaffari	2158053
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 04:20	Mohammad Ghaffari	2158054
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 04:39	Mohammad Ghaffari	2158055
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 04:59	Mohammad Ghaffari	2158056
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 05:18	Mohammad Ghaffari	2158057

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 05:38	Mohammad Ghaffari	2158061
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	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/05/2020 17:47	Mohammad Ghaffari	2158027
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 16:37	Mohammad Ghaffari	2158105
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 16:57	Mohammad Ghaffari	2158106
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 17:16	Mohammad Ghaffari	2158107
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 17:36	Mohammad Ghaffari	2158108
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 17:56	Mohammad Ghaffari	2158109
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 18:35	Mohammad Ghaffari	2158111
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 18:54	Mohammad Ghaffari	2158112
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 11:27	Mohammad Ghaffari	2158110
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 12:03	Mohammad Ghaffari	2158097
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 12:23	Mohammad Ghaffari	2158098
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 20:11	Mohammad Ghaffari	2158099
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 20:31	Mohammad Ghaffari	2158100
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 20:50	Mohammad Ghaffari	2158101
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 21:10	Mohammad Ghaffari	2158102
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 21:29	Mohammad Ghaffari	2158103
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 21:49	Mohammad Ghaffari	2158104
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/03/2020 00:06	Mohammad Ghaffari	2158068
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/03/2020 00:45	Mohammad Ghaffari	2158095
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/03/2020 01:04	Mohammad Ghaffari	2158096
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 01:11	Mohammad Ghaffari	2158114
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 01:31	Mohammad Ghaffari	2158143
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 01:50	Mohammad Ghaffari	2158144
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 02:29	Mohammad Ghaffari	2158145
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 02:49	Mohammad Ghaffari	2158146
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 03:08	Mohammad Ghaffari	2158147
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 03:28	Mohammad Ghaffari	2158148
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 03:47	Mohammad Ghaffari	2158149
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 04:07	Mohammad Ghaffari	2158150
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 04:26	Mohammad Ghaffari	2158151
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 04:46	Mohammad Ghaffari	2158152
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 05:25	Mohammad Ghaffari	2158153
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 05:44	Mohammad Ghaffari	2158154
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 06:24	Mohammad Ghaffari	2158156
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 06:43	Mohammad Ghaffari	2158157
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 07:22	Mohammad Ghaffari	2158159
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 07:42	Mohammad Ghaffari	2158160
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 20:23	Mohammad Ghaffari	2158143

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/09/2020 12:36	Mohammad Ghaffari	2158155
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/09/2020 12:55	Mohammad Ghaffari	2158158
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/09/2020 13:34	Mohammad Ghaffari	2158155
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/10/2020 21:04	Pramila Ghimire	2158113
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 09:39	Mohammad Ghaffari	2158183
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 09:58	Mohammad Ghaffari	2158184
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 10:37	Mohammad Ghaffari	2158186
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 11:16	Mohammad Ghaffari	2158187
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 11:36	Mohammad Ghaffari	2158188
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 11:55	Mohammad Ghaffari	2158189
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 12:15	Mohammad Ghaffari	2158190
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 12:34	Mohammad Ghaffari	2158191
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 12:54	Mohammad Ghaffari	2158192
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 13:13	Mohammad Ghaffari	2158193
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 13:33	Mohammad Ghaffari	2158194
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 14:12	Mohammad Ghaffari	2158195
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 14:31	Mohammad Ghaffari	2158196
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 14:51	Mohammad Ghaffari	2158197
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 15:11	Mohammad Ghaffari	2158198
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 15:30	Mohammad Ghaffari	2158199
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 15:50	Mohammad Ghaffari	2158200
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 16:09	Mohammad Ghaffari	2158201
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 16:29	Mohammad Ghaffari	2158223
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 21:41	Mohammad Ghaffari	2158183
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/09/2020 14:11	Mohammad Ghaffari	2158185
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 15:45	Mohammad Ghaffari	2158070
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 16:05	Mohammad Ghaffari	2158071
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 16:24	Mohammad Ghaffari	2158232
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 16:44	Mohammad Ghaffari	2158234
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 18:02	Mohammad Ghaffari	2157978
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 18:21	Mohammad Ghaffari	2158028
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 18:41	Mohammad Ghaffari	2158072
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 19:00	Mohammad Ghaffari	2158161
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 19:20	Mohammad Ghaffari	2158162
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 19:39	Mohammad Ghaffari	2158202
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 19:59	Mohammad Ghaffari	2158233
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	02/28/2020 19:24	Mohammad Ghaffari	2158225
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	02/28/2020 20:03	Mohammad Ghaffari	2158227
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	02/28/2020 20:23	Mohammad Ghaffari	2158228
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	03/05/2020 18:06	Mohammad Ghaffari	2158226

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/17/2020	02/26/2020 12:00	Pramila Ghimire	03/05/2020 18:26	Mohammad Ghaffari	2158326
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	03/05/2020 18:45	Mohammad Ghaffari	2158327
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	03/06/2020 01:55	Mohammad Ghaffari	2158326
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	03/10/2020 22:03	Pramila Ghimire	2158224

Chemical Analysis Report

SIS-2020-02-17-02

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

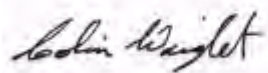
Event Description: **Current Indian River State College Fire Training Facility**
Request ID: **RQ-2020-02-10-21**
Customer: **SIS**
Project ID: **SIS-PFAS**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Road
Twin Towers Bldg. MS# 4515
Tallahassee, FL 32399
Attn: Brandie Stringer

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
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Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 27-MAR-2020 11:54



NON-CONFORMANCE REPORT INCLUDED

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Pesticides and Priority Organic Pollutants.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 08:35

Field ID: SB-7 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157867	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	1.8		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	1.6		ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.1		ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.63	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	0.47		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.57	I	ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.51		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.32	I	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.26	I	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	3.7		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.81	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.79	I	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.17	I	ug/Kg	P378998	RPD
2157887	SM 2540 G (20th)	% Solid**	89.0	A	%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 08:48

Field ID: SB-7 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157868	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	1.8		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.15	I	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.67	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.51	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	0.72		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.2		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.27	I	ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.62		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.88	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157888	SM 2540 G (20th)	% Solid**	85.4		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 08:56

Field ID: SB-7 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157869	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	0.20	I	ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.30	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.28	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	0.39	I	ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.5		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.16	I	ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.69	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157889	SM 2540 G (20th)	% Solid**	87.7		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:04

Field ID: SB-6 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157870	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	14		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	2.8		ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.94	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	3.1		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.98	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	1.5		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	38		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.89		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.84		ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.52		ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	7.1		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	1.5	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.15	I	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.97	I	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.84	I	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.30	I	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.41	I	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.40	I	ug/Kg	P378998	RPD
2157890	SM 2540 G (20th)	% Solid**	84.8		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:07

Field ID: SB-6 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157871	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	3.1		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.24	I	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.43	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.61		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.54	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	1.9		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	67		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.65		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.40	I	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.62	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.83	I	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.41	I	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157891	SM 2540 G (20th)	% Solid**	87.0		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:10

Field ID: SB-6 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157872	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	0.23	I	ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.13	I	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.36	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	1.1		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.51	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	5.2		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	150		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.49		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.14	I	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.91	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.6		ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.14	I	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157892	SM 2540 G (20th)	% Solid**	87.8		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:23

Field ID: EQB-4

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157886	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P381021	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P381021	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P381021	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P381021	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P381021	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P381021	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P381021	MS
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P381021	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P381021	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P381021	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P381021	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P381021	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P381021	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P381021	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P381021	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P381021	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P381021	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P381021	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P381021	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P381021	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P381021	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P381021	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:33

Field ID: SB-5 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157873	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.17	I	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	16		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	13		ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	4.6		ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	7.0		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	3.3		ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	5.8		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	52		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	3.1		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	7.1		ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	4.5		ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	9.6		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	4.8		ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.28	I	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.9		ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	7.5		ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.50	I	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.36	I	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.94		ug/Kg	P378998	RPD
2157894	SM 2540 G (20th)	% Solid**	82.7		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:38

Field ID: SB-5 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157874	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	1.1		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.15	I	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.2		ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	7.4		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	1.7		ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	3.5		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	130		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	1.3		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.12	I	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	I	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	1.8	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.17	I	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.3	I	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.81	I	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	1.2		ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157895	SM 2540 G (20th)	% Solid**	89.0		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:41

Field ID: SB-5 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157875	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.40	I	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	2.1		ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	31		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	6.1		ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	0.27	I	ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	9.3		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	5.2		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	4.2		ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	1.1		ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	19		ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.51		ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157896	SM 2540 G (20th)	% Solid**	88.3		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:48

Field ID: SB-4 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157876	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	2.6		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	1.2		ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.3		ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.56		ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	2.1		ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	2.0		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	11		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	1.7		ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.39	I	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.55		ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	2.5		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	2.4		ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.21	I	ug/Kg	P378998	RPD
2157897	SM 2540 G (20th)	% Solid**	84.9		%	P379183	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:52

Field ID: SB-4 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157877	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	0.84		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.88		ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.42	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.26	I	ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.66	I	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	0.87		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	13		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.42	I	ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.21	I	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.15	I	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.80		ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.94	I	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157898	SM 2540 G (20th)	% Solid**	86.2	A	%	P379184	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 09:55

Field ID: SB-4 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157878	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorodecanoic acid (PFDA)**	0.62		ug/Kg	P378998	RPD
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P378998	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.27	I	ug/Kg	P378998	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P378998	RPD
		Perfluorononanoic acid (PFNA)**	1.4		ug/Kg	P378998	RPD
		Perfluorooctanesulfonic acid (PFOS)**	13		ug/Kg	P378998	RPD
		Perfluorooctanoic acid (PFOA)**	0.44	I	ug/Kg	P378998	RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P378998	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P378998	
		Perfluoroundecanoic acid (PFUnA)**	0.16	I	ug/Kg	P378998	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P378998	RPD
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P378998	MS, RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P378998	RPD
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P378998	RPD
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P378998	RPD
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P378998	RPD
		Perfluorononanesulfonic acid (PFNS)**	0.12	I	ug/Kg	P378998	RPD
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P378998	RPD
2157899	SM 2540 G (20th)	% Solid**	86.6		%	P379184	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:10

Field ID: SB-3 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157879	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.69		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.21	I	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.25	I J	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.28	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.39	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.36	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	3.9		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.27	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.37	I	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.89	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157900	SM 2540 G (20th)	% Solid**	87.5		%	P379184	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:13

Field ID: SB-3 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157880	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.24	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	4.3		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.52	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157901	SM 2540 G (20th)	% Solid**	87.0		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:19

Field ID: SB-3 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157881	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	2.4		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.54	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157902	SM 2540 G (20th)	% Solid**	86.5		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:31

Field ID: SB-27 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157882	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.19	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	3.3		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.19	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.16	I	ug/Kg	P379093	
2157903	SM 2540 G (20th)	% Solid**	85.1		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:34

Field ID: SB-27 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157883	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	3.7		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.29	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.55	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157904	SM 2540 G (20th)	% Solid**	89.3		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:37

Field ID: SB-27 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157884	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	3.9		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.48	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157905	SM 2540 G (20th)	% Solid**	86.9		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:46

Field ID: SB-26 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157885	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.36	I	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.26	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.26	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	1.5		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.52	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.52	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379093	
2157906	SM 2540 G (20th)	% Solid**	83.9		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:49

Field ID: SB-26 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157957	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.14	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	2.1		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157979	SM 2540 G (20th)	% Solid**	86.3		%	P379184	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 10:54

Field ID: SB-26 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157958	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	0.73	I	ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157980	SM 2540 G (20th)	% Solid**	86.8	A	%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:16

Field ID: SB-8 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157959	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	2.9		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.40	I	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	1.0		ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	1.2		ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	1.6		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	0.51	I	ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.83		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.93		ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.6	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	1.3		ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379093	
2157981	SM 2540 G (20th)	% Solid**	91.4		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:22

Field ID: SB-8 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157960	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.85		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.19	I	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	1.3		ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	1.2		ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	1.6		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	1.2		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	2.0		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.39	I	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.1	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.2	I	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.45	I	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157982	SM 2540 G (20th)	% Solid**	88.5		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:26

Field ID: SB-8 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157961	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.82	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	1.4		ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.28	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	2.0		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.67		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.3	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157983	SM 2540 G (20th)	% Solid**	88.2		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:33

Field ID: SB-9 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157962	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.18	I	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.32	I	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.91	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	2.1		ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.47	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	1.3		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	27		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	1.5		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.46	I	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.52	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.17	I	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.29	I	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157984	SM 2540 G (20th)	% Solid**	88.0		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:35

Field ID: SB-9 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157963	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.39	I	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.65	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.73		ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.41	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.63		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	12		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.55		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.0	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157985	SM 2540 G (20th)	% Solid**	89.5		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 11:38

Field ID: SB-9 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157964	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.23	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.90		ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.22	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.24	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	8.9		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.13	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.44	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.44	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379093	
Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379093			
Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379093			
2157986	SM 2540 G (20th)	% Solid**	92.5		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:08

Field ID: SB-12 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157965	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.91		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.14	I	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.77	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.41	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.40	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.88		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	4.2		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.79		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.63		ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.1	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.16	I	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379093	
2157987	SM 2540 G (20th)	% Solid**	84.4		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:11

Field ID: SB-12 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157966	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.41	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.25	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.95		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	22		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.52		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379093	
2157988	SM 2540 G (20th)	% Solid**	90.0		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:15

Field ID: SB-12 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157967	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.27	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	0.32	I	ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	0.26	I	ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	16		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.29	I	ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	0.55	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157989	SM 2540 G (20th)	% Solid**	90.3		%	P379185	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:24

Field ID: SB-11 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157968	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	2.4		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.75		ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.85	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	2.0		ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.68	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	1.8		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	5.0		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.62		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.15	I	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.14	I	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	2.3		ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.6	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.40	I	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.16	I	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.24	I	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.27	I	ug/Kg	P379093	
2157990	SM 2540 G (20th)	% Solid**	88.1	A	%	P379186	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:26

Field ID: SB-11 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157969	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanoic acid (PFDA)**	0.81		ug/Kg	P379093	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379093	
		Perfluoroheptanoic acid (PFHpA)**	0.92	I	ug/Kg	P379093	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	3.8		ug/Kg	P379093	
		Perfluorohexanoic acid (PFHxA)**	0.84	I	ug/Kg	P379093	
		Perfluorononanoic acid (PFNA)**	2.5		ug/Kg	P379093	
		Perfluorooctanesulfonic acid (PFOS)**	63		ug/Kg	P379093	
		Perfluorooctanoic acid (PFOA)**	0.86		ug/Kg	P379093	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379093	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379093	
		Perfluoroundecanoic acid (PFUnA)**	0.13	I	ug/Kg	P379093	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379093	
		Perfluoropentanoic acid (PFPeA)**	1.2	I	ug/Kg	P379093	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	I	ug/Kg	P379093	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.85	I	ug/Kg	P379093	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379093	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.25	I	ug/Kg	P379093	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379093	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379093	
2157991	SM 2540 G (20th)	% Solid**	89.0		%	P379186	

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:30

Field ID: SB-11 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157970	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.12	UJ	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	1.5		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	5.2		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	1.4		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	1.8	J	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	65		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.92	J	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	1.4	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.21	I	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	UJ	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.21	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.20	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	UJ	ug/Kg	P379087	MS
2157992	SM 2540 G (20th)	% Solid**	89.8	A	%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:51

Field ID: SB-1 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157971	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.57		ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.13	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	12		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	43		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	12		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.89		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	4.3		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	19		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	11		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	1.7		ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	12		ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	1.8		ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2157993	SM 2540 G (20th)	% Solid**	87.1		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 13:58

Field ID: SB-14 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157972	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	7.6		ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	3.1		ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.1		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	5.9		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	1.3		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	4.0		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	14		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.9		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.62		ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.70		ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	10		ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	5.5		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.58		ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.0	I	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	1.4		ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.29	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.64		ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.88		ug/Kg	P379087	MS
2157994	SM 2540 G (20th)	% Solid**	85.9		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:02

Field ID: SB-14 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157973	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.36	I	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	5.6		ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.28	I	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.6		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	12		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	4.6		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	13		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	170		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	5.7		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.71		ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	7.2		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.88		ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	6.6		ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.66	I	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.98		ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.27	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2157995	SM 2540 G (20th)	% Solid**	87.3		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:18

Field ID: SB-2 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157975	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.14	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.59	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	3.0		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.41	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	4.1		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	89		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.6		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.73	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.17	I	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.5		ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.20	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.20	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379087	MS
2157997	SM 2540 G (20th)	% Solid**	90.0		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:37

Field ID: EQB-5

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157978	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	I	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	53		ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.1	I	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	1.4	I	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	2.6	I	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:41

Field ID: SB-15 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158009	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	9.5		ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	1.2		ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	3.6		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	2.3		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	2.0		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	3.8		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	19		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	2.0		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.27	I	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.37	I	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	3.0		ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	6.6		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.27	I	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.68	I	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.95	I	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.18	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.31	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.21	I	ug/Kg	P379087	MS
2158029	SM 2540 G (20th)	% Solid**	83.4		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:46

Field ID: SB-15 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158010	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.89		ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.18	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.6		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	14		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	3.7		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.37	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	4.3		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.7		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	I	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	7.7		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	2.2		ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	5.4		ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158030	SM 2540 G (20th)	% Solid**	89.7		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 14:53

Field ID: SB-15 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158011	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	2.8		ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	1.9		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	8.0		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	6.8		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.3		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.41	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	7.9		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	3.2		ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	5.5		ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.20	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379087	MS
2158031	SM 2540 G (20th)	% Solid**	90.2		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:02

Field ID: SB-13 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158012	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	3.9		ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.61		ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.4		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.76		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	1.2		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	4.1		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	8.1		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.3		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.18	I	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	2.6		ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	3.7		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.92	I	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.70	I	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.31	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.14	I	ug/Kg	P379087	MS
2158032	SM 2540 G (20th)	% Solid**	86.9		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:07

Field ID: SB-13 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158013	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.29	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.0		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.77		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.88	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	4.7		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	31		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.9		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	1.6	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.17	I	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158033	SM 2540 G (20th)	% Solid**	88.1		%	P379247	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:09

Field ID: SB-13 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158014	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	2.8		ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	1.1		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	1.1		ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.16	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.9		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	2.5		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	1.9		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.44	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.47		ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.19	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379087	MS
2158034	SM 2540 G (20th)	% Solid**	92.3	A	%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:29

Field ID: SB-17 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158015	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	1.9		ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.48	I	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.93	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.59		ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.72	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	3.2		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	7.2		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	1.3		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.14	I	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	1.7		ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	2.0		ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.23	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158035	SM 2540 G (20th)	% Solid**	85.6		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:36

Field ID: SB-17 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158016	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.38	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.69	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.74	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	1.8		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	3.2		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.76		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.13	I	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	1.3	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158036	SM 2540 G (20th)	% Solid**	86.8		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:38

Field ID: SB-17 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158017	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.23	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.57	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.16	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.47	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.63		ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.8		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.47		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.92	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.20	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158037	SM 2540 G (20th)	% Solid**	90.1		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:47

Field ID: SB-18 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158018	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.33	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.27	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.16	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.45	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.50	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.2		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.45	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.19	I	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.36	I	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.52	U	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.52	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.23	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379087	MS
2158038	SM 2540 G (20th)	% Solid**	84.0		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:50

Field ID: SB-18 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158019	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.16	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.36	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.22	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.7		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.34	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.22	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158039	SM 2540 G (20th)	% Solid**	85.8		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 15:54

Field ID: SB-18 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158020	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.33	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.4		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.25	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158040	SM 2540 G (20th)	% Solid**	87.8		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:16

Field ID: SB-19 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158021	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.20	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.26	U	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.19	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.42	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.25	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.2		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.24	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.20	I	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.59	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.23	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379087	MS
2158041	SM 2540 G (20th)	% Solid**	83.9		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:21

Field ID: SB-19 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158022	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.31	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.16	I	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	2.6		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.30	I	ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379087	MS
2158042	SM 2540 G (20th)	% Solid**	86.8		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:25

Field ID: SB-19 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158023	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379087	
		Perfluorodecanoic acid (PFDA)**	0.15	I	ug/Kg	P379087	MS
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379087	
		Perfluoroheptanoic acid (PFHpA)**	0.47	I	ug/Kg	P379087	
		Perfluorohexanesulfonic acid (PFHxS)**	0.17	I	ug/Kg	P379087	
		Perfluorohexanoic acid (PFHxA)**	0.61	I	ug/Kg	P379087	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379087	MS, RPD
		Perfluorooctanesulfonic acid (PFOS)**	3.2		ug/Kg	P379087	
		Perfluorooctanoic acid (PFOA)**	0.70		ug/Kg	P379087	MS, RPD
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379087	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379087	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379087	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379087	
		Perfluoropentanoic acid (PFPeA)**	0.92	I	ug/Kg	P379087	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379087	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379087	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.76	I	ug/Kg	P379087	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379087	MS
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379087	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379087	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379087	MS
2158043	SM 2540 G (20th)	% Solid**	84.7		%	P379248	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:32

Field ID: SB-16 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158024	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	3.5		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.66		ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	4.2		ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	2.9		ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	12		ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.57	I J	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	3.8		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.20	I	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.17	I J	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	2.1		ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	3.4	J	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	UJ	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.2	I	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	16		ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379089	
2158044	SM 2540 G (20th)	% Solid**	92.9	A	%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:35

Field ID: SB-16 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158025	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	1.5		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.63	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.92	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.78		ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.64	I	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.83		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.33	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	1.4	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.52	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	3.5		ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379089	
2158045	SM 2540 G (20th)	% Solid**	82.9		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/10/2020 16:38

Field ID: SB-16 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158026	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	2.2		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.39	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.80	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.24	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.25	U	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.71		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.18	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.66	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	28		ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379089	
2158046	SM 2540 G (20th)	% Solid**	86.5		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 07:17

Field ID: EQB-6

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158028	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	2.9	I	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.42	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.1	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	0.42	U	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.1	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.42	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.42	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.2	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.1	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.42	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.2	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.1	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.42	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.42	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.42	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 07:34

Field ID: SB-10 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158027	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	2.3		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.33	I	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.81	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	1.5		ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.82	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	1.8		ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	16		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.59		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.42	I	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.92		ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	1.2	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	I	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158048	SM 2540 G (20th)	% Solid**	90.4		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 07:37

Field ID: SB-10 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158052	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.34	I	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	1.9		ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	9.9		ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	1.2		ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	2.9		ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	54		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	3.2		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.16	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.80	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.16	I	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	1.3		ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158073	SM 2540 G (20th)	% Solid**	89.2		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 07:41

Field ID: SB-10 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158053	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	4.6		ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	33		ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	1.8		ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.17	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	3.0		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.37	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.86	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.52		ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158074	SM 2540 G (20th)	% Solid**	89.1		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:02

Field ID: SB-25 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158054	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.82	I	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158075	SM 2540 G (20th)	% Solid**	87.5		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:06

Field ID: SB-25 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158055	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.86	I	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.13	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158076	SM 2540 G (20th)	% Solid**	88.6		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:08

Field ID: SB-25 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158056	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	0.88	I	ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.47	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158077	SM 2540 G (20th)	% Solid**	89.9		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:22

Field ID: SB-24 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158057	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	2.2		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.16	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.14	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158078	SM 2540 G (20th)	% Solid**	87.2		%	P379346	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:26

Field ID: SB-24 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158058	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	1.1		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.16	I	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158079	SM 2540 G (20th)	% Solid**	90.4	A	%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:32

Field ID: SB-24 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158059	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	3.7		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158080	SM 2540 G (20th)	% Solid**	87.5		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:43

Field ID: SB-23 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158060	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.49		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.82		ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.27	I	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.30	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.23	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	3.9		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.21	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.24	I	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.19	I	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	2.1		ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.52	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	I	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158081	SM 2540 G (20th)	% Solid**	88.8		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:50

Field ID: SB-23 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158061	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.63		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.13	I	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.14	I	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.16	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	6.7		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.44	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379089	
2158082	SM 2540 G (20th)	% Solid**	86.0		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 08:55

Field ID: SB-23 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158062	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.31	I	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.26	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.32	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	4.1		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158083	SM 2540 G (20th)	% Solid**	86.3		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 09:22

Field ID: SB-20 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158063	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.83		ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.67	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.40	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.57		ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	1.5		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.58		ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.6	I	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	4.5		ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158084	SM 2540 G (20th)	% Solid**	87.3		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 09:28

Field ID: SB-20 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158064	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.59	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.42	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	2.8		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.26	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.60	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.2	I	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158085	SM 2540 G (20th)	% Solid**	89.5		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 09:34

Field ID: SB-20 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158065	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.27	I	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.36	I	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	2.0		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.66	I	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379089	
2158086	SM 2540 G (20th)	% Solid**	89.6		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 09:51

Field ID: EQB-7

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158072	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	3.4	I	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 10:15

Field ID: Sed-5 (0-1)

Matrix: SEDIMENT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158066	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.14	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.14	U	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.14	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.29	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.29	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.17	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	2.6		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.14	U	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.14	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.14	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.14	U	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.58	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.29	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.14	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.58	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.29	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.14	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.14	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.14	U	ug/Kg	P379089	
2158088	SM 2540 G (20th)	% Solid**	78.5		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 10:25

Field ID: SW-5

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158070	EPA 8321B	Perfluorooctanoic acid (PFOA)**	70		ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	88		ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	6.2		ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	3.4	I	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.1	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	59		ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	74		ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	44		ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	15		ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.45	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.45	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.1	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.45	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.45	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	100		ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.3	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	5.1		ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	6.3	I	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.5	I	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.3		ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.45	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.45	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 10:37

Field ID: SW-4

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158071	EPA 8321B	Perfluorooctanoic acid (PFOA)**	72		ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	78		ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	8.2		ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	10		ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.4	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	68		ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	87		ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	47		ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	29		ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.56	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.56	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	2.1	I	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.56	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.56	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	130		ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.8	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	7.5		ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	17	I	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	7.2	I	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.4		ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.56	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.56	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 10:57

Field ID: Sed-4 (0-1)

Matrix: SEDIMENT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158067	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.14	U	ug/Kg	P379089	
		Perfluorodecanoic acid (PFDA)**	0.42	I	ug/Kg	P379089	
		Perfluorododecanoic acid (PFDoA)**	0.14	U	ug/Kg	P379089	
		Perfluoroheptanoic acid (PFHpA)**	0.28	U	ug/Kg	P379089	
		Perfluorohexanesulfonic acid (PFHxS)**	0.29	I	ug/Kg	P379089	
		Perfluorohexanoic acid (PFHxA)**	0.28	U	ug/Kg	P379089	
		Perfluorononanoic acid (PFNA)**	0.39	I	ug/Kg	P379089	
		Perfluorooctanesulfonic acid (PFOS)**	5.2		ug/Kg	P379089	MS
		Perfluorooctanoic acid (PFOA)**	0.24	I	ug/Kg	P379089	
		Perfluorotetradecanoic acid (PFTeA)**	0.14	U	ug/Kg	P379089	
		Perfluorotridecanoic acid (PFTriA)**	0.14	U	ug/Kg	P379089	MS
		Perfluoroundecanoic acid (PFUnA)**	0.30	I	ug/Kg	P379089	
		N-Me perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379089	
		N-Et perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379089	
		Perfluoropentanoic acid (PFPeA)**	0.56	U	ug/Kg	P379089	RPD
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.28	U	ug/Kg	P379089	MS
		Perfluoropentanesulfonic acid (PFPeS)**	0.14	U	ug/Kg	P379089	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.56	U	ug/Kg	P379089	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.28	U	ug/Kg	P379089	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.14	U	ug/Kg	P379089	
		Perfluorononanesulfonic acid (PFNS)**	0.14	U	ug/Kg	P379089	
		Perfluorodecanesulfonic acid (PFDS)**	0.14	U	ug/Kg	P379089	
2158091	SM 2540 G (20th)	% Solid**	79.9		%	P379347	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 10:48

Field ID: SB-8 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158068	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	UJ	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.74	I J	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.23	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.77	I J	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	UJ	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	1.3		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.38	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.83	I J	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379090	
2158092	SM 2540 G (20th)	% Solid**	90.2		%	P379630	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:06

Field ID: SB-8 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158095	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	I	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	1.3		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.16	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.96		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	2.0		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.14	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	1.3	I	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379090	
2158115	SM 2540 G (20th)	% Solid**	89.2		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:25

Field ID: Sed-6

Matrix: SEDIMENT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158096	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.48	I	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	3.6		ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	2.2		ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	2.2		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.47	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	3.6		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	1.5		ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	4.4		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	1.5		ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.15	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.15	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	2.4		ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.57	I	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.41	I	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	15		ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.40	I	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.15	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	3.2		ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.33	I	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.15	U	ug/Kg	P379090	
Perfluorononanesulfonic acid (PFNS)**	0.19	I	ug/Kg	P379090			
Perfluorodecanesulfonic acid (PFDS)**	0.15	U	ug/Kg	P379090			
2158116	SM 2540 G (20th)	% Solid**	77.2		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:27

Field ID: SB-9 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158097	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	1.2		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.36	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	3.7		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.43	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	I	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.85		ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379090	
2158117	SM 2540 G (20th)	% Solid**	95.8		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:30

Field ID: SB-9 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158098	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.33	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.25	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.61	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.19	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.43	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.43	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.59		ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379090	
2158118	SM 2540 G (20th)	% Solid**	85.7		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:40

Field ID: SB-10 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158099	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.17	I	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	3.1		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	14		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	2.8		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.99		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.42	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	1.0	I	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	1.6		ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	13		ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379090	
2158119	SM 2540 G (20th)	% Solid**	94.8		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:45

Field ID: SB-10 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158100	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.30	I	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	1.2		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	1.8		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	3.6		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.35	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.33	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	3.7		ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	I	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	5.8		ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379090	
Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379090			
Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379090			
2158120	SM 2540 G (20th)	% Solid**	84.8		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:56

Field ID: SB-11 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158101	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.62	I	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	2.0		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.46	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	2.5		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.31	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.47	I	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	I	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.44	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.41	I	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379090	
2158121	SM 2540 G (20th)	% Solid**	93.3		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 12:03

Field ID: SB-11 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158102	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.56	I	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.53		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	1.2		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.27	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.20	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	2.3		ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	I	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.99	I	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379090	
2158122	SM 2540 G (20th)	% Solid**	84.0		%	P379630	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 12:11

Field ID: SB-21 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158103	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	1.7		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.51		ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090			
Perfluorodecanesulfonic acid (PFDS)**	0.27	I	ug/Kg	P379090			
2158123	SM 2540 G (20th)	% Solid**	90.1	A	%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 12:13

Field ID: SB-21 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158104	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	1.5		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.40	I	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	I	ug/Kg	P379090	
2158124	SM 2540 G (20th)	% Solid**	87.6		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 12:16

Field ID: SB-21 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158105	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.25	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.78	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379090	
2158125	SM 2540 G (20th)	% Solid**	87.1		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:51

Field ID: SB-22 (0-0.5)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158106	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	1.0		ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.59		ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.41	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.34	I	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	4.7		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.32	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.19	I	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.15	I	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.40	I	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.23	I	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.60		ug/Kg	P379090	
2158126	SM 2540 G (20th)	% Solid**	86.2		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:54

Field ID: SB-22 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158107	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.17	I	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.54	I	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.17	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.54	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.39	I	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	3.5		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.62		ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.25	I	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.21	I	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.15	I	ug/Kg	P379090	
2158127	SM 2540 G (20th)	% Solid**	88.2		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 11:58

Field ID: SB-22 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158108	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	1.1		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.95	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	1.4		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.40	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.56	I	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379090	
2158128	SM 2540 G (20th)	% Solid**	89.3		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:12

Field ID: SB-12 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158109	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	0.45	I	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.34	I	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	0.31	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	4.2		ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.36	I	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	0.45	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379090	
2158129	SM 2540 G (20th)	% Solid**	93.1		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:14

Field ID: SB-12 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158110	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.58	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.58	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.58	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	1.2	U	ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	0.58	U	ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	1.3	I	ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.58	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	1.2	U	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.58	U	ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.58	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.58	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.58	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.58	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.58	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	2.3	U	ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	1.2	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.58	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.3	U	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	1.2	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.58	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.58	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.58	U	ug/Kg	P379090	
2158130	SM 2540 G (20th)	% Solid**	85.2		%	P379631	

Ref. Method and Comment:

EPA 8321B: MDLs are elevated due to matrix interference.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:29

Field ID: SB-13 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158111	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	3.5		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	1.4		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	2.1		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.82	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	1.6		ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	2.6		ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.64	I	ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.29	I	ug/Kg	P379090	
Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379090			
Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379090			
2158131	SM 2540 G (20th)	% Solid**	90.5		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:32

Field ID: SB-13 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158112	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.28	I	ug/Kg	P379090	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379090	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379090	MS
		Perfluoroheptanoic acid (PFHpA)**	2.8		ug/Kg	P379090	MS
		Perfluorohexanesulfonic acid (PFHxS)**	1.6		ug/Kg	P379090	
		Perfluorohexanoic acid (PFHxA)**	5.7		ug/Kg	P379090	MS, RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379090	MS
		Perfluorooctanesulfonic acid (PFOS)**	0.63	I	ug/Kg	P379090	
		Perfluorooctanoic acid (PFOA)**	0.60		ug/Kg	P379090	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379090	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379090	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379090	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379090	
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379090	
		Perfluoropentanoic acid (PFPeA)**	9.5		ug/Kg	P379090	MS
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoropentanesulfonic acid (PFPeS)**	0.23	I	ug/Kg	P379090	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.4		ug/Kg	P379090	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379090	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379090	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379090	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379090	
2158132	SM 2540 G (20th)	% Solid**	82.9		%	P379631	

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:47

Field ID: SB-15 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158113	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	1.3		ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.12	UJ	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.8		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	3.9		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	3.9	J	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.12	UJ	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.81	I	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.58		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	UJ	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	UJ	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	UJ	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	5.0		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	1.0		ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.79	I	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379091	
2158133	SM 2540 G (20th)	% Solid**	86.7	A	%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 13:50

Field ID: SB-15 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158114	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	1.1		ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.7		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	2.2		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	2.1		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.47	I	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.38	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	4.6		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.74		ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.95	I	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158134	SM 2540 G (20th)	% Solid**	83.7		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:00

Field ID: SB-1 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158143	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.52		ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	2.7		ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.72		ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	6.2		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	13		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	18		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	13		ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	130		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	4.2		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.42	I	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	I	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	1.5		ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	16		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	2.1		ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	18		ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.87	I	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.3		ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.33	I	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.17	I	ug/Kg	P379091	
2158163	SM 2540 G (20th)	% Solid**	91.4		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:02

Field ID: SB-1 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158144	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.32	I	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.6		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	2.1		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	4.6		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.65		ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	6.7		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.64		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	9.4		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.34	I	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	5.9		ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158164	SM 2540 G (20th)	% Solid**	83.5		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:09

Field ID: SB-14 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158145	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.43	I	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	2.7		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	17		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	6.7		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	13		ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	220		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	5.6		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	4.9		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	1.2		ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	14		ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	1.5		ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158165	SM 2540 G (20th)	% Solid**	91.5		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:12

Field ID: SB-14 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158146	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	1.3		ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	1.4		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	5.1		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	3.7		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.51	I	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	7.8		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.97		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	5.8		ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	1.0		ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	6.3		ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.43	I	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158166	SM 2540 G (20th)	% Solid**	84.1		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:31

Field ID: SB-2 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158147	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.21	I	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.99		ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	3.3		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.64	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	1.3		ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	53		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.44	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.78	I	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.29	I	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.4	I	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379091	
2158167	SM 2540 G (20th)	% Solid**	90.2		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:34

Field ID: SB-2 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158148	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.15	I	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.69	I	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.99		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.60	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.6		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.26	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	1.2	I	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.21	I	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.6	I	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158168	SM 2540 G (20th)	% Solid**	84.1		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:41

Field ID: SB-17 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158149	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.60	I	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.20	I	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.34	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.18	I	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	3.6		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.32	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.45	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158169	SM 2540 G (20th)	% Solid**	91.5		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:45

Field ID: SB-17 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158150	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.26	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.18	I	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.65	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.37	I	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.93	I	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.52	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158170	SM 2540 G (20th)	% Solid**	83.0		%	P379781	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 14:58

Field ID: SB-18 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158151	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.22	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.1		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.11	U	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.43	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.43	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158171	SM 2540 G (20th)	% Solid**	93.5	A	%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 15:00

Field ID: SB-18 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158152	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.26	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.26	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.28	I	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158172	SM 2540 G (20th)	% Solid**	83.9		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 15:17

Field ID: SB-19 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158153	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.83		ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.22	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	3.2		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.11	U	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.45	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158173	SM 2540 G (20th)	% Solid**	90.9		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 15:19

Field ID: SB-19 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158154	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.98		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379091	
2158174	SM 2540 G (20th)	% Solid**	86.2		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 15:29

Field ID: SB-16 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158155	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	3.8		ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.81	I	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.37	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	1.1		ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.72	I	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.85		ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.44	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.86	I	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	80		ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158175	SM 2540 G (20th)	% Solid**	92.3		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/11/2020 15:32

Field ID: SB-16 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158156	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.36	I	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.58	I	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.18	I	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	0.25	U	ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.16	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.74	I	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	20		ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379091	
2158176	SM 2540 G (20th)	% Solid**	84.7		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 07:42

Field ID: EQB-8

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158161	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.52	I	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	1.3	I	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 07:45

Field ID: EQB-9

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158162	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 08:18

Field ID: SB-28 (0.5-2)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158157	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	3.0		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.23	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.36	I	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379091	
2158179	SM 2540 G (20th)	% Solid**	90.2		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 08:22

Field ID: SB-28 (2-4)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158158	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	4.3		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.22	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158180	SM 2540 G (20th)	% Solid**	90.5		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 08:49

Field ID: SB-28 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158159	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.22	I	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	0.22	U	ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.2		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.25	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	0.43	U	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.43	U	ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379091	
2158181	SM 2540 G (20th)	% Solid**	94.0		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 08:51

Field ID: SB-28 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158160	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379091	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroheptanoic acid (PFHpA)**	0.41	I	ug/Kg	P379091	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379091	
		Perfluorohexanoic acid (PFHxA)**	1.0		ug/Kg	P379091	RPD
		Perfluorononanoic acid (PFNA)**	0.26	I	ug/Kg	P379091	RPD
		Perfluorooctanesulfonic acid (PFOS)**	1.7		ug/Kg	P379091	
		Perfluorooctanoic acid (PFOA)**	0.34	I	ug/Kg	P379091	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379091	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379091	RPD
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379091	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379091	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379091	MS
		Perfluoropentanoic acid (PFPeA)**	1.3	I	ug/Kg	P379091	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379091	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379091	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	5.2		ug/Kg	P379091	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379091	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379091	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379091	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379091	
2158182	SM 2540 G (20th)	% Solid**	86.2		%	P379782	

Ref. Method and Comment:

EPA 8321B: MS accuracy for PFHxA could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 13:57

Field ID: SB-5 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158183	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	3.1		ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	6.3		ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	35		ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	13		ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.53	I	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	83		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	2.6		ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.23	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.23	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	UJ	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	9.6		ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.47	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	7.6		ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	16		ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.5		ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158203	SM 2540 G (20th)	% Solid**	89.0	A	%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 13:59

Field ID: SB-5 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158184	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.89		ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.93	I	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	3.4		ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	4.4		ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.16	I	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	13		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.42	I	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	I	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	3.3		ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	1.6		ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.2		ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.35	I	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158204	SM 2540 G (20th)	% Solid**	83.5		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 14:56

Field ID: SB-3 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158185	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.56	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.56	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.56	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	1.1	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.56	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	1.1	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.56	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	1.2	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.56	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.56	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.56	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.56	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.56	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.56	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	2.2	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	1.1	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.56	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.2	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	1.1	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.56	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.56	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.56	U	ug/Kg	P379092	
2158205	SM 2540 G (20th)	% Solid**	92.7		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. MDL elevated due to matrix interference.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 14:59

Field ID: SB-3 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158186	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.14	I	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.70	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158206	SM 2540 G (20th)	% Solid**	86.1		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:14

Field ID: SB-4 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158187	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.21	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.21	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	1.1		ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	4.1		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.68		ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.43	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.21	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.43	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.21	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379092	
2158207	SM 2540 G (20th)	% Solid**	94.1		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:19

Field ID: SB-4 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158188	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.26	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.26	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.38	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158208	SM 2540 G (20th)	% Solid**	84.2		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:33

Field ID: SB-6 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158189	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.76	I	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	1.8		ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.59	I	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	4.8		ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	27		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	1.2		ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.66	I	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	6.2		ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.18	I	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379092	
2158209	SM 2540 G (20th)	% Solid**	90.9		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:37

Field ID: SB-6 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158190	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.30	I	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.29	I	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.48	I	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.25	I	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	5.8		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.65	I	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.26	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158210	SM 2540 G (20th)	% Solid**	84.2		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:48

Field ID: SB-7 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158191	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.29	I	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.49		ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	4.2		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.47		ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.45	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379092	
2158211	SM 2540 G (20th)	% Solid**	91.3		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 15:49

Field ID: SB-7 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158192	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.34	I	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	1.3		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158212	SM 2540 G (20th)	% Solid**	84.4		%	P379933	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 16:00

Field ID: SB-21 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158193	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.56	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.11	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379092	
2158213	SM 2540 G (20th)	% Solid**	90.5	A	%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/12/2020 16:02

Field ID: SB-21 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158194	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.64	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158214	SM 2540 G (20th)	% Solid**	85.9		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 07:54

Field ID: EQB-10

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158202	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	2.1	U	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.42	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.1	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	0.42	U	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.1	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.42	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.42	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.2	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.1	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.42	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.2	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.1	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.42	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.42	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.42	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 08:19

Field ID: SB-27 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158195	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	2.0		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.14	I	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158216	SM 2540 G (20th)	% Solid**	88.3		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 08:21

Field ID: SB-27 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158196	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	1.1		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158217	SM 2540 G (20th)	% Solid**	85.2		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 08:41

Field ID: SB-26 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158197	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.76	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158218	SM 2540 G (20th)	% Solid**	87.6		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 08:43

Field ID: SB-26 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158198	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.25	U	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.51	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.51	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158219	SM 2540 G (20th)	% Solid**	84.1		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 09:31

Field ID: SB-25 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158199	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.11	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.11	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.22	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.11	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.69	I	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.11	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.11	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.44	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.44	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.11	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379092	
2158220	SM 2540 G (20th)	% Solid**	92.2		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 09:33

Field ID: SB-25 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158200	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.13	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.13	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.25	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.13	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.25	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.13	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	0.25	U	ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.13	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.13	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.13	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.13	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAc acid**	0.13	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.50	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.13	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.50	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.25	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.13	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.13	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.13	U	ug/Kg	P379092	
2158221	SM 2540 G (20th)	% Solid**	85.5		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 10:23

Field ID: SB-24 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158201	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	3.0		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.46	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.46	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158222	SM 2540 G (20th)	% Solid**	90.1		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 10:25

Field ID: SB-24 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158223	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379092	
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379092	
		Perfluoroheptanoic acid (PFHpA)**	0.23	U	ug/Kg	P379092	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379092	
		Perfluorohexanoic acid (PFHxA)**	0.23	U	ug/Kg	P379092	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379092	
		Perfluorooctanesulfonic acid (PFOS)**	1.6		ug/Kg	P379092	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379092	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379092	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379092	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379092	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	MS
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379092	
		Perfluoropentanoic acid (PFPeA)**	0.47	U	ug/Kg	P379092	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379092	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.47	U	ug/Kg	P379092	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P379092	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379092	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379092	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379092	
2158237	SM 2540 G (20th)	% Solid**	89.3		%	P379934	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 10:50

Field ID: Sed-7 (0-1)

Matrix: SEDIMENT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158224	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.14	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.51	I J	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.27	I	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.43	I	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.14	U	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.40	I	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.32	I	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	1.5		ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.71		ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.14	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.14	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.23	I	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAcid**	0.14	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.88	I	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.29	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.14	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.57	U	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.35	I	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.14	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.14	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.14	U	ug/Kg	P379634	
2158238	SM 2540 G (20th)	% Solid**	77.6	A	%	P379932	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 10:53

Field ID: SW-6

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158232	EPA 8321B	Perfluorooctanoic acid (PFOA)**	61		ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	33		ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	21		ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	15		ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.4	I	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	76		ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	14		ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	100		ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	44		ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.42	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.42	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	3.2	I	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.42	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	170		ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.1	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	1.0	I	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	67		ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	67		ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.69	I	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.42	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.42	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/13/2020 11:24

Field ID: SB-20 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158225	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.10	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.10	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.10	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.20	U	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.10	U	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.20	U	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.10	U	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	0.23	I	ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.10	U	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.10	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.10	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.10	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAc acid**	0.10	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAc acid**	0.10	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.41	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.20	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.10	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.41	U	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.20	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.10	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.10	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.10	U	ug/Kg	P379634	
2158240	SM 2540 G (20th)	% Solid**	97.1		%	P379932	

Sample Location: IRSC

Collection Date/Time: 02/13/2020 11:26

Field ID: SB-20 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158226	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	1.3		ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAcid**	0.12	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.48	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.48	U	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379634	
2158241	SM 2540 G (20th)	% Solid**	88.2		%	P379932	

Sample Location: IRSC

Collection Date/Time: 02/13/2020 14:28

Field ID: SB-22 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158227	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.33	I	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	0.24	U	ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379634	
2158242	SM 2540 G (20th)	% Solid**	86.7		%	P379932	

Sample Location: IRSC

Collection Date/Time: 02/13/2020 14:30

Field ID: SB-22 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158228	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.12	U	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.24	U	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.12	U	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	0.29	I	ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.12	U	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.49	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.49	U	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379634	
2158243	SM 2540 G (20th)	% Solid**	88.1		%	P379932	

Sample Location: IRSC

Collection Date/Time: 02/14/2020 07:52

Field ID: EQB-11

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158233	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P379487	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P379487	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P379487	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P379487	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P379487	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P379487	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P379487	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P379487	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P379487	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P379487	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P379487	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P379487	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P379487	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P379487	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P379487	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P379487	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P379487	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P379487	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P379487	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: IRSC

Collection Date/Time: 02/14/2020 08:14

Field ID: IDW-4

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158229	EPA 8270E	Acenaphthene	0.25	U	ug/L	P379006	
		Acenaphthylene	0.25	U	ug/L	P379006	
		Acetophenone	2.0	U	ug/L	P379006	
		2-Acetylaminofluorene	10	U	ug/L	P379006	
		4-Aminobiphenyl	40	U	ug/L	P379006	
		Aniline	10	U	ug/L	P379006	
		Anthracene	0.50	U	ug/L	P379006	
		Azobenzene/1,2-Diphenylhydrazine**	0.50	U	ug/L	P379006	
		Benzidine	100	UJ	ug/L	P379006	CCV
		Benzo(a)anthracene	0.25	U	ug/L	P379006	
		Benzo(a)pyrene	0.25	U	ug/L	P379006	
		Benzo(b)fluoranthene	0.25	U	ug/L	P379006	
		Benzo(k)fluoranthene	0.25	U	ug/L	P379006	
		Benzo(g,h,i)perylene	0.25	U	ug/L	P379006	
		Benzyl alcohol	1.0	U	ug/L	P379006	
		Bis(2-chloroethoxy)methane	0.50	U	ug/L	P379006	
		Bis(2-chloroethyl)ether	0.50	U	ug/L	P379006	
		Bis(2-chloroisopropyl)ether	0.50	U	ug/L	P379006	
		Bis(2-ethylhexyl)phthalate	50	U	ug/L	P379006	
		Butyl benzyl phthalate	10	U	ug/L	P379006	
		4-Bromophenyl phenyl ether	0.50	U	ug/L	P379006	
		2-Chloronaphthalene	0.50	U	ug/L	P379006	
		4-Chlorophenyl phenyl ether	0.50	U	ug/L	P379006	
		Carbazole	0.50	U	ug/L	P379006	
		Chrysene	0.25	U	ug/L	P379006	
		m,p-Cresols	0.50	U	ug/L	P379006	
		o-Cresol	0.50	U	ug/L	P379006	
		Di-n-butyl phthalate	20	U	ug/L	P379006	
		Di-n-octyl phthalate	0.50	U	ug/L	P379006	
		Dibenzo(a,h)anthracene	0.25	U	ug/L	P379006	
		Dibenzofuran	0.50	U	ug/L	P379006	
		3,3'-Dichlorobenzidine	100	U	ug/L	P379006	
		Diethyl phthalate	20	U	ug/L	P379006	
		Dimethyl phthalate	0.50	U	ug/L	P379006	
		Dimethylaminoazobenzene	0.50	U	ug/L	P379006	
		7,12-Dimethylbenz(a)anthracene	1.0	U	ug/L	P379006	
		1,3-Dinitrobenzene	1.0	U	ug/L	P379006	
		2,4-Dinitrotoluene	0.50	U	ug/L	P379006	
		2,6-Dinitrotoluene	0.50	U	ug/L	P379006	
		Dinoseb**	40	U	ug/L	P379006	
		Ethyl methanesulfonate	10	U	ug/L	P379006	
		Fluoranthene	0.50	U	ug/L	P379006	
		Fluorene	0.25	U	ug/L	P379006	
		Hexachlorobenzene	0.50	U	ug/L	P379006	

Field ID: IDW-4

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158229	EPA 8270E	Hexachlorobutadiene	0.50	U	ug/L	P379006	
		Hexachlorocyclopentadiene	0.50	U	ug/L	P379006	
		Hexachloroethane	0.50	U	ug/L	P379006	
		Hexachloropropene	0.50	U	ug/L	P379006	
		Indeno(1,2,3-cd)pyrene	0.25	U	ug/L	P379006	
		Isophorone	0.50	U	ug/L	P379006	
		Isosafrole	0.50	U	ug/L	P379006	
		3-Methylcholanthrene	1.0	U	ug/L	P379006	
		2-Methylnaphthalene	1.0	U	ug/L	P379006	
		Naphthalene	1.0	U	ug/L	P379006	
		1-Naphthylamine	100	U	ug/L	P379006	
		2-Naphthylamine	100	U	ug/L	P379006	
		2-Nitroaniline	0.50	U	ug/L	P379006	
		Nitrobenzene	0.50	U	ug/L	P379006	
		5-Nitro-o-toluidine	1.0	U	ug/L	P379006	
		N-Nitrosodi-n-butylamine	0.50	U	ug/L	P379006	
		N-Nitrosodiethylamine	10	U	ug/L	P379006	
		N-Nitrosodimethylamine	20	U	ug/L	P379006	
		N-Nitrosodi-n-propylamine	0.50	U	ug/L	P379006	
		N-Nitrosomethylethylamine	20	U	ug/L	P379006	
		N-Nitrosomorpholine	0.50	U	ug/L	P379006	
		N-Nitrosopiperidine	0.50	U	ug/L	P379006	
		N-Nitrosopyrrolidine	0.50	U	ug/L	P379006	
		Pentachlorobenzene	0.50	U	ug/L	P379006	
		Pentachloroethane**	0.50	U	ug/L	P379006	
		Pentachloronitrobenzene	0.50	U	ug/L	P379006	
		Phenacetin	1.0	U	ug/L	P379006	
		Phenanthrene	1.0	U	ug/L	P379006	
		2-Picoline	10	U	ug/L	P379006	
		Pyrene	1.0	U	ug/L	P379006	
		Pyridine	40	U	ug/L	P379006	
		Safrole	0.50	U	ug/L	P379006	
		1,2,4,5-Tetrachlorobenzene	0.50	U	ug/L	P379006	
		o-Toluidine	1.0	U	ug/L	P379006	
		1,2,4-Trichlorobenzene	0.50	U	ug/L	P379006	
		1,3,5-Trinitrobenzene	1.0	U	ug/L	P379006	
		4-Chloro-3-methylphenol	0.50	U	ug/L	P379006	
		2-Chlorophenol	0.50	U	ug/L	P379006	
		2,4-Dichlorophenol	0.50	U	ug/L	P379006	
		2,6-Dichlorophenol	0.50	U	ug/L	P379006	
		2,4-Dimethylphenol	0.50	U	ug/L	P379006	
		2,4-Dinitrophenol	100	U	ug/L	P379006	
		2-Methyl-4,6-dinitrophenol	30	U	ug/L	P379006	
		2-Nitrophenol	0.50	U	ug/L	P379006	
		4-Nitrophenol	100	U	ug/L	P379006	

Field ID: IDW-4

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158229	EPA 8270E	Pentachlorophenol	5.0	U	ug/L	P379006	
		Phenol	0.50	U	ug/L	P379006	
		2,3,4,6-Tetrachlorophenol	1.0	U	ug/L	P379006	
		2,4,5-Trichlorophenol	0.50	U	ug/L	P379006	
		2,4,6-Trichlorophenol	0.50	U	ug/L	P379006	
		1-Methylnaphthalene	1.0	U	ug/L	P379006	
		N-Nitrosodiphenylamine/ Diphenylamine	1.0	U	ug/L	P379006	
2158230	EPA 7473	Mercury**	0.10	U	ug/L	P379133	
2158231	EPA 6020A	Arsenic	1.25		ug/L	P379203	
		Barium	53.6		ug/L	P379203	
		Cadmium	0.020	U	ug/L	P379203	
		Chromium	2.1		ug/L	P379203	
		Lead	1.10		ug/L	P379203	
		Selenium	1.23		ug/L	P379203	
		Silver	0.010	U	ug/L	P379203	
		2158234	EPA 8321B	Perfluorooctanoic acid (PFOA)**	150		ng/L
Perfluorooctanesulfonic acid (PFOS)**	860				ng/L	P379487	
Perfluorobutanesulfonic acid (PFBS)**	68				ng/L	P379487	
Perfluorodecanoic acid (PFDA)**	2.8			I	ng/L	P379487	
Perfluorododecanoic acid (PFDoA)**	1.0			U	ng/L	P379487	
Perfluoroheptanoic acid (PFHpA)**	390				ng/L	P379487	
Perfluorohexanesulfonic acid (PFHxS)**	550				ng/L	P379487	
Perfluorohexanoic acid (PFHxA)**	500				ng/L	P379487	
Perfluorononanoic acid (PFNA)**	39				ng/L	P379487	
Perfluorotetradecanoic acid (PFTeA)**	0.40			U	ng/L	P379487	
Perfluorotridecanoic acid (PFTriA)**	0.40			U	ng/L	P379487	
Perfluoroundecanoic acid (PFUnA)**	1.0			U	ng/L	P379487	
N-Me perfluorooctanesulfonamidoAc acid**	0.40			U	ng/L	P379487	
N-Et perfluorooctanesulfonamidoAc acid**	0.40			U	ng/L	P379487	
Perfluoropentanoic acid (PFPeA)**	850				ng/L	P379487	
4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0			U	ng/L	P379487	
Perfluoropentanesulfonic acid (PFPeS)**	58				ng/L	P379487	
6:2 Fluorotelomer sulfonate (6:2 FTS)**	610				ng/L	P379487	
8:2 Fluorotelomer sulfonate (8:2 FTS)**	7.1			I	ng/L	P379487	
Perfluoroheptanesulfonic acid (PFHpS)**	21				ng/L	P379487	
Perfluorononanesulfonic acid (PFNS)**	1.4	I	ng/L	P379487			
Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P379487			
2158235	EPA 8260D	Benzene	0.20	UY	ug/L	P379514	
		Bromodichloromethane	0.20	UY	ug/L	P379514	
		Bromoform	0.50	UY	ug/L	P379514	
		Bromomethane	0.50	UY	ug/L	P379514	
		2-Butanone	3.0	UY	ug/L	P379514	

Field ID: IDW-4

Matrix: WATER

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158235	EPA 8260D	Carbon tetrachloride	0.20	UY	ug/L	P379514	
		Chlorobenzene	0.20	UY	ug/L	P379514	
		Chloroethane	0.50	UY	ug/L	P379514	
		Chloroform	0.20	UY	ug/L	P379514	
		Chloromethane	0.50	UY	ug/L	P379514	
		Dibromochloromethane	0.20	UY	ug/L	P379514	
		1,2-Dichlorobenzene	0.50	UY	ug/L	P379514	
		1,3-Dichlorobenzene	0.50	UY	ug/L	P379514	
		1,4-Dichlorobenzene	0.50	UY	ug/L	P379514	
		1,1-Dichloroethane	0.20	UY	ug/L	P379514	
		1,2-Dichloroethane	0.20	UY	ug/L	P379514	
		1,1-Dichloroethene	0.20	UY	ug/L	P379514	
		cis-1,2-Dichloroethene	0.20	UY	ug/L	P379514	
		trans-1,2-Dichloroethene	0.20	UY	ug/L	P379514	
		1,2-Dichloropropane	0.20	UY	ug/L	P379514	
		cis-1,3-Dichloropropene	0.50	UY	ug/L	P379514	
		trans-1,3-Dichloropropene	0.50	UY	ug/L	P379514	
		Ethylbenzene	0.20	UY	ug/L	P379514	
		Methyl-t-butyl ether	0.20	UY	ug/L	P379514	
		Methylene chloride	1.0	UY	ug/L	P379514	
		1,1,2,2-Tetrachloroethane	0.20	UY	ug/L	P379514	
		Tetrachloroethene	0.20	UY	ug/L	P379514	
		Toluene	0.50	UY	ug/L	P379514	
		1,1,1-Trichloroethane	0.20	UY	ug/L	P379514	
		1,1,2-Trichloroethane	0.20	UY	ug/L	P379514	
		Trichloroethene	0.20	UY	ug/L	P379514	
		Trichlorofluoromethane	0.20	UY	ug/L	P379514	
		Vinyl chloride	0.20	UY	ug/L	P379514	
		o-Xylene	0.50	UY	ug/L	P379514	
		m,p-Xylene	0.50	UY	ug/L	P379514	

Ref. Method and Comment:

EPA 8270E: Insufficient sample to perform matrix spikes. MDLs are elevated due to matrix interference. Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8321B: Insufficient sample to perform matrix spikes.

EPA 8260D: Y - Sample was received with inadequate sample preservation; see NCR report.

Sample Location: IRSC

Collection Date/Time: 02/14/2020 08:14

Field ID: Trip Blank

Matrix: W-TRIP-BLK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158236	EPA 8260D	Benzene	0.20	U	ug/L	P379514	
		Bromodichloromethane	0.20	U	ug/L	P379514	
		Bromoform	0.50	U	ug/L	P379514	
		Bromomethane	0.50	U	ug/L	P379514	
		2-Butanone	3.0	U	ug/L	P379514	
		Carbon tetrachloride	0.20	U	ug/L	P379514	
		Chlorobenzene	0.20	U	ug/L	P379514	
		Chloroethane	0.50	U	ug/L	P379514	
		Chloroform	0.20	U	ug/L	P379514	
		Chloromethane	0.50	U	ug/L	P379514	
		Dibromochloromethane	0.20	U	ug/L	P379514	
		1,2-Dichlorobenzene	0.50	U	ug/L	P379514	
		1,3-Dichlorobenzene	0.50	U	ug/L	P379514	
		1,4-Dichlorobenzene	0.50	U	ug/L	P379514	
		1,1-Dichloroethane	0.20	U	ug/L	P379514	
		1,2-Dichloroethane	0.20	U	ug/L	P379514	
		1,1-Dichloroethene	0.20	U	ug/L	P379514	
		cis-1,2-Dichloroethene	0.20	U	ug/L	P379514	
		trans-1,2-Dichloroethene	0.20	U	ug/L	P379514	
		1,2-Dichloropropane	0.20	U	ug/L	P379514	
		cis-1,3-Dichloropropene	0.50	U	ug/L	P379514	
		trans-1,3-Dichloropropene	0.50	U	ug/L	P379514	
		Ethylbenzene	0.20	U	ug/L	P379514	
		Methyl-t-butyl ether	0.20	U	ug/L	P379514	
		Methylene chloride	1.0	U	ug/L	P379514	
		1,1,2,2-Tetrachloroethane	0.20	U	ug/L	P379514	
		Tetrachloroethene	0.20	U	ug/L	P379514	
		Toluene	0.50	U	ug/L	P379514	
		1,1,1-Trichloroethane	0.20	U	ug/L	P379514	
		1,1,2-Trichloroethane	0.20	U	ug/L	P379514	
		Trichloroethene	0.20	U	ug/L	P379514	
		Trichlorofluoromethane	0.20	U	ug/L	P379514	
		Vinyl chloride	0.20	U	ug/L	P379514	
		o-Xylene	0.50	U	ug/L	P379514	
		m,p-Xylene	0.50	U	ug/L	P379514	

Sample Location: IRSC

Collection Date/Time: 02/13/2020 13:25

Field ID: SB-23 (5-7)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158326	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.11	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.55	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.22	U	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.87		ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	1.1	U	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.52		ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	1.7		ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.55	U	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.44	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.22	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.11	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.45	I	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.22	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.18	I	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P379634	
2158328	SM 2540 G (20th)	% Solid**	92.8		%	P379932	

Sample Location: IRSC

Collection Date/Time: 02/13/2020 13:27

Field ID: SB-23 (8-10)

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158327	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanoic acid (PFDA)**	0.12	U	ug/Kg	P379634	MS
		Perfluorododecanoic acid (PFDoA)**	0.12	U	ug/Kg	P379634	
		Perfluoroheptanoic acid (PFHpA)**	0.24	U	ug/Kg	P379634	
		Perfluorohexanesulfonic acid (PFHxS)**	0.38	I	ug/Kg	P379634	
		Perfluorohexanoic acid (PFHxA)**	0.28	I	ug/Kg	P379634	
		Perfluorononanoic acid (PFNA)**	0.14	I	ug/Kg	P379634	
		Perfluorooctanesulfonic acid (PFOS)**	0.43	I	ug/Kg	P379634	
		Perfluorooctanoic acid (PFOA)**	0.14	I	ug/Kg	P379634	
		Perfluorotetradecanoic acid (PFTeA)**	0.12	U	ug/Kg	P379634	
		Perfluorotridecanoic acid (PFTriA)**	0.12	U	ug/Kg	P379634	
		Perfluoroundecanoic acid (PFUnA)**	0.12	U	ug/Kg	P379634	
		N-Me perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		N-Et perfluorooctanesulfonamidoAc acid**	0.12	U	ug/Kg	P379634	
		Perfluoropentanoic acid (PFPeA)**	0.47	U	ug/Kg	P379634	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoropentanesulfonic acid (PFPeS)**	0.12	U	ug/Kg	P379634	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.53	I	ug/Kg	P379634	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.24	U	ug/Kg	P379634	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.12	U	ug/Kg	P379634	
		Perfluorononanesulfonic acid (PFNS)**	0.12	U	ug/Kg	P379634	
		Perfluorodecanesulfonic acid (PFDS)**	0.12	U	ug/Kg	P379634	
2158329	SM 2540 G (20th)	% Solid**	89.0		%	P379932	

Non-Conformance Report

NCR ID: 8206

Event(s)

SIS-2020-02-17-02

Job(s)

TLH-2020-02-17-42

Sample(s)

2158235

Test(s)

NCR Type: SAMPLING

NCR Category: Improper Preservation

Observation: The concentration of residual chlorine is >0.2 ppm.

Resolution: Sample results were Y qualified due to the presence of residual chlorine.

Authorized by/Date: Kerry Tate, Ph.D. 2/25/2020

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 6020A
Batch ID: P379203

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Lead	0.20	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 7473
Batch ID: P379133

Component	Result	Code	Units
Mercury	0.10	U	ug/L

Reference Method: EPA 8260D
Batch ID: P379514

Component	Result	Code	Units
1,1-Dichloroethane	0.20	U	ug/L
1,1-Dichloroethene	0.20	U	ug/L
1,1,1-Trichloroethane	0.20	U	ug/L
1,1,2-Trichloroethane	0.20	U	ug/L
1,1,2,2-Tetrachloroethane	0.20	U	ug/L
1,2-Dichlorobenzene	0.50	U	ug/L
1,2-Dichloroethane	0.20	U	ug/L
1,2-Dichloropropane	0.20	U	ug/L
1,3-Dichlorobenzene	0.50	U	ug/L
1,4-Dichlorobenzene	0.50	U	ug/L
2-Butanone	3.0	U	ug/L
Benzene	0.20	U	ug/L
Bromodichloromethane	0.20	U	ug/L
Bromoform	0.50	U	ug/L
Bromomethane	0.50	U	ug/L
Carbon tetrachloride	0.20	U	ug/L
Chlorobenzene	0.20	U	ug/L
Chloroethane	0.50	U	ug/L
Chloroform	0.20	U	ug/L
Chloromethane	0.50	U	ug/L
cis-1,2-Dichloroethene	0.20	U	ug/L
cis-1,3-Dichloropropene	0.50	U	ug/L
Dibromochloromethane	0.20	U	ug/L
Ethylbenzene	0.20	U	ug/L
m,p-Xylene	0.50	U	ug/L
Methyl-t-butyl ether	0.20	U	ug/L
Methylene chloride	1.0	U	ug/L
o-Xylene	0.50	U	ug/L
Tetrachloroethene	0.20	U	ug/L
Toluene	0.50	U	ug/L
trans-1,2-Dichloroethene	0.20	U	ug/L
trans-1,3-Dichloropropene	0.50	U	ug/L
Trichloroethene	0.20	U	ug/L
Trichlorofluoromethane	0.20	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8260D
Batch ID: P379514

Component	Result	Code	Units
Vinyl chloride	0.20	U	ug/L

Reference Method: EPA 8270E
Batch ID: P379006

Component	Result	Code	Units
1-Methylnaphthalene	0.10	U	ug/L
1-Naphthylamine	10	U	ug/L
1,2,4-Trichlorobenzene	0.050	U	ug/L
1,2,4,5-Tetrachlorobenzene	0.050	U	ug/L
1,3-Dinitrobenzene	0.10	U	ug/L
1,3,5-Trinitrobenzene	0.10	U	ug/L
2-Acetylaminofluorene	1.0	U	ug/L
2-Chloronaphthalene	0.050	U	ug/L
2-Chlorophenol	0.050	U	ug/L
2-Methyl-4,6-dinitrophenol	3.0	U	ug/L
2-Methylnaphthalene	0.10	U	ug/L
2-Naphthylamine	10	U	ug/L
2-Nitroaniline	0.050	U	ug/L
2-Nitrophenol	0.050	U	ug/L
2-Picoline	1.0	U	ug/L
2,3,4,6-Tetrachlorophenol	0.10	U	ug/L
2,4-Dichlorophenol	0.050	U	ug/L
2,4-Dimethylphenol	0.050	U	ug/L
2,4-Dinitrophenol	10	U	ug/L
2,4-Dinitrotoluene	0.050	U	ug/L
2,4,5-Trichlorophenol	0.050	U	ug/L
2,4,6-Trichlorophenol	0.050	U	ug/L
2,6-Dichlorophenol	0.050	U	ug/L
2,6-Dinitrotoluene	0.050	U	ug/L
3-Methylcholanthrene	0.10	U	ug/L
3,3'-Dichlorobenzidine	10	U	ug/L
4-Aminobiphenyl	4.0	U	ug/L
4-Bromophenyl phenyl ether	0.050	U	ug/L
4-Chloro-3-methylphenol	0.050	U	ug/L
4-Chlorophenyl phenyl ether	0.050	U	ug/L
4-Nitrophenol	10	U	ug/L
5-Nitro-o-toluidine	0.10	U	ug/L
7,12-Dimethylbenz(a)anthracene	0.10	U	ug/L
Acenaphthene	0.025	U	ug/L
Acenaphthylene	0.025	U	ug/L
Acetophenone	0.20	U	ug/L
Aniline	1.0	U	ug/L
Anthracene	0.050	U	ug/L
Azobenzene/1,2-Diphenylhydrazine	0.050	U	ug/L
Benzidine	10	U	ug/L
Benzo(a)anthracene	0.025	U	ug/L
Benzo(a)pyrene	0.025	U	ug/L
Benzo(b)fluoranthene	0.025	U	ug/L
Benzo(g,h,i)perylene	0.025	U	ug/L
Benzo(k)fluoranthene	0.025	U	ug/L
Benzyl alcohol	0.10	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P379006

Component	Result	Code	Units
Bis(2-chloroethoxy)methane	0.050	U	ug/L
Bis(2-chloroethyl)ether	0.050	U	ug/L
Bis(2-chloroisopropyl)ether	0.050	U	ug/L
Bis(2-ethylhexyl)phthalate	5.0	U	ug/L
Butyl benzyl phthalate	1.0	U	ug/L
Carbazole	0.050	U	ug/L
Chrysene	0.025	U	ug/L
Di-n-butyl phthalate	2.0	U	ug/L
Di-n-octyl phthalate	0.050	U	ug/L
Dibenzo(a,h)anthracene	0.025	U	ug/L
Dibenzofuran	0.050	U	ug/L
Diethyl phthalate	2.0	U	ug/L
Dimethyl phthalate	0.050	U	ug/L
Dimethylaminoazobenzene	0.050	U	ug/L
Dinoseb	4.0	U	ug/L
Ethyl methanesulfonate	1.0	U	ug/L
Fluoranthene	0.050	U	ug/L
Fluorene	0.025	U	ug/L
Hexachlorobenzene	0.050	U	ug/L
Hexachlorobutadiene	0.050	U	ug/L
Hexachlorocyclopentadiene	0.050	U	ug/L
Hexachloroethane	0.050	U	ug/L
Hexachloropropene	0.050	U	ug/L
Indeno(1,2,3-cd)pyrene	0.025	U	ug/L
Isophorone	0.050	U	ug/L
Isosafrole	0.050	U	ug/L
m,p-Cresols	0.050	U	ug/L
N-Nitrosodi-n-butylamine	0.050	U	ug/L
N-Nitrosodi-n-propylamine	0.050	U	ug/L
N-Nitrosodiethylamine	1.0	U	ug/L
N-Nitrosodimethylamine	2.0	U	ug/L
N-Nitrosodiphenylamine/ Diphenylamine	0.10	U	ug/L
N-Nitrosomethylethylamine	2.0	U	ug/L
N-Nitrosomorpholine	0.050	U	ug/L
N-Nitrosopiperidine	0.050	U	ug/L
N-Nitrosopyrrolidine	0.050	U	ug/L
Naphthalene	0.10	U	ug/L
Nitrobenzene	0.050	U	ug/L
o-Cresol	0.050	U	ug/L
o-Toluidine	0.10	U	ug/L
Pentachlorobenzene	0.050	U	ug/L
Pentachloroethane	0.050	U	ug/L
Pentachloronitrobenzene	0.050	U	ug/L
Pentachlorophenol	0.50	U	ug/L
Phenacetin	0.10	U	ug/L
Phenanthrene	0.10	U	ug/L
Phenol	0.050	U	ug/L
Pyrene	0.10	U	ug/L
Pyridine	4.0	U	ug/L
Safrole	0.050	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P378998

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.19	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.39	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.19	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.097	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.097	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.097	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.097	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.097	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.097	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.097	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.19	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.097	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.19	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.097	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.097	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.19	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.097	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.097	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.39	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.097	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.097	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.097	U	ug/Kg

Reference Method: EPA 8321B
Batch ID: P379087

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P379089

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Reference Method: EPA 8321B
Batch ID: P379090

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P379091

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Reference Method: EPA 8321B
Batch ID: P379092

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P379093

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.19	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.39	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.19	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.096	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.096	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.096	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.096	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.096	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.096	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.096	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.19	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.096	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.19	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.096	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.096	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.19	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.096	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.096	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.39	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.096	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.096	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.096	U	ug/Kg

Reference Method: EPA 8321B
Batch ID: P379487

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	2.0	U	ng/L
6:2 Fluorotelomer sulfonate (6:2 FTS)	4.0	U	ng/L
8:2 Fluorotelomer sulfonate (8:2 FTS)	2.0	U	ng/L
N-Et perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
N-Me perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	1.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	1.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.40	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.40	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	1.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	1.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	0.40	U	ng/L
Perfluorotridecanoic acid (PFTriA)	0.40	U	ng/L
Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P379634

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Reference Method: EPA 8321B
Batch ID: P381021

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	2.0	U	ng/L
6:2 Fluorotelomer sulfonate (6:2 FTS)	4.0	U	ng/L
8:2 Fluorotelomer sulfonate (8:2 FTS)	2.0	U	ng/L
N-Et perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
N-Me perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	1.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	1.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.40	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.40	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	1.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	1.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	0.40	U	ng/L
Perfluorotridecanoic acid (PFTriA)	0.40	U	ng/L
Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 6020A
Batch ID: P379203

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Barium	102		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	98.7		P	85 - 115
Lead	98.5		P	85 - 115
Selenium	99.5		P	85 - 115
Silver	102		P	85 - 115

Reference Method: EPA 7473
Batch ID: P379133

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mercury	102		P	80 - 120

Reference Method: EPA 8260D
Batch ID: P379514

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1,1-Dichloroethane	114	106	P/P	70 - 130
1,1-Dichloroethene	107	110	P/P	70 - 130
1,1,1-Trichloroethane	103	106	P/P	70 - 130
1,1,2-Trichloroethane	104	103	P/P	70 - 130
1,1,2,2-Tetrachloroethane	100	98.3	P/P	60 - 140
1,2-Dichlorobenzene	98.8	103	P/P	70 - 130
1,2-Dichloroethane	109	111	P/P	70 - 130
1,2-Dichloropropane	112	114	P/P	70 - 130
1,3-Dichlorobenzene	98.2	99.4	P/P	70 - 130
1,4-Dichlorobenzene	98.8	103	P/P	70 - 130
2-Butanone	105	103	P/P	60 - 140
Benzene	104	105	P/P	70 - 130
Bromodichloromethane	110	113	P/P	70 - 130
Bromoform	111	108	P/P	60 - 140
Bromomethane	111	106	P/P	60 - 140
Carbon tetrachloride	105	109	P/P	70 - 130
Chlorobenzene	105	104	P/P	70 - 130
Chloroethane	117	120	P/P	60 - 140
Chloroform	106	109	P/P	70 - 130
Chloromethane	107	104	P/P	60 - 140
cis-1,2-Dichloroethene	98.8	101	P/P	70 - 130
cis-1,3-Dichloropropene	105	105	P/P	60 - 140
Dibromochloromethane	99.6	99.4	P/P	60 - 140
Ethylbenzene	105	104	P/P	70 - 130
m,p-Xylene	107	105	P/P	70 - 130
Methyl-t-butyl ether	118	106	P/P	70 - 130
Methylene chloride	128	128	P/P	70 - 130
o-Xylene	106	105	P/P	70 - 130
Tetrachloroethene	104	105	P/P	70 - 130
Toluene	116	116	P/P	70 - 130
trans-1,2-Dichloroethene	123	113	P/P	70 - 130
trans-1,3-Dichloropropene	94.4	94.4	P/P	60 - 140
Trichloroethene	111	115	P/P	70 - 130
Trichlorofluoromethane	114	119	P/P	60 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8260D
 Batch ID: P379514

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Vinyl chloride	121	122	P/P	60 - 140

Reference Method: EPA 8270E
 Batch ID: P379006

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1-Methylnaphthalene	95.7	93.6	P/P	50 - 130
1-Naphthylamine	34.7	48.8	P/P	20 - 130
1,2,4-Trichlorobenzene	93.7	88.8	P/P	50 - 130
1,2,4,5-Tetrachlorobenzene	85.7	90.0	P/P	50 - 130
1,3-Dinitrobenzene	97.0	99.5	P/P	50 - 130
1,3,5-Trinitrobenzene	94.9	97.2	P/P	50 - 150
2-Acetylaminofluorene	83.0	84.4	P/P	50 - 130
2-Chloronaphthalene	92.3	90.3	P/P	50 - 130
2-Chlorophenol	101	92.3	P/P	50 - 130
2-Methyl-4,6-dinitrophenol	59.7	67.5	P/P	50 - 150
2-Methylnaphthalene	96.9	93.8	P/P	50 - 130
2-Naphthylamine	37.0	40.0	P/P	20 - 130
2-Nitroaniline	92.1	93.6	P/P	50 - 130
2-Nitrophenol	97.4	92.8	P/P	50 - 130
2-Picoline	79.5	84.2	P/P	40 - 130
2,3,4,6-Tetrachlorophenol	120	119	P/P	50 - 130
2,4-Dichlorophenol	93.1	91.4	P/P	50 - 130
2,4-Dimethylphenol	79.0	79.6	P/P	50 - 130
2,4-Dinitrophenol	34.5	42.6	P/P	30 - 160
2,4-Dinitrotoluene	88.9	87.3	P/P	50 - 130
2,4,5-Trichlorophenol	91.8	89.9	P/P	50 - 130
2,4,6-Trichlorophenol	91.0	90.1	P/P	50 - 130
2,6-Dichlorophenol	97.9	102	P/P	50 - 130
2,6-Dinitrotoluene	88.5	88.0	P/P	50 - 130
3-Methylcholanthrene	77.9	77.6	P/P	50 - 130
3,3'-Dichlorobenzidine	193	197	P/P	20 - 200
4-Aminobiphenyl	98.7	96.9	P/P	30 - 130
4-Bromophenyl phenyl ether	98.2	92.4	P/P	50 - 130
4-Chloro-3-methylphenol	87.4	84.3	P/P	50 - 130
4-Chlorophenyl phenyl ether	87.7	84.9	P/P	50 - 130
4-Nitrophenol	61.0	58.5	P/P	15 - 110
5-Nitro-o-toluidine	98.1	99.0	P/P	50 - 130
7,12-Dimethylbenz(a)anthracene	86.6	92.1	P/P	50 - 130
Acenaphthene	92.7	91.8	P/P	50 - 130
Acenaphthylene	88.4	87.5	P/P	50 - 130
Acetophenone	86.8	92.4	P/P	50 - 130
Aniline	88.9	94.1	P/P	30 - 130
Anthracene	96.5	92.7	P/P	50 - 130
Azobenzene/1,2-Diphenylhydrazine	99.1	95.4	P/P	50 - 130
Benzidine	87.2	76.8	P/P	0.0 - 240
Benzo(a)anthracene	95.4	94.5	P/P	50 - 130
Benzo(a)pyrene	84.1	84.9	P/P	50 - 130
Benzo(b)fluoranthene	92.8	86.5	P/P	50 - 130
Benzo(g,h,i)perylene	74.5	72.8	P/P	50 - 130
Benzo(k)fluoranthene	93.2	89.4	P/P	50 - 130
Benzyl alcohol	107	95.3	P/P	50 - 130

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
 Batch ID: P379006

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bis(2-chloroethoxy)methane	87.8	84.3	P/P	50 - 130
Bis(2-chloroethyl)ether	88.0	78.3	P/P	50 - 160
Bis(2-chloroisopropyl)ether	103	94.3	P/P	50 - 130
Bis(2-ethylhexyl)phthalate	105	104	P/P	50 - 160
Butyl benzyl phthalate	100	97.9	P/P	50 - 160
Carbazole	104	92.9	P/P	50 - 130
Chrysene	89.9	87.0	P/P	50 - 130
Di-n-butyl phthalate	102	98.9	P/P	50 - 130
Di-n-octyl phthalate	102	98.0	P/P	50 - 130
Dibenzo(a,h)anthracene	82.5	78.6	P/P	50 - 130
Dibenzofuran	92.5	90.9	P/P	50 - 130
Diethyl phthalate	97.7	96.5	P/P	50 - 130
Dimethyl phthalate	96.9	95.9	P/P	50 - 130
Dimethylaminoazobenzene	88.9	88.9	P/P	50 - 130
Dinoseb	106	105	P/P	50 - 150
Ethyl methanesulfonate	70.0	76.6	P/P	50 - 130
Fluoranthene	95.8	92.6	P/P	50 - 130
Fluorene	87.2	86.0	P/P	50 - 130
Hexachlorobenzene	92.4	89.3	P/P	50 - 130
Hexachlorobutadiene	91.5	86.9	P/P	20 - 130
Hexachlorocyclopentadiene	37.9	38.9	P/P	20 - 130
Hexachloroethane	96.3	91.1	P/P	40 - 130
Hexachloropropene	81.8	87.2	P/P	50 - 130
Indeno(1,2,3-cd)pyrene	79.4	75.7	P/P	50 - 130
Isophorone	89.6	86.1	P/P	50 - 130
Isosafrole	91.2	95.0	P/P	50 - 130
m,p-Cresols	99.4	101	P/P	50 - 130
N-Nitrosodi-n-butylamine	86.2	92.0	P/P	50 - 130
N-Nitrosodi-n-propylamine	108	100	P/P	50 - 130
N-Nitrosodiethylamine	87.3	91.6	P/P	50 - 130
N-Nitrosodimethylamine	94.6	88.0	P/P	30 - 130
N-Nitrosodiphenylamine/ Diphenylamine	90.9	91.3	P/P	50 - 150
N-Nitrosomethylethylamine	75.7	85.2	P/P	50 - 130
N-Nitrosomorpholine	85.5	88.3	P/P	50 - 150
N-Nitrosopiperidine	85.2	92.0	P/P	50 - 130
N-Nitrosopyrrolidine	74.3	79.8	P/P	50 - 130
Naphthalene	93.7	89.1	P/P	50 - 130
Nitrobenzene	98.2	95.2	P/P	50 - 130
o-Cresol	94.8	87.2	P/P	50 - 130
o-Toluidine	87.9	87.3	P/P	50 - 130
Pentachlorobenzene	88.7	89.6	P/P	50 - 130
Pentachloroethane	79.2	85.8	P/P	50 - 130
Pentachloronitrobenzene	87.0	93.2	P/P	50 - 130
Pentachlorophenol	58.6	53.4	P/P	50 - 130
Phenacetin	102	102	P/P	50 - 130
Phenanthrene	97.2	92.9	P/P	50 - 130
Phenol	70.7	63.0	P/P	15 - 110
Pyrene	92.2	90.3	P/P	50 - 130
Pyridine	81.4	81.3	P/P	20 - 130
Safrole	91.2	95.0	P/P	50 - 130

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P378998

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	75.9		P	40 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	68.6		P	40 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	75.8		P	40 - 160
N-Et perfluorooctanesulfonamidoAc acid	71.0		P	40 - 160
N-Me perfluorooctanesulfonamidoAc acid	70.5		P	40 - 160
Perfluorobutanesulfonic acid (PFBS)	101		P	40 - 160
Perfluorodecanesulfonic acid (PFDS)	83.4		P	40 - 160
Perfluorodecanoic acid (PFDA)	84.2		P	40 - 160
Perfluorododecanoic acid (PFDoA)	94.9		P	40 - 160
Perfluoroheptanesulfonic acid (PFHpS)	74.6		P	40 - 160
Perfluoroheptanoic acid (PFHpA)	78.2		P	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	102		P	40 - 160
Perfluorohexanoic acid (PFHxA)	79.4		P	40 - 160
Perfluorononanesulfonic acid (PFNS)	89.7		P	40 - 160
Perfluorononanoic acid (PFNA)	65.3		P	40 - 160
Perfluorooctanesulfonic acid (PFOS)	84.3		P	40 - 160
Perfluorooctanoic acid (PFOA)	61.1		P	40 - 160
Perfluoropentanesulfonic acid (PFPeS)	85.7		P	40 - 160
Perfluoropentanoic acid (PFPeA)	93.2		P	40 - 160
Perfluorotetradecanoic acid (PFTeA)	84.3		P	40 - 160
Perfluorotridecanoic acid (PFTriA)	78.4		P	40 - 160
Perfluoroundecanoic acid (PFUnA)	120		P	40 - 160

Reference Method: EPA 8321B
Batch ID: P379087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	118		P	40 - 150
6:2 Fluorotelomer sulfonate (6:2 FTS)	126		P	40 - 150
8:2 Fluorotelomer sulfonate (8:2 FTS)	140		P	40 - 150
N-Et perfluorooctanesulfonamidoAc acid	145		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	103		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	114		P	40 - 150
Perfluorodecanesulfonic acid (PFDS)	126		P	40 - 150
Perfluorodecanoic acid (PFDA)	98.8		P	40 - 150
Perfluorododecanoic acid (PFDoA)	114		P	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	101		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	132		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	134		P	40 - 150
Perfluorohexanoic acid (PFHxA)	112		P	40 - 150
Perfluorononanesulfonic acid (PFNS)	136		P	40 - 150
Perfluorononanoic acid (PFNA)	105		P	40 - 150
Perfluorooctanesulfonic acid (PFOS)	126		P	40 - 150
Perfluorooctanoic acid (PFOA)	116		P	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	135		P	40 - 150
Perfluoropentanoic acid (PFPeA)	142		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	91.8		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	107		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	129		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P379089

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	148		P	40 - 150
6:2 Fluorotelomer sulfonate (6:2 FTS)	107		P	40 - 150
8:2 Fluorotelomer sulfonate (8:2 FTS)	83.8		P	40 - 150
N-Et perfluorooctanesulfonamidoAc acid	115		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	117		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	136		P	40 - 150
Perfluorodecanesulfonic acid (PFDS)	129		P	40 - 150
Perfluorodecanoic acid (PFDA)	102		P	40 - 150
Perfluorododecanoic acid (PFDoA)	107		P	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	112		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	98.0		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	125		P	40 - 150
Perfluorohexanoic acid (PFHxA)	100		P	40 - 150
Perfluorononanesulfonic acid (PFNS)	116		P	40 - 150
Perfluorononanoic acid (PFNA)	96.0		P	40 - 150
Perfluorooctanesulfonic acid (PFOS)	114		P	40 - 150
Perfluorooctanoic acid (PFOA)	125		P	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	113		P	40 - 150
Perfluoropentanoic acid (PFPeA)	99.5		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	129		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	114		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	138		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P379090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	107		P	40 - 150
6:2 Fluorotelomer sulfonate (6:2 FTS)	92.5		P	40 - 150
8:2 Fluorotelomer sulfonate (8:2 FTS)	125		P	40 - 150
N-Et perfluorooctanesulfonamidoAc acid	79.7		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	78.7		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	93.5		P	40 - 150
Perfluorodecanesulfonic acid (PFDS)	114		P	40 - 150
Perfluorodecanoic acid (PFDA)	79.8		P	40 - 150
Perfluorododecanoic acid (PFDoA)	89.2		P	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	91.8		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	85.7		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	87.2		P	40 - 150
Perfluorohexanoic acid (PFHxA)	117		P	40 - 150
Perfluorononanesulfonic acid (PFNS)	89.6		P	40 - 150
Perfluorononanoic acid (PFNA)	104		P	40 - 150
Perfluorooctanesulfonic acid (PFOS)	95.8		P	40 - 150
Perfluorooctanoic acid (PFOA)	99.6		P	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	96.1		P	40 - 150
Perfluoropentanoic acid (PFPeA)	98.1		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	97.8		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	124		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	121		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P379091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	136		P	40 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	141		P	40 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	129		P	40 - 160
N-Et perfluorooctanesulfonamidoAc acid	113		P	40 - 160
N-Me perfluorooctanesulfonamidoAc acid	115		P	40 - 160
Perfluorobutanesulfonic acid (PFBS)	117		P	40 - 160
Perfluorodecanesulfonic acid (PFDS)	117		P	40 - 160
Perfluorodecanoic acid (PFDA)	125		P	40 - 160
Perfluorododecanoic acid (PFDoA)	152		P	40 - 160
Perfluoroheptanesulfonic acid (PFHpS)	117		P	40 - 160
Perfluoroheptanoic acid (PFHpA)	145		P	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	132		P	40 - 160
Perfluorohexanoic acid (PFHxA)	149		P	40 - 160
Perfluorononanesulfonic acid (PFNS)	152		P	40 - 160
Perfluorononanoic acid (PFNA)	120		P	40 - 160
Perfluorooctanesulfonic acid (PFOS)	113		P	40 - 160
Perfluorooctanoic acid (PFOA)	152		P	40 - 160
Perfluoropentanesulfonic acid (PFPeS)	150		P	40 - 160
Perfluoropentanoic acid (PFPeA)	140		P	40 - 160
Perfluorotetradecanoic acid (PFTeA)	146		P	40 - 160
Perfluorotridecanoic acid (PFTriA)	130		P	40 - 160
Perfluoroundecanoic acid (PFUnA)	128		P	40 - 160

Reference Method: EPA 8321B
Batch ID: P379092

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	109		P	40 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	129		P	40 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	147		P	40 - 160
N-Et perfluorooctanesulfonamidoAc acid	148		P	40 - 160
N-Me perfluorooctanesulfonamidoAc acid	144		P	40 - 160
Perfluorobutanesulfonic acid (PFBS)	127		P	40 - 160
Perfluorodecanesulfonic acid (PFDS)	147		P	40 - 160
Perfluorodecanoic acid (PFDA)	154		P	40 - 160
Perfluorododecanoic acid (PFDoA)	132		P	40 - 160
Perfluoroheptanesulfonic acid (PFHpS)	158		P	40 - 160
Perfluoroheptanoic acid (PFHpA)	144		P	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	153		P	40 - 160
Perfluorononanesulfonic acid (PFNS)	123		P	40 - 160
Perfluorononanoic acid (PFNA)	159		P	40 - 160
Perfluorooctanesulfonic acid (PFOS)	128		P	40 - 160
Perfluorooctanoic acid (PFOA)	121		P	40 - 160
Perfluoropentanesulfonic acid (PFPeS)	151		P	40 - 160
Perfluoropentanoic acid (PFPeA)	152		P	40 - 160
Perfluorotetradecanoic acid (PFTeA)	123		P	40 - 160
Perfluorotridecanoic acid (PFTriA)	158		P	40 - 160
Perfluoroundecanoic acid (PFUnA)	132		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P379093

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	76.0		P	40 - 150
6:2 Fluorotelomer sulfonate (6:2 FTS)	94.7		P	40 - 150
8:2 Fluorotelomer sulfonate (8:2 FTS)	88.0		P	40 - 150
N-Et perfluorooctanesulfonamidoAc acid	76.4		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	85.1		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	113		P	40 - 150
Perfluorodecanesulfonic acid (PFDS)	93.4		P	40 - 150
Perfluorodecanoic acid (PFDA)	106		P	40 - 150
Perfluorododecanoic acid (PFDoA)	146		P	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	80.0		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	93.4		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	123		P	40 - 150
Perfluorohexanoic acid (PFHxA)	126		P	40 - 150
Perfluorononanesulfonic acid (PFNS)	112		P	40 - 150
Perfluorononanoic acid (PFNA)	76.1		P	40 - 150
Perfluorooctanesulfonic acid (PFOS)	104		P	40 - 150
Perfluorooctanoic acid (PFOA)	80.6		P	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	86.1		P	40 - 150
Perfluoropentanoic acid (PFPeA)	106		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	91.7		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	92.4		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	110		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P379487

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	110	120	P/P	30 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	159	136	P/P	30 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	156	124	P/P	30 - 160
N-Et perfluorooctanesulfonamidoAc acid	95.3	77.6	P/P	30 - 160
N-Me perfluorooctanesulfonamidoAc acid	73.6	73.8	P/P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	117	122	P/P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	70.6	69.6	P/P	30 - 160
Perfluorodecanoic acid (PFDA)	88.5	84.8	P/P	30 - 160
Perfluorododecanoic acid (PFDoA)	84.1	66.7	P/P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	76.9	83.7	P/P	30 - 160
Perfluoroheptanoic acid (PFHpA)	99.8	94.8	P/P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	98.5	96.5	P/P	30 - 160
Perfluorohexanoic acid (PFHxA)	88.6	94.3	P/P	30 - 160
Perfluorononanesulfonic acid (PFNS)	93.6	95.5	P/P	30 - 160
Perfluorononanoic acid (PFNA)	122	108	P/P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	85.4	83.9	P/P	30 - 160
Perfluorooctanoic acid (PFOA)	88.8	90.2	P/P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	85.5	88.2	P/P	30 - 160
Perfluoropentanoic acid (PFPeA)	109	94.5	P/P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	47.0	46.9	P/P	30 - 160
Perfluorotridecanoic acid (PFTriA)	53.7	41.8	P/P	30 - 160
Perfluoroundecanoic acid (PFUnA)	102	91.4	P/P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P379634

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	93.2		P	40 - 150
6:2 Fluorotelomer sulfonate (6:2 FTS)	86.6		P	40 - 150
8:2 Fluorotelomer sulfonate (8:2 FTS)	145		P	40 - 150
N-Et perfluorooctanesulfonamidoAc acid	99.7		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	91.2		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	90.7		P	40 - 150
Perfluorodecanesulfonic acid (PFDS)	125		P	40 - 150
Perfluorodecanoic acid (PFDA)	76.7		P	40 - 150
Perfluorododecanoic acid (PFDoA)	82.9		P	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	99.7		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	79.3		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	80.3		P	40 - 150
Perfluorohexanoic acid (PFHxA)	72.2		P	40 - 150
Perfluorononanesulfonic acid (PFNS)	85.4		P	40 - 150
Perfluorononanoic acid (PFNA)	93.0		P	40 - 150
Perfluorooctanesulfonic acid (PFOS)	83.6		P	40 - 150
Perfluorooctanoic acid (PFOA)	114		P	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	142		P	40 - 150
Perfluoropentanoic acid (PFPeA)	110		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	80.3		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	104		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	97.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P381021

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	84.9		P	30 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	127		P	30 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	114		P	30 - 160
N-Et perfluorooctanesulfonamidoAc acid	125		P	30 - 160
N-Me perfluorooctanesulfonamidoAc acid	120		P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	137		P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	114		P	30 - 160
Perfluorodecanoic acid (PFDA)	76.0		P	30 - 160
Perfluorododecanoic acid (PFDoA)	113		P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	73.1		P	30 - 160
Perfluoroheptanoic acid (PFHpA)	84.9		P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	120		P	30 - 160
Perfluorohexanoic acid (PFHxA)	95.9		P	30 - 160
Perfluorononanesulfonic acid (PFNS)	73.0		P	30 - 160
Perfluorononanoic acid (PFNA)	112		P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	95.0		P	30 - 160
Perfluorooctanoic acid (PFOA)	75.1		P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	93.2		P	30 - 160
Perfluoropentanoic acid (PFPeA)	112		P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	64.2		P	30 - 160
Perfluorotridecanoic acid (PFTriA)	82.4		P	30 - 160
Perfluoroundecanoic acid (PFUnA)	89.0		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 6020A
Batch ID: P379203

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158300	Arsenic	104	103	P/P	80 - 120
2158300	Barium	103	99.6	P/P	80 - 120
2158300	Cadmium	107	104	P/P	80 - 120
2158300	Chromium	103	100	P/P	80 - 120
2158300	Lead	99.7	98.0	P/P	80 - 120
2158300	Selenium	98.4	98.9	P/P	80 - 120
2158300	Silver	105	104	P/P	80 - 120
2158951	Arsenic	105		P	80 - 120
2158951	Barium	102		P	80 - 120
2158951	Cadmium	108		P	80 - 120
2158951	Chromium	101		P	80 - 120
2158951	Lead	100		P	80 - 120
2158951	Selenium	101		P	80 - 120
2158951	Silver	104		P	80 - 120

Reference Method: EPA 7473
Batch ID: P379133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158230	Mercury	101	102	P/P	80 - 120

Reference Method: EPA 8260D
Batch ID: P379514

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159749	1,1-Dichloroethane	102	107	P/P	70 - 130
2159749	1,1-Dichloroethene	93.8	96.4	P/P	70 - 130
2159749	1,1,1-Trichloroethane	103	103	P/P	70 - 130
2159749	1,1,2-Trichloroethane	101	105	P/P	70 - 130
2159749	1,1,2,2-Tetrachloroethane	102	108	P/P	60 - 140
2159749	1,2-Dichlorobenzene	98.6	98.6	P/P	70 - 130
2159749	1,2-Dichloroethane	109	114	P/P	70 - 130
2159749	1,2-Dichloropropane	111	118	P/P	70 - 130
2159749	1,3-Dichlorobenzene	97.2	97.2	P/P	70 - 130
2159749	1,4-Dichlorobenzene	98.6	98.6	P/P	70 - 130
2159749	2-Butanone	104	109	P/P	60 - 140
2159749	Benzene	102	108	P/P	70 - 130
2159749	Bromodichloromethane	111	114	P/P	70 - 130
2159749	Bromoform	108	107	P/P	60 - 140
2159749	Bromomethane	104	96.0	P/P	60 - 140
2159749	Carbon tetrachloride	105	104	P/P	70 - 130
2159749	Chlorobenzene	103	104	P/P	70 - 130
2159749	Chloroethane	119	111	P/P	60 - 140
2159749	Chloroform	105	108	P/P	70 - 130
2159749	Chloromethane	107	101	P/P	60 - 140
2159749	cis-1,2-Dichloroethene	97.0	100	P/P	70 - 130
2159749	cis-1,3-Dichloropropene	104	106	P/P	60 - 140
2159749	Dibromochloromethane	97.0	96.1	P/P	60 - 140
2159749	Ethylbenzene	104	107	P/P	70 - 130
2159749	m,p-Xylene	105	108	P/P	70 - 130
2159749	Methyl-t-butyl ether	105	106	P/P	70 - 130
2159749	Methylene chloride	109	113	P/P	70 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8260D
Batch ID: P379514

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2159749	o-Xylene	106	108	P/P	70 - 130
2159749	Tetrachloroethene	101	98.2	P/P	70 - 130
2159749	Toluene	115	119	P/P	70 - 130
2159749	trans-1,2-Dichloroethene	108	113	P/P	70 - 130
2159749	trans-1,3-Dichloropropene	92.1	92.9	P/P	60 - 140
2159749	Trichloroethene	106	109	P/P	70 - 130
2159749	Trichlorofluoromethane	114	106	P/P	60 - 140
2159749	Vinyl chloride	120	111	P/P	60 - 140

Reference Method: EPA 8321B
Batch ID: P378998

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2156027	4:2 Fluorotelomer sulfonate (4:2 FTS)	65.3	99.1	P/P	40 - 160
2156027	6:2 Fluorotelomer sulfonate (6:2 FTS)	54.0	91.0	P/P	40 - 160
2156027	8:2 Fluorotelomer sulfonate (8:2 FTS)	61.3	96.6	P/P	40 - 160
2156027	N-Et perfluorooctanesulfonamidoAc acid	55.5	87.8	P/P	40 - 160
2156027	N-Me perfluorooctanesulfonamidoAc acid	60.9	97.7	P/P	40 - 160
2156027	Perfluorobutanesulfonic acid (PFBS)	79.5	128	P/P	40 - 160
2156027	Perfluorodecanesulfonic acid (PFDS)	65.7	99.6	P/P	40 - 160
2156027	Perfluorodecanoic acid (PFDA)	60.3	105	P/P	40 - 160
2156027	Perfluorododecanoic acid (PFDoA)	74.0	117	P/P	40 - 160
2156027	Perfluoroheptanesulfonic acid (PFHpS)	62.6	90.3	P/P	40 - 160
2156027	Perfluoroheptanoic acid (PFHpA)	56.2	94.7	P/P	40 - 160
2156027	Perfluorohexanesulfonic acid (PFHxS)	66.8	116	P/P	40 - 160
2156027	Perfluorohexanoic acid (PFHxA)	77.4	132	P/P	40 - 160
2156027	Perfluorononanesulfonic acid (PFNS)	70.2	118	P/P	40 - 160
2156027	Perfluorononanoic acid (PFNA)	48.9	81.4	P/P	40 - 160
2156027	Perfluorooctanoic acid (PFOA)	43.4	81.7	P/P	40 - 160
2156027	Perfluoropentanesulfonic acid (PFPeS)	74.1	106	P/P	40 - 160
2156027	Perfluoropentanoic acid (PFPeA)	39.2	83.6	F/P	40 - 160
2156027	Perfluorotetradecanoic acid (PFTeA)	77.3	90.2	P/P	40 - 160
2156027	Perfluorotridecanoic acid (PFTriA)	61.6	72.1	P/P	40 - 160
2156027	Perfluoroundecanoic acid (PFUnA)	80.3	126	P/P	40 - 160

Reference Method: EPA 8321B
Batch ID: P379087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157970	4:2 Fluorotelomer sulfonate (4:2 FTS)	102	109	P/P	40 - 150
2157970	6:2 Fluorotelomer sulfonate (6:2 FTS)	114	136	P/P	40 - 150
2157970	8:2 Fluorotelomer sulfonate (8:2 FTS)	129	171	P/F	40 - 150
2157970	N-Et perfluorooctanesulfonamidoAc acid	68.3	80.7	P/P	40 - 150
2157970	N-Me perfluorooctanesulfonamidoAc acid	53.8	70.5	P/P	40 - 150
2157970	Perfluorobutanesulfonic acid (PFBS)	117	126	P/P	40 - 150
2157970	Perfluorodecanesulfonic acid (PFDS)	122	153	P/F	40 - 150
2157970	Perfluorodecanoic acid (PFDA)	126	162	P/F	40 - 150
2157970	Perfluorododecanoic acid (PFDoA)	100	111	P/P	40 - 150
2157970	Perfluoroheptanesulfonic acid (PFHpS)	94.2	130	P/P	40 - 150
2157970	Perfluoroheptanoic acid (PFHpA)	83.0	148	P/P	40 - 150
2157970	Perfluorohexanoic acid (PFHxA)	98.0	95.1	P/P	40 - 150
2157970	Perfluorononanesulfonic acid (PFNS)	98.7	115	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P379087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157970	Perfluorononanoic acid (PFNA)	91.7	210	P/F	40 - 150
2157970	Perfluorooctanoic acid (PFOA)	93.6	182	P/F	40 - 150
2157970	Perfluoropentanesulfonic acid (PFPeS)	112	147	P/P	40 - 150
2157970	Perfluoropentanoic acid (PFPeA)	133	145	P/P	40 - 150
2157970	Perfluorotetradecanoic acid (PFTeA)	91.7	105	P/P	40 - 150
2157970	Perfluorotridecanoic acid (PFTriA)	102	133	P/P	40 - 150
2157970	Perfluoroundecanoic acid (PFUnA)	111	126	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P379089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158024	4:2 Fluorotelomer sulfonate (4:2 FTS)	159	148	F/P	40 - 150
2158024	6:2 Fluorotelomer sulfonate (6:2 FTS)	119	79.7	P/P	40 - 150
2158024	N-Et perfluorooctanesulfonamidoAc acid	104	83.8	P/P	40 - 150
2158024	N-Me perfluorooctanesulfonamidoAc acid	101	89.2	P/P	40 - 150
2158024	Perfluorobutanesulfonic acid (PFBS)	146	115	P/P	40 - 150
2158024	Perfluorodecanesulfonic acid (PFDS)	141	118	P/P	40 - 150
2158024	Perfluorododecanoic acid (PFDoA)	82.4	126	P/P	40 - 150
2158024	Perfluoroheptanesulfonic acid (PFHpS)	100	85.2	P/P	40 - 150
2158024	Perfluorohexanesulfonic acid (PFHxS)	139	106	P/P	40 - 150
2158024	Perfluorohexanoic acid (PFHxA)	112	81.5	P/P	40 - 150
2158024	Perfluorononanesulfonic acid (PFNS)	129	100	P/P	40 - 150
2158024	Perfluorooctanesulfonic acid (PFOS)	162	128	F/P	40 - 150
2158024	Perfluorooctanoic acid (PFOA)	118	65.4	P/P	40 - 150
2158024	Perfluoropentanesulfonic acid (PFPeS)	136	111	P/P	40 - 150
2158024	Perfluorotetradecanoic acid (PFTeA)	136	118	P/P	40 - 150
2158024	Perfluorotridecanoic acid (PFTriA)	173	127	F/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P379090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158068	4:2 Fluorotelomer sulfonate (4:2 FTS)	116	86.0	P/P	40 - 160
2158068	6:2 Fluorotelomer sulfonate (6:2 FTS)	110	89.6	P/P	40 - 160
2158068	8:2 Fluorotelomer sulfonate (8:2 FTS)	106	95.6	P/P	40 - 160
2158068	N-Et perfluorooctanesulfonamidoAc acid	82.6	70.7	P/P	40 - 160
2158068	N-Me perfluorooctanesulfonamidoAc acid	67.5	62.6	P/P	40 - 160
2158068	Perfluorobutanesulfonic acid (PFBS)	109	98.8	P/P	40 - 160
2158068	Perfluorodecanesulfonic acid (PFDS)	107	92.5	P/P	40 - 160
2158068	Perfluorodecanoic acid (PFDA)	123	110	P/P	40 - 160
2158068	Perfluorododecanoic acid (PFDoA)	154	218	P/F	40 - 160
2158068	Perfluoroheptanesulfonic acid (PFHpS)	110	91.5	P/P	40 - 160
2158068	Perfluoroheptanoic acid (PFHpA)	122	164	P/F	40 - 160
2158068	Perfluorohexanesulfonic acid (PFHxS)	129	118	P/P	40 - 160
2158068	Perfluorohexanoic acid (PFHxA)	126	238	P/F	40 - 160
2158068	Perfluorononanesulfonic acid (PFNS)	120	107	P/P	40 - 160
2158068	Perfluorononanoic acid (PFNA)	131	180	P/F	40 - 160
2158068	Perfluorooctanesulfonic acid (PFOS)	112	72.0	P/P	40 - 160
2158068	Perfluorooctanoic acid (PFOA)	97.8	145	P/P	40 - 160
2158068	Perfluoropentanesulfonic acid (PFPeS)	111	121	P/P	40 - 160
2158068	Perfluoropentanoic acid (PFPeA)	133	196	P/F	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P379090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158068	Perfluorotetradecanoic acid (PFTeA)	112	136	P/P	40 - 160
2158068	Perfluorotridecanoic acid (PFTriA)	101	109	P/P	40 - 160
2158068	Perfluoroundecanoic acid (PFUnA)	93.8	110	P/P	40 - 160

Reference Method: EPA 8321B
Batch ID: P379091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158113	4:2 Fluorotelomer sulfonate (4:2 FTS)	139	143	P/P	40 - 160
2158113	6:2 Fluorotelomer sulfonate (6:2 FTS)	121	126	P/P	40 - 160
2158113	8:2 Fluorotelomer sulfonate (8:2 FTS)	139	144	P/P	40 - 160
2158113	N-Et perfluorooctanesulfonamidoAc acid	34.8	31.8	F/F	40 - 160
2158113	N-Me perfluorooctanesulfonamidoAc acid	30.7	27.3	F/F	40 - 160
2158113	Perfluorobutanesulfonic acid (PFBS)	137	136	P/P	40 - 160
2158113	Perfluorodecanesulfonic acid (PFDS)	121	125	P/P	40 - 160
2158113	Perfluorodecanoic acid (PFDA)	116	147	P/P	40 - 160
2158113	Perfluorododecanoic acid (PFDoA)	74.0	116	P/P	40 - 160
2158113	Perfluoroheptanesulfonic acid (PFHpS)	129	139	P/P	40 - 160
2158113	Perfluoroheptanoic acid (PFHpA)	91.7	106	P/P	40 - 160
2158113	Perfluorohexanesulfonic acid (PFHxS)	84.2	89.5	P/P	40 - 160
2158113	Perfluorononanesulfonic acid (PFNS)	94.8	98.8	P/P	40 - 160
2158113	Perfluorononanoic acid (PFNA)	102	146	P/P	40 - 160
2158113	Perfluorooctanesulfonic acid (PFOS)	106	101	P/P	40 - 160
2158113	Perfluorooctanoic acid (PFOA)	109	153	P/P	40 - 160
2158113	Perfluoropentanesulfonic acid (PFPeS)	136	139	P/P	40 - 160
2158113	Perfluoropentanoic acid (PFPeA)	60.3	143	P/P	40 - 160
2158113	Perfluorotetradecanoic acid (PFTeA)	93.0	110	P/P	40 - 160
2158113	Perfluorotridecanoic acid (PFTriA)	80.9	121	P/P	40 - 160
2158113	Perfluoroundecanoic acid (PFUnA)	96.7	122	P/P	40 - 160

Reference Method: EPA 8321B
Batch ID: P379092

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158183	4:2 Fluorotelomer sulfonate (4:2 FTS)	98.2	76.9	P/P	40 - 160
2158183	8:2 Fluorotelomer sulfonate (8:2 FTS)	103	91.6	P/P	40 - 160
2158183	N-Et perfluorooctanesulfonamidoAc acid	48.5	46.5	P/P	40 - 160
2158183	N-Me perfluorooctanesulfonamidoAc acid	31.8	35.2	F/F	40 - 160
2158183	Perfluorobutanesulfonic acid (PFBS)	84.2	84.7	P/P	40 - 160
2158183	Perfluorodecanesulfonic acid (PFDS)	110	111	P/P	40 - 160
2158183	Perfluorodecanoic acid (PFDA)	104	88.1	P/P	40 - 160
2158183	Perfluorododecanoic acid (PFDoA)	113	107	P/P	40 - 160
2158183	Perfluoroheptanesulfonic acid (PFHpS)	130	123	P/P	40 - 160
2158183	Perfluoroheptanoic acid (PFHpA)	92.8	90.4	P/P	40 - 160
2158183	Perfluorohexanesulfonic acid (PFHxS)	119	140	P/P	40 - 160
2158183	Perfluorohexanoic acid (PFHxA)	77.0	52.1	P/P	40 - 160
2158183	Perfluorooctanesulfonic acid (PFOS)	77.0	52.1	P/P	40 - 160
2158183	Perfluorooctanoic acid (PFOA)	77.0	52.1	P/P	40 - 160
2158183	Perfluorotetradecanoic acid (PFTeA)	87.8	95.7	P/P	40 - 160
2158183	Perfluorotridecanoic acid (PFTriA)	119	104	P/P	40 - 160
2158183	Perfluoroundecanoic acid (PFUnA)	133	107	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P379093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157879	4:2 Fluorotelomer sulfonate (4:2 FTS)	74.4	70.6	P/P	40 - 150
2157879	6:2 Fluorotelomer sulfonate (6:2 FTS)	72.9	86.0	P/P	40 - 150
2157879	8:2 Fluorotelomer sulfonate (8:2 FTS)	88.2	91.8	P/P	40 - 150
2157879	N-Et perfluorooctanesulfonamidoAc acid	64.5	69.2	P/P	40 - 150
2157879	N-Me perfluorooctanesulfonamidoAc acid	65.1	74.3	P/P	40 - 150
2157879	Perfluorobutanesulfonic acid (PFBS)	102	112	P/P	40 - 150
2157879	Perfluorodecanesulfonic acid (PFDS)	85.6	91.9	P/P	40 - 150
2157879	Perfluorodecanoic acid (PFDA)	88.2	103	P/P	40 - 150
2157879	Perfluorododecanoic acid (PFDoA)	79.2	111	P/P	40 - 150
2157879	Perfluoroheptanesulfonic acid (PFHpS)	71.9	78.0	P/P	40 - 150
2157879	Perfluoroheptanoic acid (PFHpA)	72.0	119	P/P	40 - 150
2157879	Perfluorohexanesulfonic acid (PFHxS)	95.7	117	P/P	40 - 150
2157879	Perfluorohexanoic acid (PFHxA)	102	110	P/P	40 - 150
2157879	Perfluorononanesulfonic acid (PFNS)	93.3	103	P/P	40 - 150
2157879	Perfluorononanoic acid (PFNA)	58.3	75.8	P/P	40 - 150
2157879	Perfluorooctanesulfonic acid (PFOS)	90.3	129	P/P	40 - 150
2157879	Perfluorooctanoic acid (PFOA)	54.0	72.2	P/P	40 - 150
2157879	Perfluoropentanesulfonic acid (PFPeS)	83.7	85.4	P/P	40 - 150
2157879	Perfluoropentanoic acid (PFPeA)	73.9	79.6	P/P	40 - 150
2157879	Perfluorotetradecanoic acid (PFTeA)	80.8	107	P/P	40 - 150
2157879	Perfluorotridecanoic acid (PFTriA)	81.9	103	P/P	40 - 150
2157879	Perfluoroundecanoic acid (PFUnA)	99.5	130	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P379634

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158224	4:2 Fluorotelomer sulfonate (4:2 FTS)	122	120	P/P	40 - 160
2158224	6:2 Fluorotelomer sulfonate (6:2 FTS)	126	123	P/P	40 - 160
2158224	8:2 Fluorotelomer sulfonate (8:2 FTS)	138	137	P/P	40 - 160
2158224	N-Et perfluorooctanesulfonamidoAc acid	92.1	96.1	P/P	40 - 160
2158224	N-Me perfluorooctanesulfonamidoAc acid	110	110	P/P	40 - 160
2158224	Perfluorobutanesulfonic acid (PFBS)	114	112	P/P	40 - 160
2158224	Perfluorodecanesulfonic acid (PFDS)	108	114	P/P	40 - 160
2158224	Perfluorodecanoic acid (PFDA)	177	134	F/P	40 - 160
2158224	Perfluorododecanoic acid (PFDoA)	89.3	108	P/P	40 - 160
2158224	Perfluoroheptanesulfonic acid (PFHpS)	113	108	P/P	40 - 160
2158224	Perfluoroheptanoic acid (PFHpA)	97.6	135	P/P	40 - 160
2158224	Perfluorohexanesulfonic acid (PFHxS)	89.5	92.9	P/P	40 - 160
2158224	Perfluorohexanoic acid (PFHxA)	78.5	100	P/P	40 - 160
2158224	Perfluorononanesulfonic acid (PFNS)	82.9	86.2	P/P	40 - 160
2158224	Perfluorononanoic acid (PFNA)	105	117	P/P	40 - 160
2158224	Perfluorooctanesulfonic acid (PFOS)	77.8	87.8	P/P	40 - 160
2158224	Perfluorooctanoic acid (PFOA)	107	135	P/P	40 - 160
2158224	Perfluoropentanesulfonic acid (PFPeS)	110	113	P/P	40 - 160
2158224	Perfluoropentanoic acid (PFPeA)	93.4	124	P/P	40 - 160
2158224	Perfluorotetradecanoic acid (PFTeA)	93.1	110	P/P	40 - 160
2158224	Perfluorotridecanoic acid (PFTriA)	104	145	P/P	40 - 160
2158224	Perfluoroundecanoic acid (PFUnA)	95.3	121	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P381021

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157742	4:2 Fluorotelomer sulfonate (4:2 FTS)	182	191	F/F	30 - 160
2157742	6:2 Fluorotelomer sulfonate (6:2 FTS)	133	125	P/P	30 - 160
2157742	8:2 Fluorotelomer sulfonate (8:2 FTS)	219	192	F/F	30 - 160
2157742	N-Et perfluorooctanesulfonamidoAc acid	107	103	P/P	30 - 160
2157742	N-Me perfluorooctanesulfonamidoAc acid	143	128	P/P	30 - 160
2157742	Perfluorobutanesulfonic acid (PFBS)	158	152	P/P	30 - 160
2157742	Perfluorodecanesulfonic acid (PFDS)	97.5	91.7	P/P	30 - 160
2157742	Perfluorodecanoic acid (PFDA)	89.2	117	P/P	30 - 160
2157742	Perfluorododecanoic acid (PFDoA)	120	129	P/P	30 - 160
2157742	Perfluoroheptanesulfonic acid (PFHpS)	134	139	P/P	30 - 160
2157742	Perfluoroheptanoic acid (PFHpA)	91.5	119	P/P	30 - 160
2157742	Perfluorohexanesulfonic acid (PFHxS)	178	180	F/F	30 - 160
2157742	Perfluorohexanoic acid (PFHxA)	145	130	P/P	30 - 160
2157742	Perfluorononanesulfonic acid (PFNS)	111	110	P/P	30 - 160
2157742	Perfluorononanoic acid (PFNA)	116	112	P/P	30 - 160
2157742	Perfluorooctanesulfonic acid (PFOS)	97.0	89.9	P/P	30 - 160
2157742	Perfluorooctanoic acid (PFOA)	134	122	P/P	30 - 160
2157742	Perfluoropentanesulfonic acid (PFPeS)	159	146	P/P	30 - 160
2157742	Perfluoropentanoic acid (PFPeA)	182	139	F/P	30 - 160
2157742	Perfluorotetradecanoic acid (PFTeA)	94.6	113	P/P	30 - 160
2157742	Perfluorotridecanoic acid (PFTriA)	102	86.6	P/P	30 - 160
2157742	Perfluoroundecanoic acid (PFUnA)	134	117	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 6020A
 Batch ID: P379203

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158300	Arsenic	1.56	Spike	P	0 - 20
2158300	Barium	2.73	Spike	P	0 - 20
2158300	Cadmium	2.58	Spike	P	0 - 20
2158300	Chromium	2.39	Spike	P	0 - 20
2158300	Lead	1.76	Spike	P	0 - 20
2158300	Selenium	0.497	Spike	P	0 - 20
2158300	Silver	1.20	Spike	P	0 - 20

Reference Method: EPA 7473
 Batch ID: P379133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158230	Mercury	0.390	Spike	P	0 - 20

Reference Method: EPA 8260D
 Batch ID: P379514

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159749	1,1-Dichloroethane	4.60	Spike	P	0 - 30
2159749	1,1-Dichloroethene	2.73	Spike	P	0 - 30
2159749	1,1,1-Trichloroethane	0.0	Spike	P	0 - 30
2159749	1,1,2-Trichloroethane	4.12	Spike	P	0 - 30
2159749	1,1,2,2-Tetrachloroethane	5.86	Spike	P	0 - 30
2159749	1,2-Dichlorobenzene	0.101	Spike	P	0 - 30
2159749	1,2-Dichloroethane	4.57	Spike	P	0 - 30
2159749	1,2-Dichloropropane	6.11	Spike	P	0 - 30
2159749	1,3-Dichlorobenzene	0.103	Spike	P	0 - 30
2159749	1,4-Dichlorobenzene	0.101	Spike	P	0 - 30
2159749	2-Butanone	4.54	Spike	P	0 - 30
2159749	Benzene	5.25	Spike	P	0 - 30
2159749	Bromodichloromethane	2.63	Spike	P	0 - 30
2159749	Bromoform	1.44	Spike	P	0 - 30
2159749	Bromomethane	7.72	Spike	P	0 - 30
2159749	Carbon tetrachloride	0.961	Spike	P	0 - 30
2159749	Chlorobenzene	1.54	Spike	P	0 - 30
2159749	Chloroethane	7.04	Spike	P	0 - 30
2159749	Chloroform	2.77	Spike	P	0 - 30
2159749	Chloromethane	5.87	Spike	P	0 - 30
2159749	cis-1,2-Dichloroethene	3.34	Spike	P	0 - 30
2159749	cis-1,3-Dichloropropene	2.09	Spike	P	0 - 30
2159749	Dibromochloromethane	0.881	Spike	P	0 - 30
2159749	Ethylbenzene	2.47	Spike	P	0 - 30
2159749	m,p-Xylene	2.82	Spike	P	0 - 30
2159749	Methyl-t-butyl ether	0.332	Spike	P	0 - 30
2159749	Methylene chloride	3.75	Spike	P	0 - 30
2159749	o-Xylene	1.87	Spike	P	0 - 30
2159749	Tetrachloroethene	2.64	Spike	P	0 - 30
2159749	Toluene	3.12	Spike	P	0 - 30
2159749	trans-1,2-Dichloroethene	3.89	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8260D

Batch ID: P379514

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2159749	trans-1,3-Dichloropropene	0.865	Spike	P	0 - 30
2159749	Trichloroethene	2.83	Spike	P	0 - 30
2159749	Trichlorofluoromethane	7.10	Spike	P	0 - 30
2159749	Vinyl chloride	7.90	Spike	P	0 - 30
LFB	1,1-Dichloroethane	7.77	LCS	P	0 - 30
LFB	1,1-Dichloroethene	2.72	LCS	P	0 - 30
LFB	1,1,1-Trichloroethane	2.91	LCS	P	0 - 30
LFB	1,1,2-Trichloroethane	0.722	LCS	P	0 - 30
LFB	1,1,2,2-Tetrachloroethane	2.01	LCS	P	0 - 30
LFB	1,2-Dichlorobenzene	4.26	LCS	P	0 - 30
LFB	1,2-Dichloroethane	1.54	LCS	P	0 - 30
LFB	1,2-Dichloropropane	1.33	LCS	P	0 - 30
LFB	1,3-Dichlorobenzene	1.11	LCS	P	0 - 30
LFB	1,4-Dichlorobenzene	4.26	LCS	P	0 - 30
LFB	2-Butanone	1.67	LCS	P	0 - 30
LFB	Benzene	1.48	LCS	P	0 - 30
LFB	Bromodichloromethane	2.15	LCS	P	0 - 30
LFB	Bromoform	2.60	LCS	P	0 - 30
LFB	Bromomethane	4.48	LCS	P	0 - 30
LFB	Carbon tetrachloride	3.61	LCS	P	0 - 30
LFB	Chlorobenzene	0.383	LCS	P	0 - 30
LFB	Chloroethane	3.12	LCS	P	0 - 30
LFB	Chloroform	2.80	LCS	P	0 - 30
LFB	Chloromethane	2.80	LCS	P	0 - 30
LFB	cis-1,2-Dichloroethene	2.20	LCS	P	0 - 30
LFB	cis-1,3-Dichloropropene	0.143	LCS	P	0 - 30
LFB	Dibromochloromethane	0.101	LCS	P	0 - 30
LFB	Ethylbenzene	1.24	LCS	P	0 - 30
LFB	m,p-Xylene	2.07	LCS	P	0 - 30
LFB	Methyl-t-butyl ether	10.9	LCS	P	0 - 30
LFB	Methylene chloride	0.0	LCS	P	0 - 30
LFB	o-Xylene	1.28	LCS	P	0 - 30
LFB	Tetrachloroethene	1.53	LCS	P	0 - 30
LFB	Toluene	0.0431	LCS	P	0 - 30
LFB	trans-1,2-Dichloroethene	8.67	LCS	P	0 - 30
LFB	trans-1,3-Dichloropropene	0.0	LCS	P	0 - 30
LFB	Trichloroethene	3.93	LCS	P	0 - 30
LFB	Trichlorofluoromethane	4.07	LCS	P	0 - 30
LFB	Vinyl chloride	1.07	LCS	P	0 - 30

Reference Method: EPA 8270E

Batch ID: P379006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	1-Methylnaphthalene	2.22	LCS	P	0 - 40
LFB	1-Naphthylamine	33.8	LCS	P	0 - 40
LFB	1,2,4-Trichlorobenzene	5.37	LCS	P	0 - 40
LFB	1,2,4,5-Tetrachlorobenzene	4.89	LCS	P	0 - 40
LFB	1,3-Dinitrobenzene	2.60	LCS	P	0 - 40
LFB	1,3,5-Trinitrobenzene	2.39	LCS	P	0 - 40

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P379006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	2-Acetylaminofluorene	1.67	LCS	P	0 - 40
LFB	2-Chloronaphthalene	2.19	LCS	P	0 - 40
LFB	2-Chlorophenol	8.61	LCS	P	0 - 40
LFB	2-Methyl-4,6-dinitrophenol	12.3	LCS	P	0 - 40
LFB	2-Methylnaphthalene	3.25	LCS	P	0 - 40
LFB	2-Naphthylamine	7.79	LCS	P	0 - 40
LFB	2-Nitroaniline	1.62	LCS	P	0 - 40
LFB	2-Nitrophenol	4.84	LCS	P	0 - 40
LFB	2-Picoline	5.74	LCS	P	0 - 40
LFB	2,3,4,6-Tetrachlorophenol	0.209	LCS	P	0 - 40
LFB	2,4-Dichlorophenol	1.84	LCS	P	0 - 40
LFB	2,4-Dimethylphenol	0.757	LCS	P	0 - 40
LFB	2,4-Dinitrophenol	21.0	LCS	P	0 - 40
LFB	2,4-Dinitrotoluene	1.82	LCS	P	0 - 40
LFB	2,4,5-Trichlorophenol	2.09	LCS	P	0 - 40
LFB	2,4,6-Trichlorophenol	0.994	LCS	P	0 - 40
LFB	2,6-Dichlorophenol	3.91	LCS	P	0 - 40
LFB	2,6-Dinitrotoluene	0.567	LCS	P	0 - 40
LFB	3-Methylcholanthrene	0.386	LCS	P	0 - 40
LFB	3,3'-Dichlorobenzidine	2.02	LCS	P	0 - 40
LFB	4-Aminobiphenyl	1.84	LCS	P	0 - 40
LFB	4-Bromophenyl phenyl ether	6.09	LCS	P	0 - 40
LFB	4-Chloro-3-methylphenol	3.61	LCS	P	0 - 40
LFB	4-Chlorophenyl phenyl ether	3.24	LCS	P	0 - 40
LFB	4-Nitrophenol	4.18	LCS	P	0 - 40
LFB	5-Nitro-o-toluidine	0.913	LCS	P	0 - 40
LFB	7,12-Dimethylbenz(a)anthracene	6.16	LCS	P	0 - 40
LFB	Acenaphthene	0.976	LCS	P	0 - 40
LFB	Acenaphthylene	1.02	LCS	P	0 - 40
LFB	Acetophenone	6.25	LCS	P	0 - 40
LFB	Aniline	5.68	LCS	P	0 - 40
LFB	Anthracene	4.02	LCS	P	0 - 40
LFB	Azobenzene/1,2-Diphenylhydrazine	3.80	LCS	P	0 - 40
LFB	Benzidine	12.7	LCS	P	0 - 40
LFB	Benzo(a)anthracene	0.948	LCS	P	0 - 40
LFB	Benzo(a)pyrene	0.947	LCS	P	0 - 40
LFB	Benzo(b)fluoranthene	7.03	LCS	P	0 - 40
LFB	Benzo(g,h,i)perylene	2.31	LCS	P	0 - 40
LFB	Benzo(k)fluoranthene	4.16	LCS	P	0 - 40
LFB	Benzyl alcohol	11.8	LCS	P	0 - 40
LFB	Bis(2-chloroethoxy)methane	4.07	LCS	P	0 - 40
LFB	Bis(2-chloroethyl)ether	11.7	LCS	P	0 - 40
LFB	Bis(2-chloroisopropyl)ether	8.92	LCS	P	0 - 40
LFB	Bis(2-ethylhexyl)phthalate	0.575	LCS	P	0 - 40
LFB	Butyl benzyl phthalate	2.52	LCS	P	0 - 40
LFB	Carbazole	11.2	LCS	P	0 - 40
LFB	Chrysene	3.28	LCS	P	0 - 40
LFB	Di-n-butyl phthalate	3.38	LCS	P	0 - 40
LFB	Di-n-octyl phthalate	3.61	LCS	P	0 - 40
LFB	Dibenzo(a,h)anthracene	4.84	LCS	P	0 - 40
LFB	Dibenzofuran	1.74	LCS	P	0 - 40

Quality Assurance Report Precision

Reference Method: EPA 8270E
 Batch ID: P379006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Diethyl phthalate	1.24	LCS	P	0 - 40
LFB	Dimethyl phthalate	1.04	LCS	P	0 - 40
LFB	Dimethylaminoazobenzene	0.0	LCS	P	0 - 40
LFB	Dinoseb	0.380	LCS	P	0 - 40
LFB	Ethyl methanesulfonate	9.00	LCS	P	0 - 40
LFB	Fluoranthene	3.40	LCS	P	0 - 40
LFB	Fluorene	1.39	LCS	P	0 - 40
LFB	Hexachlorobenzene	3.41	LCS	P	0 - 40
LFB	Hexachlorobutadiene	5.16	LCS	P	0 - 40
LFB	Hexachlorocyclopentadiene	2.60	LCS	P	0 - 40
LFB	Hexachloroethane	5.55	LCS	P	0 - 40
LFB	Hexachloropropene	6.39	LCS	P	0 - 40
LFB	Indeno(1,2,3-cd)pyrene	4.77	LCS	P	0 - 40
LFB	Isophorone	3.98	LCS	P	0 - 40
LFB	Isosafrole	4.08	LCS	P	0 - 40
LFB	m,p-Cresols	1.94	LCS	P	0 - 40
LFB	N-Nitrosodi-n-butylamine	6.51	LCS	P	0 - 40
LFB	N-Nitrosodi-n-propylamine	7.66	LCS	P	0 - 40
LFB	N-Nitrosodiethylamine	4.81	LCS	P	0 - 40
LFB	N-Nitrosodimethylamine	7.23	LCS	P	0 - 40
LFB	N-Nitrosodiphenylamine/ Diphenylamine	0.439	LCS	P	0 - 40
LFB	N-Nitrosomethylethylamine	11.8	LCS	P	0 - 40
LFB	N-Nitrosomorpholine	3.22	LCS	P	0 - 40
LFB	N-Nitrosopiperidine	7.67	LCS	P	0 - 40
LFB	N-Nitrosopyrrolidine	7.14	LCS	P	0 - 40
LFB	Naphthalene	5.03	LCS	P	0 - 40
LFB	Nitrobenzene	3.10	LCS	P	0 - 40
LFB	o-Cresol	8.35	LCS	P	0 - 40
LFB	o-Toluidine	0.685	LCS	P	0 - 40
LFB	Pentachlorobenzene	1.01	LCS	P	0 - 40
LFB	Pentachloroethane	8.00	LCS	P	0 - 40
LFB	Pentachloronitrobenzene	6.88	LCS	P	0 - 40
LFB	Pentachlorophenol	9.29	LCS	P	0 - 40
LFB	Phenacetin	0.589	LCS	P	0 - 40
LFB	Phenanthrene	4.52	LCS	P	0 - 40
LFB	Phenol	11.5	LCS	P	0 - 40
LFB	Pyrene	2.08	LCS	P	0 - 40
LFB	Pyridine	0.123	LCS	P	0 - 40
LFB	Safrole	4.08	LCS	P	0 - 40

Reference Method: EPA 8321B
 Batch ID: P378998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2156027	4:2 Fluorotelomer sulfonate (4:2 FTS)	41.1	Spike	F	0 - 35
2156027	6:2 Fluorotelomer sulfonate (6:2 FTS)	51.1	Spike	F	0 - 35
2156027	8:2 Fluorotelomer sulfonate (8:2 FTS)	44.7	Spike	F	0 - 35
2156027	N-Et perfluorooctanesulfonamidoAc acid	45.1	Spike	F	0 - 35
2156027	N-Me perfluorooctanesulfonamidoAc acid	46.5	Spike	F	0 - 35
2156027	Perfluorobutanesulfonic acid (PFBS)	46.5	Spike	F	0 - 35

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P378998

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2156027	Perfluorodecanesulfonic acid (PFDS)	41.0	Spike	F	0 - 35
2156027	Perfluorodecanoic acid (PFDA)	49.3	Spike	F	0 - 35
2156027	Perfluorododecanoic acid (PFDoA)	45.2	Spike	F	0 - 35
2156027	Perfluoroheptanesulfonic acid (PFHpS)	36.2	Spike	F	0 - 35
2156027	Perfluoroheptanoic acid (PFHpA)	51.0	Spike	F	0 - 35
2156027	Perfluorohexanesulfonic acid (PFHxS)	43.7	Spike	F	0 - 35
2156027	Perfluorohexanoic acid (PFHxA)	52.4	Spike	F	0 - 35
2156027	Perfluorononanesulfonic acid (PFNS)	50.5	Spike	F	0 - 35
2156027	Perfluorononanoic acid (PFNA)	44.6	Spike	F	0 - 35
2156027	Perfluorooctanesulfonic acid (PFOS)	45.2	Spike	F	0 - 35
2156027	Perfluorooctanoic acid (PFOA)	53.9	Spike	F	0 - 35
2156027	Perfluoropentanesulfonic acid (PFPeS)	35.7	Spike	F	0 - 35
2156027	Perfluoropentanoic acid (PFPeA)	46.9	Spike	F	0 - 35
2156027	Perfluorotetradecanoic acid (PFTeA)	15.3	Spike	P	0 - 35
2156027	Perfluorotridecanoic acid (PFTriA)	15.7	Spike	P	0 - 35
2156027	Perfluoroundecanoic acid (PFUnA)	44.1	Spike	F	0 - 35

Reference Method: EPA 8321B
 Batch ID: P379087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157970	4:2 Fluorotelomer sulfonate (4:2 FTS)	6.07	Spike	P	0 - 35
2157970	6:2 Fluorotelomer sulfonate (6:2 FTS)	17.2	Spike	P	0 - 35
2157970	8:2 Fluorotelomer sulfonate (8:2 FTS)	28.1	Spike	P	0 - 35
2157970	N-Et perfluorooctanesulfonamidoAc acid	16.7	Spike	P	0 - 35
2157970	N-Me perfluorooctanesulfonamidoAc acid	26.9	Spike	P	0 - 35
2157970	Perfluorobutanesulfonic acid (PFBS)	7.42	Spike	P	0 - 35
2157970	Perfluorodecanesulfonic acid (PFDS)	22.4	Spike	P	0 - 35
2157970	Perfluorodecanoic acid (PFDA)	25.2	Spike	P	0 - 35
2157970	Perfluorododecanoic acid (PFDoA)	9.63	Spike	P	0 - 35
2157970	Perfluoroheptanesulfonic acid (PFHpS)	29.1	Spike	P	0 - 35
2157970	Perfluoroheptanoic acid (PFHpA)	32.7	Spike	P	0 - 35
2157970	Perfluorohexanesulfonic acid (PFHxS)	15.2	Spike	P	0 - 35
2157970	Perfluorohexanoic acid (PFHxA)	1.74	Spike	P	0 - 35
2157970	Perfluorononanesulfonic acid (PFNS)	13.5	Spike	P	0 - 35
2157970	Perfluorononanoic acid (PFNA)	47.8	Spike	F	0 - 35
2157970	Perfluorooctanesulfonic acid (PFOS)	24.4	Spike	P	0 - 35
2157970	Perfluorooctanoic acid (PFOA)	47.0	Spike	F	0 - 35
2157970	Perfluoropentanesulfonic acid (PFPeS)	25.2	Spike	P	0 - 35
2157970	Perfluoropentanoic acid (PFPeA)	5.35	Spike	P	0 - 35
2157970	Perfluorotetradecanoic acid (PFTeA)	13.4	Spike	P	0 - 35
2157970	Perfluorotridecanoic acid (PFTriA)	26.4	Spike	P	0 - 35
2157970	Perfluoroundecanoic acid (PFUnA)	12.7	Spike	P	0 - 35

Reference Method: EPA 8321B
 Batch ID: P379089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158024	4:2 Fluorotelomer sulfonate (4:2 FTS)	6.73	Spike	P	0 - 35

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P379089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158024	6:2 Fluorotelomer sulfonate (6:2 FTS)	23.6	Spike	P	0 - 35
2158024	8:2 Fluorotelomer sulfonate (8:2 FTS)	19.3	Spike	P	0 - 35
2158024	N-Et perfluorooctanesulfonamidoAc acid	21.6	Spike	P	0 - 35
2158024	N-Me perfluorooctanesulfonamidoAc acid	12.3	Spike	P	0 - 35
2158024	Perfluorobutanesulfonic acid (PFBS)	23.6	Spike	P	0 - 35
2158024	Perfluorodecanesulfonic acid (PFDS)	17.5	Spike	P	0 - 35
2158024	Perfluorodecanoic acid (PFDA)	21.1	Spike	P	0 - 35
2158024	Perfluorododecanoic acid (PFDoA)	31.2	Spike	P	0 - 35
2158024	Perfluoroheptanesulfonic acid (PFHpS)	16.3	Spike	P	0 - 35
2158024	Perfluoroheptanoic acid (PFHpA)	25.5	Spike	P	0 - 35
2158024	Perfluorohexanesulfonic acid (PFHxS)	26.8	Spike	P	0 - 35
2158024	Perfluorohexanoic acid (PFHxA)	11.7	Spike	P	0 - 35
2158024	Perfluorononanesulfonic acid (PFNS)	24.8	Spike	P	0 - 35
2158024	Perfluorononanoic acid (PFNA)	19.8	Spike	P	0 - 35
2158024	Perfluorooctanesulfonic acid (PFOS)	19.5	Spike	P	0 - 35
2158024	Perfluorooctanoic acid (PFOA)	17.1	Spike	P	0 - 35
2158024	Perfluoropentanesulfonic acid (PFPeS)	20.2	Spike	P	0 - 35
2158024	Perfluoropentanoic acid (PFPeA)	41.4	Spike	F	0 - 35
2158024	Perfluorotetradecanoic acid (PFTeA)	13.0	Spike	P	0 - 35
2158024	Perfluorotridecanoic acid (PFTriA)	28.5	Spike	P	0 - 35
2158024	Perfluoroundecanoic acid (PFUnA)	8.80	Spike	P	0 - 35

Reference Method: EPA 8321B

Batch ID: P379090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158068	4:2 Fluorotelomer sulfonate (4:2 FTS)	29.9	Spike	P	0 - 35
2158068	6:2 Fluorotelomer sulfonate (6:2 FTS)	20.2	Spike	P	0 - 35
2158068	8:2 Fluorotelomer sulfonate (8:2 FTS)	10.3	Spike	P	0 - 35
2158068	N-Et perfluorooctanesulfonamidoAc acid	15.5	Spike	P	0 - 35
2158068	N-Me perfluorooctanesulfonamidoAc acid	7.53	Spike	P	0 - 35
2158068	Perfluorobutanesulfonic acid (PFBS)	10.2	Spike	P	0 - 35
2158068	Perfluorodecanesulfonic acid (PFDS)	14.2	Spike	P	0 - 35
2158068	Perfluorodecanoic acid (PFDA)	11.6	Spike	P	0 - 35
2158068	Perfluorododecanoic acid (PFDoA)	34.2	Spike	P	0 - 35
2158068	Perfluoroheptanesulfonic acid (PFHpS)	18.1	Spike	P	0 - 35
2158068	Perfluoroheptanoic acid (PFHpA)	20.9	Spike	P	0 - 35
2158068	Perfluorohexanesulfonic acid (PFHxS)	8.15	Spike	P	0 - 35
2158068	Perfluorohexanoic acid (PFHxA)	44.2	Spike	F	0 - 35
2158068	Perfluorononanesulfonic acid (PFNS)	10.8	Spike	P	0 - 35
2158068	Perfluorononanoic acid (PFNA)	31.9	Spike	P	0 - 35
2158068	Perfluorooctanesulfonic acid (PFOS)	25.8	Spike	P	0 - 35
2158068	Perfluorooctanoic acid (PFOA)	33.1	Spike	P	0 - 35
2158068	Perfluoropentanesulfonic acid (PFPeS)	8.67	Spike	P	0 - 35
2158068	Perfluoropentanoic acid (PFPeA)	28.7	Spike	P	0 - 35
2158068	Perfluorotetradecanoic acid (PFTeA)	19.9	Spike	P	0 - 35
2158068	Perfluorotridecanoic acid (PFTriA)	7.14	Spike	P	0 - 35
2158068	Perfluoroundecanoic acid (PFUnA)	16.2	Spike	P	0 - 35

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P379091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158113	4:2 Fluorotelomer sulfonate (4:2 FTS)	2.93	Spike	P	0 - 35
2158113	6:2 Fluorotelomer sulfonate (6:2 FTS)	2.77	Spike	P	0 - 35
2158113	8:2 Fluorotelomer sulfonate (8:2 FTS)	3.04	Spike	P	0 - 35
2158113	N-Et perfluorooctanesulfonamidoAc acid	9.08	Spike	P	0 - 35
2158113	N-Me perfluorooctanesulfonamidoAc acid	11.6	Spike	P	0 - 35
2158113	Perfluorobutanesulfonic acid (PFBS)	0.693	Spike	P	0 - 35
2158113	Perfluorodecanesulfonic acid (PFDS)	3.68	Spike	P	0 - 35
2158113	Perfluorodecanoic acid (PFDA)	23.6	Spike	P	0 - 35
2158113	Perfluorododecanoic acid (PFDoA)	44.0	Spike	F	0 - 35
2158113	Perfluoroheptanesulfonic acid (PFHpS)	7.18	Spike	P	0 - 35
2158113	Perfluoroheptanoic acid (PFHpA)	7.34	Spike	P	0 - 35
2158113	Perfluorohexanesulfonic acid (PFHxS)	1.48	Spike	P	0 - 35
2158113	Perfluorohexanoic acid (PFHxA)	37.4	Spike	F	0 - 35
2158113	Perfluorononanesulfonic acid (PFNS)	4.12	Spike	P	0 - 35
2158113	Perfluorononanoic acid (PFNA)	35.7	Spike	F	0 - 35
2158113	Perfluorooctanesulfonic acid (PFOS)	3.37	Spike	P	0 - 35
2158113	Perfluorooctanoic acid (PFOA)	27.3	Spike	P	0 - 35
2158113	Perfluoropentanesulfonic acid (PFPeS)	0.973	Spike	P	0 - 35
2158113	Perfluoropentanoic acid (PFPeA)	22.9	Spike	P	0 - 35
2158113	Perfluorotetradecanoic acid (PFTeA)	16.9	Spike	P	0 - 35
2158113	Perfluorotridecanoic acid (PFTriA)	39.8	Spike	F	0 - 35
2158113	Perfluoroundecanoic acid (PFUnA)	23.2	Spike	P	0 - 35

Reference Method: EPA 8321B

Batch ID: P379092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158183	4:2 Fluorotelomer sulfonate (4:2 FTS)	24.3	Spike	P	0 - 35
2158183	6:2 Fluorotelomer sulfonate (6:2 FTS)	32.7	Spike	P	0 - 35
2158183	8:2 Fluorotelomer sulfonate (8:2 FTS)	11.5	Spike	P	0 - 35
2158183	N-Et perfluorooctanesulfonamidoAc acid	4.28	Spike	P	0 - 35
2158183	N-Me perfluorooctanesulfonamidoAc acid	9.87	Spike	P	0 - 35
2158183	Perfluorobutanesulfonic acid (PFBS)	0.371	Spike	P	0 - 35
2158183	Perfluorodecanesulfonic acid (PFDS)	0.642	Spike	P	0 - 35
2158183	Perfluorodecanoic acid (PFDA)	16.4	Spike	P	0 - 35
2158183	Perfluorododecanoic acid (PFDoA)	5.53	Spike	P	0 - 35
2158183	Perfluoroheptanesulfonic acid (PFHpS)	3.71	Spike	P	0 - 35
2158183	Perfluoroheptanoic acid (PFHpA)	16.4	Spike	P	0 - 35
2158183	Perfluorohexanesulfonic acid (PFHxS)	10.5	Spike	P	0 - 35
2158183	Perfluorohexanoic acid (PFHxA)	19.8	Spike	P	0 - 35
2158183	Perfluorononanesulfonic acid (PFNS)	2.63	Spike	P	0 - 35
2158183	Perfluorononanoic acid (PFNA)	13.4	Spike	P	0 - 35
2158183	Perfluorooctanesulfonic acid (PFOS)	14.0	Spike	P	0 - 35
2158183	Perfluorooctanoic acid (PFOA)	16.6	Spike	P	0 - 35
2158183	Perfluoropentanesulfonic acid (PFPeS)	10.8	Spike	P	0 - 35
2158183	Perfluoropentanoic acid (PFPeA)	18.7	Spike	P	0 - 35
2158183	Perfluorotetradecanoic acid (PFTeA)	8.60	Spike	P	0 - 35
2158183	Perfluorotridecanoic acid (PFTriA)	13.5	Spike	P	0 - 35
2158183	Perfluoroundecanoic acid (PFUnA)	21.5	Spike	P	0 - 35

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P379093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157879	4:2 Fluorotelomer sulfonate (4:2 FTS)	5.14	Spike	P	0 - 35
2157879	6:2 Fluorotelomer sulfonate (6:2 FTS)	16.5	Spike	P	0 - 35
2157879	8:2 Fluorotelomer sulfonate (8:2 FTS)	3.97	Spike	P	0 - 35
2157879	N-Et perfluorooctanesulfonamidoAc acid	7.11	Spike	P	0 - 35
2157879	N-Me perfluorooctanesulfonamidoAc acid	13.2	Spike	P	0 - 35
2157879	Perfluorobutanesulfonic acid (PFBS)	8.93	Spike	P	0 - 35
2157879	Perfluorodecanesulfonic acid (PFDS)	7.05	Spike	P	0 - 35
2157879	Perfluorodecanoic acid (PFDA)	11.0	Spike	P	0 - 35
2157879	Perfluorododecanoic acid (PFDoA)	30.1	Spike	P	0 - 35
2157879	Perfluoroheptanesulfonic acid (PFHpS)	8.14	Spike	P	0 - 35
2157879	Perfluoroheptanoic acid (PFHpA)	43.3	Spike	F	0 - 35
2157879	Perfluorohexanesulfonic acid (PFHxS)	17.5	Spike	P	0 - 35
2157879	Perfluorohexanoic acid (PFHxA)	6.15	Spike	P	0 - 35
2157879	Perfluorononanesulfonic acid (PFNS)	10.1	Spike	P	0 - 35
2157879	Perfluorononanoic acid (PFNA)	20.3	Spike	P	0 - 35
2157879	Perfluorooctanesulfonic acid (PFOS)	12.0	Spike	P	0 - 35
2157879	Perfluorooctanoic acid (PFOA)	23.4	Spike	P	0 - 35
2157879	Perfluoropentanesulfonic acid (PFPeS)	2.09	Spike	P	0 - 35
2157879	Perfluoropentanoic acid (PFPeA)	4.33	Spike	P	0 - 35
2157879	Perfluorotetradecanoic acid (PFTeA)	27.7	Spike	P	0 - 35
2157879	Perfluorotridecanoic acid (PFTriA)	23.1	Spike	P	0 - 35
2157879	Perfluoroundecanoic acid (PFUnA)	22.5	Spike	P	0 - 35

Reference Method: EPA 8321B
 Batch ID: P379487

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	4:2 Fluorotelomer sulfonate (4:2 FTS)	9.06	LCS	P	0 - 30
LFB	6:2 Fluorotelomer sulfonate (6:2 FTS)	15.8	LCS	P	0 - 30
LFB	8:2 Fluorotelomer sulfonate (8:2 FTS)	23.0	LCS	P	0 - 30
LFB	N-Et perfluorooctanesulfonamidoAc acid	20.5	LCS	P	0 - 30
LFB	N-Me perfluorooctanesulfonamidoAc acid	0.259	LCS	P	0 - 30
LFB	Perfluorobutanesulfonic acid (PFBS)	4.31	LCS	P	0 - 30
LFB	Perfluorodecanesulfonic acid (PFDS)	1.46	LCS	P	0 - 30
LFB	Perfluorodecanoic acid (PFDA)	4.27	LCS	P	0 - 30
LFB	Perfluorododecanoic acid (PFDoA)	23.0	LCS	P	0 - 30
LFB	Perfluoroheptanesulfonic acid (PFHpS)	8.42	LCS	P	0 - 30
LFB	Perfluoroheptanoic acid (PFHpA)	5.18	LCS	P	0 - 30
LFB	Perfluorohexanesulfonic acid (PFHxS)	2.05	LCS	P	0 - 30
LFB	Perfluorohexanoic acid (PFHxA)	6.17	LCS	P	0 - 30
LFB	Perfluorononanesulfonic acid (PFNS)	2.03	LCS	P	0 - 30
LFB	Perfluorononanoic acid (PFNA)	11.6	LCS	P	0 - 30
LFB	Perfluorooctanesulfonic acid (PFOS)	1.80	LCS	P	0 - 30
LFB	Perfluorooctanoic acid (PFOA)	1.56	LCS	P	0 - 30
LFB	Perfluoropentanesulfonic acid (PFPeS)	3.03	LCS	P	0 - 30
LFB	Perfluoropentanoic acid (PFPeA)	14.3	LCS	P	0 - 30
LFB	Perfluorotetradecanoic acid (PFTeA)	0.0873	LCS	P	0 - 30
LFB	Perfluorotridecanoic acid (PFTriA)	24.9	LCS	P	0 - 30
LFB	Perfluoroundecanoic acid (PFUnA)	10.7	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P379634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158224	4:2 Fluorotelomer sulfonate (4:2 FTS)	2.16	Spike	P	0 - 35
2158224	6:2 Fluorotelomer sulfonate (6:2 FTS)	2.11	Spike	P	0 - 35
2158224	8:2 Fluorotelomer sulfonate (8:2 FTS)	0.454	Spike	P	0 - 35
2158224	N-Et perfluorooctanesulfonamidoAc acid	4.25	Spike	P	0 - 35
2158224	N-Me perfluorooctanesulfonamidoAc acid	0.415	Spike	P	0 - 35
2158224	Perfluorobutanesulfonic acid (PFBS)	1.72	Spike	P	0 - 35
2158224	Perfluorodecanesulfonic acid (PFDS)	5.17	Spike	P	0 - 35
2158224	Perfluorodecanoic acid (PFDA)	23.9	Spike	P	0 - 35
2158224	Perfluorododecanoic acid (PFDoA)	16.6	Spike	P	0 - 35
2158224	Perfluoroheptanesulfonic acid (PFHpS)	5.11	Spike	P	0 - 35
2158224	Perfluoroheptanoic acid (PFHpA)	28.0	Spike	P	0 - 35
2158224	Perfluorohexanesulfonic acid (PFHxS)	3.78	Spike	P	0 - 35
2158224	Perfluorohexanoic acid (PFHxA)	20.4	Spike	P	0 - 35
2158224	Perfluorononanesulfonic acid (PFNS)	3.80	Spike	P	0 - 35
2158224	Perfluorononanoic acid (PFNA)	9.93	Spike	P	0 - 35
2158224	Perfluorooctanesulfonic acid (PFOS)	6.79	Spike	P	0 - 35
2158224	Perfluorooctanoic acid (PFOA)	18.4	Spike	P	0 - 35
2158224	Perfluoropentanesulfonic acid (PFPeS)	2.10	Spike	P	0 - 35
2158224	Perfluoropentanoic acid (PFPeA)	20.9	Spike	P	0 - 35
2158224	Perfluorotetradecanoic acid (PFTeA)	16.7	Spike	P	0 - 35
2158224	Perfluorotridecanoic acid (PFTriA)	32.3	Spike	P	0 - 35
2158224	Perfluoroundecanoic acid (PFUnA)	21.4	Spike	P	0 - 35

Reference Method: EPA 8321B
 Batch ID: P381021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157742	4:2 Fluorotelomer sulfonate (4:2 FTS)	4.48	Spike	P	0 - 30
2157742	6:2 Fluorotelomer sulfonate (6:2 FTS)	6.06	Spike	P	0 - 30
2157742	8:2 Fluorotelomer sulfonate (8:2 FTS)	13.5	Spike	P	0 - 30
2157742	N-Et perfluorooctanesulfonamidoAc acid	3.65	Spike	P	0 - 30
2157742	N-Me perfluorooctanesulfonamidoAc acid	10.9	Spike	P	0 - 30
2157742	Perfluorobutanesulfonic acid (PFBS)	3.73	Spike	P	0 - 30
2157742	Perfluorodecanesulfonic acid (PFDS)	6.16	Spike	P	0 - 30
2157742	Perfluorodecanoic acid (PFDA)	26.6	Spike	P	0 - 30
2157742	Perfluorododecanoic acid (PFDoA)	6.61	Spike	P	0 - 30
2157742	Perfluoroheptanesulfonic acid (PFHpS)	4.00	Spike	P	0 - 30
2157742	Perfluoroheptanoic acid (PFHpA)	26.4	Spike	P	0 - 30
2157742	Perfluorohexanesulfonic acid (PFHxS)	0.970	Spike	P	0 - 30
2157742	Perfluorohexanoic acid (PFHxA)	11.1	Spike	P	0 - 30
2157742	Perfluorononanesulfonic acid (PFNS)	1.26	Spike	P	0 - 30
2157742	Perfluorononanoic acid (PFNA)	2.99	Spike	P	0 - 30
2157742	Perfluorooctanesulfonic acid (PFOS)	7.54	Spike	P	0 - 30
2157742	Perfluorooctanoic acid (PFOA)	9.73	Spike	P	0 - 30
2157742	Perfluoropentanesulfonic acid (PFPeS)	8.44	Spike	P	0 - 30
2157742	Perfluoropentanoic acid (PFPeA)	22.1	Spike	P	0 - 30
2157742	Perfluorotetradecanoic acid (PFTeA)	17.5	Spike	P	0 - 30
2157742	Perfluorotridecanoic acid (PFTriA)	16.3	Spike	P	0 - 30
2157742	Perfluoroundecanoic acid (PFUnA)	13.8	Spike	P	0 - 30

Quality Assurance Report Precision

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2157867
 Field Sample ID: SB-7 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	116	P	30 - 160

Lab Sample ID: 2157868
 Field Sample ID: SB-7 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	135	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	110	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	104	P	30 - 160

Lab Sample ID: 2157869
 Field Sample ID: SB-7 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	108	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	87.3	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	98.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	87.0	P	30 - 160

Lab Sample ID: 2157870
 Field Sample ID: SB-6 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	104	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	87.1	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	94.3	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	87.7	P	30 - 160

Lab Sample ID: 2157871
 Field Sample ID: SB-6 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	126	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	160	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	151	P	30 - 160

Lab Sample ID: 2157872
 Field Sample ID: SB-6 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	148	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	103	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	116	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2157873
Field Sample ID: SB-5 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	119	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	153	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	151	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	97.7	P	30 - 160

Lab Sample ID: 2157874
Field Sample ID: SB-5 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	134	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	112	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	114	P	30 - 160

Lab Sample ID: 2157875
Field Sample ID: SB-5 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	152	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	127	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	126	P	30 - 160

Lab Sample ID: 2157876
Field Sample ID: SB-4 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	95.6	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	132	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	91.2	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	119	P	30 - 160

Lab Sample ID: 2157877
Field Sample ID: SB-4 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	122	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	114	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	96.3	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	93.1	P	30 - 160

Lab Sample ID: 2157878
Field Sample ID: SB-4 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	139	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	143	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	159	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	111	P	30 - 160

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Lab Sample ID: 2157879
 Field Sample ID: SB-3 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	91.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	96.0	P	30 - 160

Lab Sample ID: 2157880
 Field Sample ID: SB-3 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	112	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	114	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	92.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	101	P	30 - 160

Lab Sample ID: 2157881
 Field Sample ID: SB-3 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	129	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	97.0	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	97.8	P	30 - 160

Lab Sample ID: 2157882
 Field Sample ID: SB-27 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	103	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	101	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	88.3	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	121	P	30 - 160

Lab Sample ID: 2157883
 Field Sample ID: SB-27 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	139	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	147	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	122	P	30 - 160

Lab Sample ID: 2157884
 Field Sample ID: SB-27 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	147	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	156	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	117	P	30 - 160

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Lab Sample ID: 2157885
Field Sample ID: SB-26 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	119	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	108	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	86.6	P	30 - 160

Lab Sample ID: 2157886
Field Sample ID: EQB-4

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	78.4	P	30 - 160
EPA 8321B	Perfluorobutanesulfonate-13C	78.4	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	103	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	103	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	77.0	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	77.0	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	64.1	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	64.1	P	30 - 160

Lab Sample ID: 2157957
Field Sample ID: SB-26 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	154	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	155	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	137	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	121	P	30 - 160

Lab Sample ID: 2157958
Field Sample ID: SB-26 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	98.2	P	30 - 160

Lab Sample ID: 2157959
Field Sample ID: SB-8 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	142	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	111	P	30 - 160

Lab Sample ID: 2157960
Field Sample ID: SB-8 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	143	P	30 - 160

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Lab Sample ID: 2157960
 Field Sample ID: SB-8 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorohexanoic acid-13C	111	P	30 - 160

Lab Sample ID: 2157961
 Field Sample ID: SB-8 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	116	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	102	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	98.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	83.0	P	30 - 160

Lab Sample ID: 2157962
 Field Sample ID: SB-9 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	137	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	119	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	102	P	30 - 160

Lab Sample ID: 2157963
 Field Sample ID: SB-9 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	151	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	139	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	159	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	107	P	30 - 160

Lab Sample ID: 2157964
 Field Sample ID: SB-9 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	130	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	148	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	113	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	128	P	30 - 160

Lab Sample ID: 2157965
 Field Sample ID: SB-12 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	81.8	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	86.5	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	96.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	70.7	P	30 - 160

Lab Sample ID: 2157966
 Field Sample ID: SB-12 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	115	P	30 - 160

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Lab Sample ID: 2157966
Field Sample ID: SB-12 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorodecanoic acid-13C	147	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	98.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	106	P	30 - 160

Lab Sample ID: 2157967
Field Sample ID: SB-12 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	129	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	124	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	106	P	30 - 160

Lab Sample ID: 2157968
Field Sample ID: SB-11 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	100	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	85.9	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	76.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	76.8	P	30 - 160

Lab Sample ID: 2157969
Field Sample ID: SB-11 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	114	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	97.3	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	81.0	P	30 - 160

Lab Sample ID: 2157970
Field Sample ID: SB-11 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	132	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	126	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	134	P	30 - 160

Lab Sample ID: 2157971
Field Sample ID: SB-1 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	119	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	136	P	30 - 160

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Lab Sample ID: 2157972
Field Sample ID: SB-14 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	67.8	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	96.8	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	75.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	56.2	P	30 - 160

Lab Sample ID: 2157973
Field Sample ID: SB-14 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	130	P	30 - 160

Lab Sample ID: 2157975
Field Sample ID: SB-2 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	94.9	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	158	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	118	P	30 - 160

Lab Sample ID: 2157978
Field Sample ID: EQB-5

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	151	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	117	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	73.8	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	143	P	30 - 160

Lab Sample ID: 2158009
Field Sample ID: SB-15 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	93.0	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	145	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	116	P	30 - 160

Lab Sample ID: 2158010
Field Sample ID: SB-15 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	86.7	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	130	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	85.1	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	92.3	P	30 - 160

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Lab Sample ID: 2158011
Field Sample ID: SB-15 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	118	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	118	P	30 - 160

Lab Sample ID: 2158012
Field Sample ID: SB-13 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	98.1	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	159	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	122	P	30 - 160

Lab Sample ID: 2158013
Field Sample ID: SB-13 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	94.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	152	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	99.0	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	105	P	30 - 160

Lab Sample ID: 2158014
Field Sample ID: SB-13 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	82.9	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	84.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	80.7	P	30 - 160

Lab Sample ID: 2158015
Field Sample ID: SB-17 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	78.7	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	89.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	88.7	P	30 - 160

Lab Sample ID: 2158016
Field Sample ID: SB-17 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	81.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	140	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	86.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	87.0	P	30 - 160

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Lab Sample ID: 2158017
Field Sample ID: SB-17 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	147	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	126	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	111	P	30 - 160

Lab Sample ID: 2158018
Field Sample ID: SB-18 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	124	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	127	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	124	P	30 - 160

Lab Sample ID: 2158019
Field Sample ID: SB-18 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	91.5	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	138	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	97.7	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	102	P	30 - 160

Lab Sample ID: 2158020
Field Sample ID: SB-18 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	102	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	121	P	30 - 160

Lab Sample ID: 2158021
Field Sample ID: SB-19 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	90.9	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	102	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	85.6	P	30 - 160

Lab Sample ID: 2158022
Field Sample ID: SB-19 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	86.0	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	158	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	94.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	90.5	P	30 - 160

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Lab Sample ID: 2158023
 Field Sample ID: SB-19 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	151	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	130	P	30 - 160

Lab Sample ID: 2158024
 Field Sample ID: SB-16 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	112	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	146	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	133	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	123	P	30 - 160

Lab Sample ID: 2158025
 Field Sample ID: SB-16 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	85.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	117	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	115	P	30 - 160

Lab Sample ID: 2158026
 Field Sample ID: SB-16 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	117	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	95.7	P	30 - 160

Lab Sample ID: 2158027
 Field Sample ID: SB-10 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	153	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	103	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	153	P	30 - 160

Lab Sample ID: 2158028
 Field Sample ID: EQB-6

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	98.9	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	87.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	81.4	P	30 - 160

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Lab Sample ID: 2158052
 Field Sample ID: SB-10 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	129	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	145	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	151	P	30 - 160

Lab Sample ID: 2158053
 Field Sample ID: SB-10 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	96.3	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	90.7	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	118	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	126	P	30 - 160

Lab Sample ID: 2158054
 Field Sample ID: SB-25 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	105	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	112	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	130	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	91.5	P	30 - 160

Lab Sample ID: 2158055
 Field Sample ID: SB-25 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	104	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	118	P	30 - 160

Lab Sample ID: 2158056
 Field Sample ID: SB-25 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	133	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	101	P	30 - 160

Lab Sample ID: 2158057
 Field Sample ID: SB-24 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	126	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	139	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	93.7	P	30 - 160

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Lab Sample ID: 2158058
Field Sample ID: SB-24 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	134	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	106	P	30 - 160

Lab Sample ID: 2158059
Field Sample ID: SB-24 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	143	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	140	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	152	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	143	P	30 - 160

Lab Sample ID: 2158060
Field Sample ID: SB-23 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	98.6	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	95.1	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	71.4	P	30 - 160

Lab Sample ID: 2158061
Field Sample ID: SB-23 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	97.0	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	94.1	P	30 - 160

Lab Sample ID: 2158062
Field Sample ID: SB-23 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	131	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	126	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	135	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	137	P	30 - 160

Lab Sample ID: 2158063
Field Sample ID: SB-20 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	110	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	142	P	30 - 160

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Lab Sample ID: 2158064
Field Sample ID: SB-20 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	127	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	148	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	129	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	125	P	30 - 160

Lab Sample ID: 2158065
Field Sample ID: SB-20 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	129	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	151	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	158	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	143	P	30 - 160

Lab Sample ID: 2158066
Field Sample ID: Sed-5 (0-1)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	139	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	127	P	30 - 160

Lab Sample ID: 2158067
Field Sample ID: Sed-4 (0-1)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	130	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	127	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	125	P	30 - 160

Lab Sample ID: 2158068
Field Sample ID: SB-8 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	91.3	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	110	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	94.0	P	30 - 160

Lab Sample ID: 2158070
Field Sample ID: SW-5

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	91.7	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	98.1	P	30 - 160

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Lab Sample ID: 2158071
Field Sample ID: SW-4

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	94.3	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	84.6	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	92.7	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	83.1	P	30 - 160

Lab Sample ID: 2158072
Field Sample ID: EQB-7

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	114	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	92.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	94.5	P	30 - 160

Lab Sample ID: 2158095
Field Sample ID: SB-8 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	88.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	94.9	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	113	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	99.1	P	30 - 160

Lab Sample ID: 2158096
Field Sample ID: Sed-6

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	86.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	93.4	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	83.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	112	P	30 - 160

Lab Sample ID: 2158097
Field Sample ID: SB-9 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	116	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	144	P	30 - 160

Lab Sample ID: 2158098
Field Sample ID: SB-9 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	84.1	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	110	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	94.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	73.1	P	30 - 160

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Lab Sample ID: 2158099
Field Sample ID: SB-10 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	130	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	157	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	110	P	30 - 160

Lab Sample ID: 2158100
Field Sample ID: SB-10 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	135	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	141	P	30 - 160

Lab Sample ID: 2158101
Field Sample ID: SB-11 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	98.0	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	109	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	81.8	P	30 - 160

Lab Sample ID: 2158102
Field Sample ID: SB-11 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	91.3	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	137	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	121	P	30 - 160

Lab Sample ID: 2158103
Field Sample ID: SB-21 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	115	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	137	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	146	P	30 - 160

Lab Sample ID: 2158104
Field Sample ID: SB-21 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	118	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	150	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	146	P	30 - 160

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Lab Sample ID: 2158105
Field Sample ID: SB-21 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	100	P	30 - 160

Lab Sample ID: 2158106
Field Sample ID: SB-22 (0-0.5)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	134	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	148	P	30 - 160

Lab Sample ID: 2158107
Field Sample ID: SB-22 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	117	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	122	P	30 - 160

Lab Sample ID: 2158108
Field Sample ID: SB-22 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	150	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	157	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	151	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	124	P	30 - 160

Lab Sample ID: 2158109
Field Sample ID: SB-12 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	110	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	143	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	115	P	30 - 160

Lab Sample ID: 2158110
Field Sample ID: SB-12 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	96.2	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	135	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	125	P	30 - 160

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Lab Sample ID: 2158111
 Field Sample ID: SB-13 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	134	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	142	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	133	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	149	P	30 - 160

Lab Sample ID: 2158112
 Field Sample ID: SB-13 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	155	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	153	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	141	P	30 - 160

Lab Sample ID: 2158113
 Field Sample ID: SB-15 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	157	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	100	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	86.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	127	P	30 - 160

Lab Sample ID: 2158114
 Field Sample ID: SB-15 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	89.1	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	108	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	120	P	30 - 160

Lab Sample ID: 2158143
 Field Sample ID: SB-1 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	152	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	156	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	160	P	30 - 160

Lab Sample ID: 2158144
 Field Sample ID: SB-1 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	152	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	94.8	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	101	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	119	P	30 - 160

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Lab Sample ID: 2158145
 Field Sample ID: SB-14 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	129	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	159	P	30 - 160

Lab Sample ID: 2158146
 Field Sample ID: SB-14 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	153	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	108	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	97.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	113	P	30 - 160

Lab Sample ID: 2158147
 Field Sample ID: SB-2 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	103	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	107	P	30 - 160

Lab Sample ID: 2158148
 Field Sample ID: SB-2 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	155	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	98.5	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	107	P	30 - 160

Lab Sample ID: 2158149
 Field Sample ID: SB-17 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	141	P	30 - 160

Lab Sample ID: 2158150
 Field Sample ID: SB-17 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	152	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	141	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	158	P	30 - 160

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Lab Sample ID: 2158151
Field Sample ID: SB-18 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	145	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	88.2	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	96.8	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	131	P	30 - 160

Lab Sample ID: 2158152
Field Sample ID: SB-18 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	143	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	156	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	114	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	132	P	30 - 160

Lab Sample ID: 2158153
Field Sample ID: SB-19 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	134	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	157	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	153	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	158	P	30 - 160

Lab Sample ID: 2158154
Field Sample ID: SB-19 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	150	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	141	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	149	P	30 - 160

Lab Sample ID: 2158155
Field Sample ID: SB-16 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	109	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	85.4	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	127	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	72.2	P	30 - 160

Lab Sample ID: 2158156
Field Sample ID: SB-16 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	145	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	122	P	30 - 160

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Lab Sample ID: 2158157
Field Sample ID: SB-28 (0.5-2)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	155	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	147	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	116	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	140	P	30 - 160

Lab Sample ID: 2158158
Field Sample ID: SB-28 (2-4)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	85.7	P	30 - 160

Lab Sample ID: 2158159
Field Sample ID: SB-28 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	156	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	147	P	30 - 160

Lab Sample ID: 2158160
Field Sample ID: SB-28 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	152	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	121	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	160	P	30 - 160

Lab Sample ID: 2158161
Field Sample ID: EQB-8

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	95.5	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	95.8	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	98.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	75.1	P	30 - 160

Lab Sample ID: 2158162
Field Sample ID: EQB-9

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	133	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	85.9	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	67.2	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	113	P	30 - 160

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Lab Sample ID: 2158183
Field Sample ID: SB-5 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	95.8	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	143	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	124	P	30 - 160

Lab Sample ID: 2158184
Field Sample ID: SB-5 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	76.0	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	137	P	30 - 160

Lab Sample ID: 2158185
Field Sample ID: SB-3 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	137	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	159	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	130	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	154	P	30 - 160

Lab Sample ID: 2158186
Field Sample ID: SB-3 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	147	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	95.4	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	94.0	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	139	P	30 - 160

Lab Sample ID: 2158187
Field Sample ID: SB-4 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	147	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	99.0	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	136	P	30 - 160

Lab Sample ID: 2158188
Field Sample ID: SB-4 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	156	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	150	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	95.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	154	P	30 - 160

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Lab Sample ID: 2158189
Field Sample ID: SB-6 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	156	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	118	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	83.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	134	P	30 - 160

Lab Sample ID: 2158190
Field Sample ID: SB-6 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	146	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	90.6	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	127	P	30 - 160

Lab Sample ID: 2158191
Field Sample ID: SB-7 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	122	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	133	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	120	P	30 - 160

Lab Sample ID: 2158192
Field Sample ID: SB-7 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	159	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	135	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	101	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	157	P	30 - 160

Lab Sample ID: 2158193
Field Sample ID: SB-21 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	160	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	99.0	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	142	P	30 - 160

Lab Sample ID: 2158194
Field Sample ID: SB-21 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	130	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	110	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	115	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	108	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2158195
Field Sample ID: SB-27 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	103	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	87.3	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	103	P	30 - 160

Lab Sample ID: 2158196
Field Sample ID: SB-27 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	138	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	126	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	118	P	30 - 160

Lab Sample ID: 2158197
Field Sample ID: SB-26 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	143	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	128	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	142	P	30 - 160

Lab Sample ID: 2158198
Field Sample ID: SB-26 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	110	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	94.7	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	101	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	126	P	30 - 160

Lab Sample ID: 2158199
Field Sample ID: SB-25 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	150	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	93.1	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	99.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	154	P	30 - 160

Lab Sample ID: 2158200
Field Sample ID: SB-25 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	135	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	125	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	94.7	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	115	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2158201
 Field Sample ID: SB-24 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	124	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	83.6	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	103	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	116	P	30 - 160

Lab Sample ID: 2158202
 Field Sample ID: EQB-10

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	134	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	92.9	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	71.3	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	125	P	30 - 160

Lab Sample ID: 2158223
 Field Sample ID: SB-24 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	149	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	113	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	80.2	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	137	P	30 - 160

Lab Sample ID: 2158224
 Field Sample ID: Sed-7 (0-1)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	62.5	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	59.8	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	47.4	P	30 - 160

Lab Sample ID: 2158225
 Field Sample ID: SB-20 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	106	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	119	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	112	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	123	P	30 - 160

Lab Sample ID: 2158226
 Field Sample ID: SB-20 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	154	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	112	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	141	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2158227
Field Sample ID: SB-22 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	137	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	138	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	156	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	153	P	30 - 160

Lab Sample ID: 2158228
Field Sample ID: SB-22 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	136	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	136	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	153	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	149	P	30 - 160

Lab Sample ID: 2158229
Field Sample ID: IDW-4

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	2-Fluorobiphenyl	62.2	P	30 - 150
EPA 8270E	2-Fluorophenol	62.5	P	20 - 150
EPA 8270E	2,4,6-Tribromophenol	79.8	P	30 - 150
EPA 8270E	Nitrobenzene-d5	78.6	P	30 - 150
EPA 8270E	Phenol-d5	42.6	P	20 - 150
EPA 8270E	Terphenyl-d14	93.4	P	30 - 150

Lab Sample ID: 2158232
Field Sample ID: SW-6

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	101	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	74.2	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	75.1	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	94.9	P	30 - 160

Lab Sample ID: 2158233
Field Sample ID: EQB-11

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	89.5	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	87.6	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	82.1	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	78.1	P	30 - 160

Lab Sample ID: 2158234
Field Sample ID: IDW-4

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	89.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	93.7	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	102	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	66.6	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2158235
Field Sample ID: IDW-4

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8260D	1,2-Dichloroethane-d4	118	P	70 - 130
EPA 8260D	1,4-Dichlorobenzene-d4	99.0	P	70 - 130
EPA 8260D	Dibromofluoromethane	110	P	70 - 130
EPA 8260D	Toluene-d8	95.0	P	70 - 130

Lab Sample ID: 2158236
Field Sample ID: Trip Blank

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8260D	1,2-Dichloroethane-d4	125	P	70 - 130
EPA 8260D	1,4-Dichlorobenzene-d4	97.2	P	70 - 130
EPA 8260D	Dibromofluoromethane	115	P	70 - 130
EPA 8260D	Toluene-d8	96.2	P	70 - 130

Lab Sample ID: 2158326
Field Sample ID: SB-23 (5-7)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	115	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	125	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	118	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	139	P	30 - 160

Lab Sample ID: 2158327
Field Sample ID: SB-23 (8-10)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	141	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	106	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	121	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 6020A
Run ID: A37839
Included Lab Sample IDs: 2158231

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	96.3	100	P/P	90 - 110

Reference Method: EPA 7473
Run ID: A97620
Included Lab Sample IDs: 2158230

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mercury	97.4	102	P/P	80 - 120

Reference Method: EPA 8270E
Run ID: A97684
Included Lab Sample IDs: 2158229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1-Naphthylamine	92.9		P	60 - 130
2-Acetylaminofluorene	95.6		P	70 - 150
2-Methyl-4,6-dinitrophenol	94.6		P	70 - 130
2-Naphthylamine	76.8		P	60 - 130
2-Picoline	112		P	70 - 130
2,4-Dinitrophenol	74.5		P	70 - 130
3,3'-Dichlorobenzidine	121		P	50 - 130
4-Aminobiphenyl	91.8		P	70 - 130
4-Nitrophenol	98.0		P	70 - 130
Aniline	71.1		P	70 - 130
Benzidine	33.4*		F	50 - 130
Bis(2-ethylhexyl)phthalate	107		P	70 - 130
Butyl benzyl phthalate	108		P	70 - 130
Di-n-butyl phthalate	115		P	70 - 130
Diethyl phthalate	109		P	70 - 130
Dinoseb	87.2		P	70 - 130
Ethyl methanesulfonate	82.3		P	70 - 130
N-Nitrosodiethylamine	104		P	70 - 130
N-Nitrosodimethylamine	109		P	70 - 130
N-Nitrosomethylethylamine	109		P	70 - 130
Pentachlorophenol	74.0		P	70 - 130
Pyridine	114		P	70 - 130

Reference Method: EPA 8270E
Run ID: A97696
Included Lab Sample IDs: 2158229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1-Methylnaphthalene	95.9		P	70 - 130
1,2,4-Trichlorobenzene	94.0		P	70 - 130
1,2,4,5-Tetrachlorobenzene	96.2		P	70 - 130
1,3-Dinitrobenzene	122		P	70 - 130
1,3,5-Trinitrobenzene	123		P	70 - 130
2-Chloronaphthalene	96.3		P	70 - 130
2-Chlorophenol	114		P	70 - 130
2-Methylnaphthalene	96.9		P	70 - 130
2-Nitroaniline	107		P	70 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A97696
 Included Lab Sample IDs: 2158229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Nitrophenol	124		P	70 - 130
2,3,4,6-Tetrachlorophenol	128		P	70 - 130
2,4-Dichlorophenol	106		P	70 - 130
2,4-Dimethylphenol	95.0		P	70 - 130
2,4-Dinitrotoluene	113		P	70 - 130
2,4,5-Trichlorophenol	100		P	70 - 130
2,4,6-Trichlorophenol	115		P	70 - 130
2,6-Dichlorophenol	119		P	70 - 130
2,6-Dinitrotoluene	102		P	70 - 130
3-Methylcholanthrene	115		P	70 - 130
4-Bromophenyl phenyl ether	100		P	70 - 130
4-Chloro-3-methylphenol	104		P	70 - 130
4-Chlorophenyl phenyl ether	96.4		P	70 - 130
5-Nitro-o-toluidine	120		P	70 - 130
7,12-Dimethylbenz(a)anthracene	87.2		P	70 - 130
Acenaphthene	95.7		P	70 - 130
Acenaphthylene	98.5		P	70 - 130
Acetophenone	105		P	70 - 130
Anthracene	99.4		P	70 - 130
Azobenzene/1,2-Diphenylhydrazine	105		P	70 - 130
Benzo(a)anthracene	101		P	70 - 130
Benzo(a)pyrene	103		P	70 - 130
Benzo(b)fluoranthene	90.7		P	70 - 130
Benzo(g,h,i)perylene	103		P	70 - 130
Benzo(k)fluoranthene	104		P	70 - 130
Benzyl alcohol	127		P	70 - 130
Bis(2-chloroethoxy)methane	97.9		P	70 - 130
Bis(2-chloroethyl)ether	99.3		P	70 - 130
Bis(2-chloroisopropyl)ether	95.0		P	70 - 130
Carbazole	101		P	70 - 130
Chrysene	94.3		P	70 - 130
Di-n-octyl phthalate	126		P	70 - 130
Dibenzo(a,h)anthracene	105		P	70 - 130
Dibenzofuran	95.7		P	70 - 130
Dimethyl phthalate	96.9		P	70 - 130
Dimethylaminoazobenzene	128		P	70 - 130
Fluoranthene	100		P	70 - 130
Fluorene	95.3		P	70 - 130
Hexachlorobenzene	98.1		P	70 - 130
Hexachlorobutadiene	94.5		P	70 - 130
Hexachlorocyclopentadiene	103		P	70 - 130
Hexachloroethane	96.9		P	70 - 130
Hexachloropropene	96.4		P	70 - 130
Indeno(1,2,3-cd)pyrene	103		P	70 - 130
Isophorone	102		P	70 - 130
Isosafrole	105		P	70 - 130
m,p-Cresols	104		P	70 - 130
N-Nitrosodi-n-butylamine	112		P	70 - 130
N-Nitrosodi-n-propylamine	110		P	70 - 130
N-Nitrosodiphenylamine/ Diphenylamine	97.2		P	70 - 130
N-Nitrosomorpholine	110		P	70 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A97696
Included Lab Sample IDs: 2158229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
N-Nitrosopiperidine	108		P	70 - 130
N-Nitrosopyrrolidine	122		P	70 - 130
Naphthalene	96.1		P	70 - 130
Nitrobenzene	98.7		P	70 - 130
o-Cresol	101		P	70 - 130
o-Toluidine	108		P	70 - 130
Pentachlorobenzene	94.7		P	70 - 130
Pentachloroethane	98.1		P	70 - 130
Pentachloronitrobenzene	110		P	70 - 130
Phenacetin	122		P	70 - 130
Phenanthrene	95.5		P	70 - 130
Phenol	116		P	70 - 130
Pyrene	97.9		P	70 - 130
Safrole	106		P	70 - 130

Reference Method: EPA 6020A
Run ID: A97772
Included Lab Sample IDs: 2158231

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	96.4	96.4	P/P	90 - 110
Barium	95.8	97.9	P/P	90 - 110
Cadmium	97.9	98.6	P/P	90 - 110
Chromium	92.6	96.9	P/P	90 - 110
Lead	94.8	93.9	P/P	90 - 110
Silver	99.9	101	P/P	90 - 110

Reference Method: EPA 8260D
Run ID: A97777
Included Lab Sample IDs: 2158235, 2158236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1,1-Dichloroethane	98.6		P	80 - 120
1,1-Dichloroethene	91.3		P	80 - 120
1,1,1-Trichloroethane	95.6		P	80 - 120
1,1,2-Trichloroethane	98.2		P	80 - 120
1,1,2,2-Tetrachloroethane	89.4		P	80 - 120
1,2-Dichlorobenzene	96.9		P	80 - 120
1,2-Dichloroethane	103		P	80 - 120
1,2-Dichloropropane	110		P	80 - 120
1,3-Dichlorobenzene	100		P	80 - 120
1,4-Dichlorobenzene	96.9		P	80 - 120
2-Butanone	101		P	70 - 120
Benzene	98.8		P	80 - 120
Bromodichloromethane	100		P	80 - 120
Bromoform	101		P	80 - 120
Bromomethane	104		P	70 - 130
Carbon tetrachloride	102		P	80 - 120
Chlorobenzene	101		P	80 - 120
Chloroethane	108		P	70 - 130
Chloroform	96.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8260D

Run ID: A97777

Included Lab Sample IDs: 2158235, 2158236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloromethane	98.2		P	70 - 130
cis-1,2-Dichloroethene	97.2		P	80 - 120
cis-1,3-Dichloropropene	103		P	80 - 120
Dibromochloromethane	89.8		P	80 - 120
Ethylbenzene	95.9		P	80 - 120
m,p-Xylene	96.2		P	80 - 120
Methyl-t-butyl ether	108		P	80 - 120
Methylene chloride	108		P	80 - 120
o-Xylene	89.0		P	80 - 120
Tetrachloroethene	94.9		P	80 - 120
Toluene	113		P	80 - 120
trans-1,2-Dichloroethene	104		P	80 - 120
trans-1,3-Dichloropropene	91.2		P	80 - 120
Trichloroethene	104		P	80 - 120
Trichlorofluoromethane	107		P	70 - 130
Vinyl chloride	107		P	70 - 130

Reference Method: EPA 8321B

Run ID: A97947

Included Lab Sample IDs: 2157871, 2157873, 2157875, 2157876, 2157878, 2157882, 2157884, 2157957, 2157960, 2157962, 2157964, 2157966, 2157973, 2158024, 2158025, 2158053, 2158054, 2158055, 2158056, 2158057, 2158061, 2158065, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	127	93.6	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	64.7	127	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	69.2	64.7	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	70.3	130	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	73.7	83.7	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	89.5	69.2	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	89.7	70.3	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	95.5	89.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	72.0	77.1	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	72.9	97.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	74.4	88.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	77.1	81.4	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	77.2	85.2	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	80.9	72.0	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	81.4	72.9	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	97.7	74.4	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	102	93.9	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	105	142	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	111	102	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	119	139	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	124	131	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	142	119	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	93.9	96.8	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	96.8	89.4	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	68.8	69.4	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	69.4	77.2	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	71.7	68.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97947

Included Lab Sample IDs: 2157871, 2157873, 2157875, 2157876, 2157878, 2157882, 2157884, 2157957, 2157960, 2157962, 2157964, 2157966, 2157973, 2158024, 2158025, 2158053, 2158054, 2158055, 2158056, 2158057, 2158061, 2158065, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
N-Et perfluorooctanesulfonamidoAc acid	77.2	71.8	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	79.0	107	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	87.3	113	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	88.3	98.6	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	98.6	79.0	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	106	90.2	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	68.0	69.3	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	69.3	72.7	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	72.7	66.3	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	76.5	68.0	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	85.2	106	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	86.6	95.8	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	90.2	109	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	100	102	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	102	85.5	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	109	84.4	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	68.2	109	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	70.6	68.2	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	75.4	81.3	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	82.0	70.6	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	85.5	142	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	105	100	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	81.9	97.6	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	83.5	107	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	90.6	90.8	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	90.8	98.2	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	97.6	83.5	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	98.2	85.0	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	98.8	90.6	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	108	64.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	61.5	88.4	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	64.5	61.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	74.0	73.1	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	79.5	74.0	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	83.6	64.3	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	87.3	79.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	88.4	87.3	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	101	148	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	107	79.3	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	66.0	107	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	68.6	93.6	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	77.5	98.6	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	93.6	66.0	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	94.4	82.2	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	98.6	101	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	67.5	83.8	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	69.7	78.9	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	69.7	72.0	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	72.0	69.7	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97947

Included Lab Sample IDs: 2157871, 2157873, 2157875, 2157876, 2157878, 2157882, 2157884, 2157957, 2157960, 2157962, 2157964, 2157966, 2157973, 2158024, 2158025, 2158053, 2158054, 2158055, 2158056, 2158057, 2158061, 2158065, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoroheptanesulfonic acid (PFHpS)	76.3	69.7	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	78.9	67.5	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	79.4	76.3	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	84.4	85.0	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	102	65.3	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	65.3	96.1	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	78.9	102	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	80.4	88.4	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	81.3	94.7	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	88.4	73.4	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	94.7	80.4	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	98.5	70.2	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	66.3	91.9	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	67.7	66.3	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	68.7	70.4	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	70.5	67.7	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	72.3	107	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	82.6	72.3	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	83.2	82.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	91.9	79.4	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	109	114	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	112	109	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	114	132	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	75.9	76.8	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	83.7	94.5	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	84.1	83.7	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	94.5	99.1	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	97.8	84.1	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	62.5	87.6	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	64.8	62.5	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	65.4	64.8	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	68.2	96.4	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	76.1	74.2	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	79.8	84.4	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	84.4	68.2	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	87.6	74.5	P/P	60 - 160
Perfluorononanoic acid (PFNA)	102	135	P/P	60 - 160
Perfluorononanoic acid (PFNA)	103	82.1	P/P	60 - 160
Perfluorononanoic acid (PFNA)	114	75.7	P/P	60 - 160
Perfluorononanoic acid (PFNA)	69.1	103	P/P	60 - 160
Perfluorononanoic acid (PFNA)	75.7	90.7	P/P	60 - 160
Perfluorononanoic acid (PFNA)	82.1	108	P/P	60 - 160
Perfluorononanoic acid (PFNA)	90.7	98.0	P/P	60 - 160
Perfluorononanoic acid (PFNA)	98.0	64.9	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	66.2	91.1	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	72.6	98.8	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	75.2	72.6	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	76.3	69.4	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	79.5	75.2	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97947

Included Lab Sample IDs: 2157871, 2157873, 2157875, 2157876, 2157878, 2157882, 2157884, 2157957, 2157960, 2157962, 2157964, 2157966, 2157973, 2158024, 2158025, 2158053, 2158054, 2158055, 2158056, 2158057, 2158061, 2158065, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorooctanesulfonic acid (PFOS)	79.9	66.2	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	91.1	79.7	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	98.8	86.0	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	103	93.3	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	109	80.1	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	117	148	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	133	91.5	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	148	133	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	76.3	96.2	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	81.5	76.3	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	93.3	81.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	109	111	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	78.9	98.0	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	79.8	78.9	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	83.3	79.8	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	90.3	111	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.9	99.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	98.0	85.3	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	99.5	90.3	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	110	117	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	65.7	80.9	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	68.3	70.8	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	70.8	65.7	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	80.7	83.0	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	85.5	88.4	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	88.4	80.7	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	90.4	85.5	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	106	87.3	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	63.6	66.7	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	66.7	106	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	68.6	63.6	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	70.1	110	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	78.5	70.1	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	82.9	75.3	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	88.6	78.5	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	106	114	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	114	86.8	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	116	88.8	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	68.8	81.4	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	75.7	116	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	81.4	75.7	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	86.8	129	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	87.3	68.7	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	105	110	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	106	141	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	109	105	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	110	81.9	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	122	109	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	130	106	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97947

Included Lab Sample IDs: 2157871, 2157873, 2157875, 2157876, 2157878, 2157882, 2157884, 2157957, 2157960, 2157962, 2157964, 2157966, 2157973, 2158024, 2158025, 2158053, 2158054, 2158055, 2158056, 2158057, 2158061, 2158065, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoroundecanoic acid (PFUnA)	79.5	130	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	99.6	103	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A97952

Included Lab Sample IDs: 2157970, 2157971, 2157972, 2157973, 2157975, 2158009, 2158010, 2158011, 2158012, 2158013, 2158014, 2158015, 2158016, 2158017, 2158018, 2158019, 2158020, 2158021, 2158022, 2158023, 2158026, 2158052, 2158058, 2158059, 2158060, 2158062, 2158063, 2158064, 2158066, 2158067, 2158105, 2158106, 2158107, 2158108, 2158109, 2158111, 2158112, 2158225, 2158227, 2158228

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	111	136	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	136	127	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	140	91.3	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	67.3	74.8	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	73.2	88.0	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	73.6	67.3	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	74.8	73.2	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	90.1	119	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	126	150	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	127	84.6	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	127	127	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	151	92.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	61.1	89.3	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	79.6	91.6	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	84.7	79.6	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	91.6	61.1	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	95.2	101	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	106	112	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	112	112	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	112	97.0	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	132	88.0	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	142	158	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	154	142	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	97.0	114	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	90.9	100	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	114	120	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	127	114	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	136	94.9	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	84.6	93.1	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	85.6	89.2	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	86.1	85.6	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	89.2	84.6	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	77.2	91.4	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	117	134	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	130	96.3	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	143	117	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	78.8	87.3	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	83.2	86.4	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	86.4	88.4	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	88.4	78.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A97952
 Included Lab Sample IDs: 2157886

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
N-Me perfluorooctanesulfonamidoAc acid	81.1	92.9	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	118	130	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	124	94.2	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	130	131	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	67.3	85.7	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	75.5	76.7	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	76.7	67.3	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	79.0	75.5	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	98.8	127	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	101	91.9	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	103	72.7	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	128	139	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	143	128	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	91.9	102	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	97.0	99.4	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	99.4	101	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	104	119	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	107	86.8	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	111	73.8	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	118	98.2	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	63.9	90.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	86.3	63.9	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	86.8	86.3	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	98.2	111	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	80.7	102	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	109	130	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	144	109	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	146	92.6	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	65.4	102	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	80.7	94.1	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	88.5	65.4	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	94.1	88.5	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	83.2	95.8	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	110	95.4	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	76.6	79.8	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	80.4	81.9	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	81.9	76.6	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	82.1	80.4	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	93.3	69.6	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	95.4	106	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	78.4	93.9	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	105	85.4	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	106	142	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	130	81.6	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	145	106	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	67.2	77.7	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	72.1	67.2	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	85.4	72.1	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	93.1	97.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	121	128	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	131	121	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97952

Included Lab Sample IDs: 2157970, 2157971, 2157972, 2157973, 2157975, 2158009, 2158010, 2158011, 2158012, 2158013, 2158014, 2158015, 2158016, 2158017, 2158018, 2158019, 2158020, 2158021, 2158022, 2158023, 2158026, 2158052, 2158058, 2158059, 2158060, 2158062, 2158063, 2158064, 2158066, 2158067, 2158105, 2158106, 2158107, 2158108, 2158109, 2158111, 2158112, 2158225, 2158227, 2158228

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorohexanesulfonic acid (PFHxS)	131	91.7	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	60.5	77.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	65.7	71.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	69.0	65.7	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	71.6	60.5	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	101	115	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	141	152	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	143	111	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	158	141	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	61.8	88.2	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	80.3	83.7	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	82.4	61.8	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	83.7	82.4	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	102	126	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	112	129	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	121	83.7	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	137	112	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	64.4	84.9	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	74.8	83.0	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	76.0	74.8	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	83.0	64.4	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	88.5	104	P/P	60 - 160
Perfluorononanoic acid (PFNA)	103	109	P/P	60 - 160
Perfluorononanoic acid (PFNA)	106	94.7	P/P	60 - 160
Perfluorononanoic acid (PFNA)	109	104	P/P	60 - 160
Perfluorononanoic acid (PFNA)	109	124	P/P	60 - 160
Perfluorononanoic acid (PFNA)	124	106	P/P	60 - 160
Perfluorononanoic acid (PFNA)	86.6	109	P/P	60 - 160
Perfluorononanoic acid (PFNA)	99.5	70.6	P/P	60 - 160
Perfluorononanoic acid (PFNA)	78.7	109	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	116	83.1	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	117	129	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	141	117	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	63.1	83.4	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	76.4	83.3	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	78.2	76.4	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	83.3	63.1	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	96.4	104	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	105	115	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	106	105	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	110	92.4	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	113	152	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	115	87.2	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	149	113	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	87.2	116	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	91.3	98.0	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	103	104	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	104	102	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	107	80.6	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97952

Included Lab Sample IDs: 2157970, 2157971, 2157972, 2157973, 2157975, 2158009, 2158010, 2158011, 2158012, 2158013, 2158014, 2158015, 2158016, 2158017, 2158018, 2158019, 2158020, 2158021, 2158022, 2158023, 2158026, 2158052, 2158058, 2158059, 2158060, 2158062, 2158063, 2158064, 2158066, 2158067, 2158105, 2158106, 2158107, 2158108, 2158109, 2158111, 2158112, 2158225, 2158227, 2158228

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoropentanesulfonic acid (PFPeS)	94.4	96.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	94.5	97.9	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.5	103	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	97.3	94.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	76.7	94.8	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	105	106	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	105	118	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	106	116	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	118	105	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	136	94.2	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	137	102	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	94.2	106	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	78.8	97.4	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	137	94.9	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	149	85.3	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	67.7	88.3	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	73.6	81.2	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	75.4	73.6	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	88.3	75.4	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	94.9	124	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	89.1	111	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	111	113	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	113	108	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	116	64.3	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	60.2	80.4	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	76.1	85.7	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	82.4	76.1	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	85.7	60.2	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	70.7	93.0	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	102	78.8	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	132	142	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	152	91.8	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	155	132	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	78.8	79.8	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	84.1	85.2	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	85.2	102	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	120	118	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98008

Included Lab Sample IDs: 2157867, 2157868, 2157869, 2157870, 2157872, 2157874, 2157877, 2157879, 2157880, 2157881, 2157883, 2157885, 2157958, 2157959, 2157961, 2157963, 2157965, 2157967, 2157968, 2157969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	116	132	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	77.3	85.5	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	79.0	116	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	82.5	79.0	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	85.5	82.5	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	120	93.7	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98008

Included Lab Sample IDs: 2157867, 2157868, 2157869, 2157870, 2157872, 2157874, 2157877, 2157879, 2157880, 2157881, 2157883, 2157885, 2157958, 2157959, 2157961, 2157963, 2157965, 2157967, 2157968, 2157969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
6:2 Fluorotelomer sulfonate (6:2 FTS)	120	120	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	151	120	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	85.2	151	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	93.7	85.2	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	113	122	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	122	97.9	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	135	149	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	85.9	135	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	97.9	85.9	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	74.5	100	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	76.3	74.5	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	79.8	76.3	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	89.4	93.9	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	93.9	79.8	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	104	124	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	111	126	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	126	99.5	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	81.8	104	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	99.5	81.8	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	101	87.8	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	118	101	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	122	132	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	132	118	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	87.8	107	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	104	94.2	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	74.0	91.8	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	84.1	74.0	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	94.2	84.1	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	97.5	104	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	100	95.0	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	120	100	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	125	120	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	128	106	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	95.0	128	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	109	110	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	110	102	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	114	123	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	123	109	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	123	114	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	67.3	85.9	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	72.0	67.3	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	78.1	72.0	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	84.1	78.1	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	86.5	84.1	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	100	82.8	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	117	100	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	132	117	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	82.8	84.1	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	84.1	83.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	109	74.1	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98008

Included Lab Sample IDs: 2157867, 2157868, 2157869, 2157870, 2157872, 2157874, 2157877, 2157879, 2157880, 2157881, 2157883, 2157885, 2157958, 2157959, 2157961, 2157963, 2157965, 2157967, 2157968, 2157969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorohexanesulfonic acid (PFHxS)	125	109	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	133	137	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	137	125	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	74.1	97.5	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	107	74.5	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	129	107	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	158	129	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	159	158	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	74.5	87.1	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	102	82.3	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	116	102	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	122	127	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	127	116	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	82.3	92.7	P/P	60 - 160
Perfluorononanoic acid (PFNA)	63.3	79.5	P/P	60 - 160
Perfluorononanoic acid (PFNA)	68.0	69.5	P/P	60 - 160
Perfluorononanoic acid (PFNA)	69.5	63.3	P/P	60 - 160
Perfluorononanoic acid (PFNA)	79.5	126	P/P	60 - 160
Perfluorononanoic acid (PFNA)	80.2	68.0	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	108	94.1	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	117	119	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	119	108	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	85.8	97.3	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	94.1	85.8	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	103	108	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	76.1	103	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	86.0	76.1	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	95.2	99.8	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	99.8	86.0	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	76.2	91.0	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	83.1	76.2	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	92.2	83.1	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	95.6	92.2	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.7	95.6	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	103	114	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	114	96.0	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	123	132	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	132	114	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	96.0	103	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	115	121	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	121	132	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	129	95.4	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	132	75.4	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	75.4	129	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	112	121	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	121	92.7	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	127	112	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	92.7	96.5	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	96.5	109	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	115	98.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98008

Included Lab Sample IDs: 2157867, 2157868, 2157869, 2157870, 2157872, 2157874, 2157877, 2157879, 2157880, 2157881, 2157883, 2157885, 2157958, 2157959, 2157961, 2157963, 2157965, 2157967, 2157968, 2157969

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoroundecanoic acid (PFUnA)	118	115	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	130	118	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	98.3	100	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	98.8	98.3	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98045

Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	70.7	78.5	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	74.9	92.8	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	78.5	74.9	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	78.6	86.9	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	85.2	78.6	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	86.9	89.7	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	86.9		P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	89.7	101	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	92.8	85.2	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	98.8	156	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	125	70.6	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	136	125	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	101	112	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	107	120	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	112	91.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	115	117	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	117	93.3	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	117		P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	76.4	115	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	87.1	101	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	93.3	117	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	98.6	60.6	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	103	122	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	69.6	103	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	104	63.0	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	105	127	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	107	113	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	107		P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	113	107	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	114	104	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	147	141	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	154	147	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	92.4	113	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	76.8	97.2	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	97.2	119	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	102	106	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	123	109	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	123		P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98045

Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
N-Et perfluorooctanesulfonamidoAc acid	124	123	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	124	138	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	134	147	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	138	134	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	147	83.4	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	83.4	124	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	84.6	119	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	94.2	84.6	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	103	110	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	108	103	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	110	108	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	110	97.1	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	113	118	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	86.8	110	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	91.0	112	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	91.0		P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	97.1	91.0	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	114	79.5	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	114	114	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	108	132	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	108	118	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	111	131	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	118	135	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	124	145	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	125	108	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	131	125	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	133	124	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	133		P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	135	133	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	117	119	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	119	107	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	106	80.7	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	108	113	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	115	115	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	115	106	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	80.7	91.3	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	81.1	115	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	91.3	97.5	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	97.5	82.6	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	97.5		P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	101	79.0	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	103	101	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	101	138	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	103	126	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	108	86.4	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	114	61.2	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	126	79.6	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	129	150	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98045

Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorodecanoic acid (PFDA)	138		P	60 - 160
Perfluorodecanoic acid (PFDA)	148	90.9	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	61.2	101	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	70.4	103	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	79.6	70.4	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	82.0	109	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	60.8	68.3	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	68.3	101	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	101	111	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	111	120	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	116	91.7	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	120	95.1	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	62.7	83.4	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	73.7	81.4	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	74.9	73.7	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	81.4	62.7	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	81.4		P	60 - 160
Perfluorododecanoic acid (PFDoA)	95.1	74.9	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	83.1	104	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	88.7	83.1	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	100	138	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	101	104	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	104	82.6	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	104		P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	104	109	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	132	72.3	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	138	140	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	140	132	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	72.3	101	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	85.2	92.2	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	95.0	85.2	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	101	84.1	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	116	119	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	118	131	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	119	80.3	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	121	67.4	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	124	69.3	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	124		P	60 - 160
Perfluoroheptanoic acid (PFHpA)	131	116	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	69.3	118	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	80.3	82.9	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	82.9	124	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	64.3	77.6	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	77.6	133	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	105	73.2	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	111	109	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	125	134	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	134	105	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98045

Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorohexanesulfonic acid (PFHxS)	139	151	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	151	124	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	151		P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	86.7	125	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	95.9	139	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	101	96.1	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	96.1	118	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	102	77.4	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	105	155	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	124	79.9	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	134	60.5	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	137	66.7	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	137		P	60 - 160
Perfluorohexanoic acid (PFHxA)	155	160	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	160	127	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	60.5	88.3	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	66.7	102	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	88.3	137	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	61.4	138	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	73.0	61.4	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	100	103	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	103	99.6	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	104	100	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	110	113	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	87.8	104	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	89.5	91.8	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	91.8	84.0	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	91.8		P	60 - 160
Perfluorononanesulfonic acid (PFNS)	99.6	89.5	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	106	88.3	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	107	106	P/P	60 - 160
Perfluorononanoic acid (PFNA)	128	87.3	P/P	60 - 160
Perfluorononanoic acid (PFNA)	128		P	60 - 160
Perfluorononanoic acid (PFNA)	133	128	P/P	60 - 160
Perfluorononanoic acid (PFNA)	139	65.6	P/P	60 - 160
Perfluorononanoic acid (PFNA)	153	159	P/P	60 - 160
Perfluorononanoic acid (PFNA)	159	159	P/P	60 - 160
Perfluorononanoic acid (PFNA)	159	139	P/P	60 - 160
Perfluorononanoic acid (PFNA)	65.6	133	P/P	60 - 160
Perfluorononanoic acid (PFNA)	86.6	84.2	P/P	60 - 160
Perfluorononanoic acid (PFNA)	87.3	105	P/P	60 - 160
Perfluorononanoic acid (PFNA)	90.7	60.0	P/P	60 - 160
Perfluorononanoic acid (PFNA)	60.7	152	P/P	60 - 160
Perfluorononanoic acid (PFNA)	70.0	60.7	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	111	147	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	114	120	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	116	117	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	117	98.8	P/P	60 - 160

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Reference Method: EPA 8321B

Run ID: A98045

Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorooctanesulfonic acid (PFOS)	117		P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	139	79.0	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	146	139	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	147	146	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	79.0	116	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	98.8	126	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	101	87.3	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	87.3	96.2	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	123	77.9	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	125	139	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	139	95.0	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	69.9	85.1	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	74.4	75.3	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	75.3	88.2	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	85.1	96.0	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	85.5	125	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	88.2	69.9	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	88.2		P	60 - 160
Perfluorooctanoic acid (PFOA)	95.0	74.4	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	123	94.8	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	94.8	70.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	103	141	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	107	96.2	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	107		P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	107	107	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	115	109	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	138	90.4	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	141	149	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	149	138	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	90.4	107	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.2	109	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	116	96.8	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.8	95.5	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	103	136	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	112	84.0	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	114	86.3	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	115	64.6	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	136	152	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	136	76.2	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	136		P	60 - 160
Perfluoropentanoic acid (PFPeA)	148	114	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	152	148	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	76.2	94.9	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	86.3	103	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	87.2	138	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	94.3	87.2	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	102	114	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	114	115	P/P	60 - 160

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Reference Method: EPA 8321B

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Included Lab Sample IDs: 2158027, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158226, 2158326, 2158327

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorotetradecanoic acid (PFTeA)	115	91.5	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	71.9	94.1	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	75.7	76.5	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	76.5	94.0	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	91.5	75.7	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	93.3	111	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	94.0	71.9	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	94.0		P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	67.8	67.2	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	74.4	67.8	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	101	129	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	107	80.2	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	129	78.8	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	65.5	80.4	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	73.3	80.1	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	77.1	101	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	79.7	67.3	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	80.4		P	60 - 160
Perfluorotridecanoic acid (PFTriA)	86.3	66.4	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	80.5	90.1	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	90.1	72.3	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	102	89.1	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	112	130	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	118	76.7	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	124	112	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	127	102	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	127		P	60 - 160
Perfluoroundecanoic acid (PFUnA)	130	85.9	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	71.2	98.2	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	85.9	71.2	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	98.2	127	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	60.7	129	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	72.4	60.7	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98126

Included Lab Sample IDs: 2158113, 2158224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	144	124	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	85.4	107	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	116	112	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	93.9	86.7	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	109	110	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	122	116	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	101	103	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	98.2	88.9	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	69.5	64.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98126

Included Lab Sample IDs: 2158113, 2158224

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoroheptanesulfonic acid (PFHpS)	110	107	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	66.5	87.4	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	84.9	81.6	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	68.7	63.4	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	80.8	80.2	P/P	60 - 160
Perfluorononanoic acid (PFNA)	95.0	96.6	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	79.7	82.3	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	107	88.2	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	117	113	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	86.0	85.9	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	78.2	94.2	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	76.7	82.6	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	80.6	114	P/P	60 - 160

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision SMP	MS
				LCS				
EPA 6020A	Arsenic	103		104	103	105		1.56
	Barium	102		103	99.6	102		2.73
	Cadmium	104		107	104	108		2.58
	Chromium	98.7		103	100	101		2.39
	Lead	98.5		99.7	98.0	100		1.76
	Selenium	99.5		98.4	98.9	101		0.497
	Silver	102		105	104	104		1.20
EPA 7473	Mercury	102		101	102			0.390
EPA 8260D	1,1-Dichloroethane	114	106	102	107	7.77		4.60
	1,1-Dichloroethene	107	110	93.8	96.4	2.72		2.73
	1,1,1-Trichloroethane	103	106	103	103	2.91		0.0
	1,1,2-Trichloroethane	104	103	101	105	0.722		4.12
	1,1,2,2-Tetrachloroethane	100	98.3	102	108	2.01		5.86
	1,2-Dichlorobenzene	98.8	103	98.6	98.6	4.26		0.101
	1,2-Dichloroethane	109	111	109	114	1.54		4.57
	1,2-Dichloropropane	112	114	111	118	1.33		6.11
	1,3-Dichlorobenzene	98.2	99.4	97.2	97.2	1.11		0.103
	1,4-Dichlorobenzene	98.8	103	98.6	98.6	4.26		0.101
	2-Butanone	105	103	104	109	1.67		4.54
	Benzene	104	105	102	108	1.48		5.25
	Bromodichloromethane	110	113	111	114	2.15		2.63
	Bromoform	111	108	108	107	2.60		1.44
	Bromomethane	111	106	104	96.0	4.48		7.72
	Carbon tetrachloride	105	109	105	104	3.61		0.961
	Chlorobenzene	105	104	103	104	0.383		1.54
	Chloroethane	117	120	119	111	3.12		7.04
	Chloroform	106	109	105	108	2.80		2.77
	Chloromethane	107	104	107	101	2.80		5.87
	cis-1,2-Dichloroethene	98.8	101	97.0	100	2.20		3.34
	cis-1,3-Dichloropropene	105	105	104	106	0.143		2.09
	Dibromochloromethane	99.6	99.4	97.0	96.1	0.101		0.881
	Ethylbenzene	105	104	104	107	1.24		2.47
	m,p-Xylene	107	105	105	108	2.07		2.82
	Methyl-t-butyl ether	118	106	105	106	10.9		0.332
	Methylene chloride	128	128	109	113	0.0		3.75
	o-Xylene	106	105	106	108	1.28		1.87
	Tetrachloroethene	104	105	101	98.2	1.53		2.64
	Toluene	116	116	115	119	0.0431		3.12
	trans-1,2-Dichloroethene	123	113	108	113	8.67		3.89
trans-1,3-Dichloropropene	94.4	94.4	92.1	92.9	0.0		0.865	
Trichloroethene	111	115	106	109	3.93		2.83	
Trichlorofluoromethane	114	119	114	106	4.07		7.10	
Vinyl chloride	121	122	120	111	1.07		7.90	
EPA 8270E	1-Methylnaphthalene	95.7	93.6			2.22		
	1-Naphthylamine	48.8	34.7			33.8		
	1,2,4-Trichlorobenzene	93.7	88.8			5.37		
	1,2,4,5-Tetrachlorobenzene	90.0	85.7			4.89		
	1,3-Dinitrobenzene	99.5	97.0			2.60		
	1,3,5-Trinitrobenzene	97.2	94.9			2.39		
	2-Acetylamino fluorene	84.4	83.0			1.67		
	2-Chloronaphthalene	92.3	90.3			2.19		
	2-Chlorophenol	101	92.3			8.61		
	2-Methyl-4,6-dinitrophenol	59.7	67.5			12.3		
2-Methylnaphthalene	96.9	93.8			3.25			

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision SMP	MS
EPA 8270E	2-Naphthylamine	40.0	37.0			7.79	
	2-Nitroaniline	92.1	93.6			1.62	
	2-Nitrophenol	97.4	92.8			4.84	
	2-Picoline	84.2	79.5			5.74	
	2,3,4,6-Tetrachlorophenol	119	120			0.209	
	2,4-Dichlorophenol	93.1	91.4			1.84	
	2,4-Dimethylphenol	79.0	79.6			0.757	
	2,4-Dinitrophenol	34.5	42.6			21.0	
	2,4-Dinitrotoluene	88.9	87.3			1.82	
	2,4,5-Trichlorophenol	91.8	89.9			2.09	
	2,4,6-Trichlorophenol	91.0	90.1			0.994	
	2,6-Dichlorophenol	102	97.9			3.91	
	2,6-Dinitrotoluene	88.5	88.0			0.567	
	3-Methylcholanthrene	77.6	77.9			0.386	
	3,3'-Dichlorobenzidine	193	197			2.02	
	4-Aminobiphenyl	96.9	98.7			1.84	
	4-Bromophenyl phenyl ether	98.2	92.4			6.09	
	4-Chloro-3-methylphenol	87.4	84.3			3.61	
	4-Chlorophenyl phenyl ether	87.7	84.9			3.24	
	4-Nitrophenol	61.0	58.5			4.18	
	5-Nitro-o-toluidine	99.0	98.1			0.913	
	7,12-Dimethylbenz(a)anthracene	92.1	86.6			6.16	
	Acenaphthene	92.7	91.8			0.976	
	Acenaphthylene	88.4	87.5			1.02	
	Acetophenone	92.4	86.8			6.25	
	Aniline	88.9	94.1			5.68	
	Anthracene	96.5	92.7			4.02	
	Azobenzene/1,2-Diphenylhydrazine	99.1	95.4			3.80	
	Benzidine	87.2	76.8			12.7	
	Benzo(a)anthracene	95.4	94.5			0.948	
	Benzo(a)pyrene	84.1	84.9			0.947	
	Benzo(b)fluoranthene	92.8	86.5			7.03	
	Benzo(g,h,i)perylene	74.5	72.8			2.31	
	Benzo(k)fluoranthene	93.2	89.4			4.16	
	Benzyl alcohol	107	95.3			11.8	
	Bis(2-chloroethoxy)methane	87.8	84.3			4.07	
	Bis(2-chloroethyl)ether	88.0	78.3			11.7	
	Bis(2-chloroisopropyl)ether	103	94.3			8.92	
	Bis(2-ethylhexyl)phthalate	105	104			0.575	
	Butyl benzyl phthalate	100	97.9			2.52	
	Carbazole	104	92.9			11.2	
	Chrysene	89.9	87.0			3.28	
	Di-n-butyl phthalate	102	98.9			3.38	
	Di-n-octyl phthalate	102	98.0			3.61	
	Dibenzo(a,h)anthracene	82.5	78.6			4.84	
Dibenzofuran	92.5	90.9			1.74		
Diethyl phthalate	97.7	96.5			1.24		
Dimethyl phthalate	96.9	95.9			1.04		
Dimethylaminoazobenzene	88.9	88.9			0.0		
Dinoseb	105	106			0.380		
Ethyl methanesulfonate	76.6	70.0			9.00		
Fluoranthene	95.8	92.6			3.40		
Fluorene	87.2	86.0			1.39		
Hexachlorobenzene	92.4	89.3			3.41		

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS	
EPA 8270E	Hexachlorobutadiene	91.5	86.9			5.16			
	Hexachlorocyclopentadiene	37.9	38.9			2.60			
	Hexachloroethane	96.3	91.1			5.55			
	Hexachloropropene	87.2	81.8			6.39			
	Indeno(1,2,3-cd)pyrene	79.4	75.7			4.77			
	Isophorone	89.6	86.1			3.98			
	Isosafrole	95.0	91.2			4.08			
	m,p-Cresols	99.4	101			1.94			
	N-Nitrosodi-n-butylamine	92.0	86.2			6.51			
	N-Nitrosodi-n-propylamine	108	100			7.66			
	N-Nitrosodiethylamine	91.6	87.3			4.81			
	N-Nitrosodimethylamine	94.6	88.0			7.23			
	N-Nitrosodiphenylamine/ Diphenylamine	90.9	91.3			0.439			
	N-Nitrosomethylethylamine	85.2	75.7			11.8			
	N-Nitrosomorpholine	88.3	85.5			3.22			
	N-Nitrosopiperidine	92.0	85.2			7.67			
	N-Nitrosopyrrolidine	79.8	74.3			7.14			
	Naphthalene	93.7	89.1			5.03			
	Nitrobenzene	98.2	95.2			3.10			
	o-Cresol	94.8	87.2			8.35			
	o-Toluidine	87.3	87.9			0.685			
	Pentachlorobenzene	89.6	88.7			1.01			
	Pentachloroethane	85.8	79.2			8.00			
	Pentachloronitrobenzene	93.2	87.0			6.88			
	Pentachlorophenol	58.6	53.4			9.29			
	Phenacetin	102	102			0.589			
	Phenanthrene	97.2	92.9			4.52			
	Phenol	70.7	63.0			11.5			
	Pyrene	92.2	90.3			2.08			
	Pyridine	81.4	81.3			0.123			
	Safrole	95.0	91.2			4.08			
	EPA 8321B	4:2 Fluorotelomer sulfonate (4:2 FTS)	75.9		65.3	99.1			41.1
		4:2 Fluorotelomer sulfonate (4:2 FTS)	118		109	102			6.07
4:2 Fluorotelomer sulfonate (4:2 FTS)		148		148	159			6.73	
4:2 Fluorotelomer sulfonate (4:2 FTS)		107		116	86.0			29.9	
4:2 Fluorotelomer sulfonate (4:2 FTS)		136		139	143			2.93	
4:2 Fluorotelomer sulfonate (4:2 FTS)		109		76.9	98.2			24.3	
4:2 Fluorotelomer sulfonate (4:2 FTS)		76.0		74.4	70.6			5.14	
4:2 Fluorotelomer sulfonate (4:2 FTS)		110	120			9.06			
4:2 Fluorotelomer sulfonate (4:2 FTS)		93.2		122	120			2.16	
4:2 Fluorotelomer sulfonate (4:2 FTS)		84.9		182	191			4.48	
6:2 Fluorotelomer sulfonate (6:2 FTS)		68.6		54.0	91.0			51.1	
6:2 Fluorotelomer sulfonate (6:2 FTS)		126		136	114			17.2	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 8321B	6:2 Fluorotelomer sulfonate (6:2 FTS)	107		79.7	119			23.6
	6:2 Fluorotelomer sulfonate (6:2 FTS)	92.5		110	89.6			20.2
	6:2 Fluorotelomer sulfonate (6:2 FTS)	141		121	126			2.77
	6:2 Fluorotelomer sulfonate (6:2 FTS)	129						32.7
	6:2 Fluorotelomer sulfonate (6:2 FTS)	94.7		72.9	86.0			16.5
	6:2 Fluorotelomer sulfonate (6:2 FTS)	159	136			15.8		
	6:2 Fluorotelomer sulfonate (6:2 FTS)	86.6		126	123			2.11
	6:2 Fluorotelomer sulfonate (6:2 FTS)	127		133	125			6.06
	8:2 Fluorotelomer sulfonate (8:2 FTS)	75.8		96.6	61.3			44.7
	8:2 Fluorotelomer sulfonate (8:2 FTS)	140		171	129			28.1
	8:2 Fluorotelomer sulfonate (8:2 FTS)	83.8						19.3
	8:2 Fluorotelomer sulfonate (8:2 FTS)	125		106	95.6			10.3
	8:2 Fluorotelomer sulfonate (8:2 FTS)	129		139	144			3.04
	8:2 Fluorotelomer sulfonate (8:2 FTS)	147		91.6	103			11.5
	8:2 Fluorotelomer sulfonate (8:2 FTS)	88.0		88.2	91.8			3.97
	8:2 Fluorotelomer sulfonate (8:2 FTS)	156	124			23.0		
	8:2 Fluorotelomer sulfonate (8:2 FTS)	145		138	137			0.454
	8:2 Fluorotelomer sulfonate (8:2 FTS)	114		219	192			13.5
	N-Et perfluorooctanesulfonamidoAc acid	71.0		55.5	87.8			45.1
	N-Et perfluorooctanesulfonamidoAc acid	145		68.3	80.7			16.7
	N-Et perfluorooctanesulfonamidoAc acid	115		83.8	104			21.6
	N-Et perfluorooctanesulfonamidoAc acid	79.7		82.6	70.7			15.5
	N-Et perfluorooctanesulfonamidoAc acid	113		34.8	31.8			9.08
	N-Et perfluorooctanesulfonamidoAc acid	148		46.5	48.5			4.28
	N-Et perfluorooctanesulfonamidoAc acid	76.4		64.5	69.2			7.11
	N-Et perfluorooctanesulfonamidoAc acid	77.6	95.3			20.5		
	N-Et perfluorooctanesulfonamidoAc acid	99.7		92.1	96.1			4.25
	N-Et perfluorooctanesulfonamidoAc acid	125		107	103			3.65
	N-Me perfluorooctanesulfonamidoAc acid	70.5		60.9	97.7			46.5
	N-Me perfluorooctanesulfonamidoAc acid	103		53.8	70.5			26.9

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	
							SMP	MS
EPA 8321B	N-Me perfluorooctanesulfonamidoAc acid	117		89.2	101			12.3
	N-Me perfluorooctanesulfonamidoAc acid	78.7		67.5	62.6			7.53
	N-Me perfluorooctanesulfonamidoAc acid	115		30.7	27.3			11.6
	N-Me perfluorooctanesulfonamidoAc acid	144		31.8	35.2			9.87
	N-Me perfluorooctanesulfonamidoAc acid	85.1		65.1	74.3			13.2
	N-Me perfluorooctanesulfonamidoAc acid	73.8	73.6			0.259		
	N-Me perfluorooctanesulfonamidoAc acid	91.2		110	110			0.415
	N-Me perfluorooctanesulfonamidoAc acid	120		143	128			10.9
	Perfluorobutanesulfonic acid (PFBS)	101		79.5	128			46.5
	Perfluorobutanesulfonic acid (PFBS)	114		126	117			7.42
	Perfluorobutanesulfonic acid (PFBS)	136		115	146			23.6
	Perfluorobutanesulfonic acid (PFBS)	93.5		109	98.8			10.2
	Perfluorobutanesulfonic acid (PFBS)	117		137	136			0.693
	Perfluorobutanesulfonic acid (PFBS)	127		84.2	84.7			0.371
	Perfluorobutanesulfonic acid (PFBS)	113		102	112			8.93
	Perfluorobutanesulfonic acid (PFBS)	117	122			4.31		
	Perfluorobutanesulfonic acid (PFBS)	90.7		114	112			1.72
	Perfluorobutanesulfonic acid (PFBS)	137		158	152			3.73
	Perfluorodecanesulfonic acid (PFDS)	83.4		65.7	99.6			41.0
	Perfluorodecanesulfonic acid (PFDS)	126		122	153			22.4
	Perfluorodecanesulfonic acid (PFDS)	129		118	141			17.5
	Perfluorodecanesulfonic acid (PFDS)	114		107	92.5			14.2
	Perfluorodecanesulfonic acid (PFDS)	117		121	125			3.68
	Perfluorodecanesulfonic acid (PFDS)	147		111	110			0.642
	Perfluorodecanesulfonic acid (PFDS)	93.4		85.6	91.9			7.05
	Perfluorodecanesulfonic acid (PFDS)	69.6	70.6			1.46		
	Perfluorodecanesulfonic acid (PFDS)	125		108	114			5.17
	Perfluorodecanesulfonic acid (PFDS)	114		97.5	91.7			6.16
	Perfluorodecanoic acid (PFDA)	84.2		60.3	105			49.3
	Perfluorodecanoic acid (PFDA)	98.8		162	126			25.2
	Perfluorodecanoic acid (PFDA)	102						21.1
	Perfluorodecanoic acid (PFDA)	79.8		123	110			11.6

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	
							SMP	MS
EPA 8321B	Perfluorodecanoic acid (PFDA)	125		116	147			23.6
	Perfluorodecanoic acid (PFDA)	154		88.1	104			16.4
	Perfluorodecanoic acid (PFDA)	106		88.2	103			11.0
	Perfluorodecanoic acid (PFDA)	84.8	88.5			4.27		
	Perfluorodecanoic acid (PFDA)	76.7		177	134			23.9
	Perfluorodecanoic acid (PFDA)	76.0		89.2	117			26.6
	Perfluorododecanoic acid (PFDoA)	94.9		74.0	117			45.2
	Perfluorododecanoic acid (PFDoA)	114		100	111			9.63
	Perfluorododecanoic acid (PFDoA)	107		126	82.4			31.2
	Perfluorododecanoic acid (PFDoA)	89.2		154	218			34.2
	Perfluorododecanoic acid (PFDoA)	152		74.0	116			44.0
	Perfluorododecanoic acid (PFDoA)	132		107	113			5.53
	Perfluorododecanoic acid (PFDoA)	146		79.2	111			30.1
	Perfluorododecanoic acid (PFDoA)	66.7	84.1			23.0		
	Perfluorododecanoic acid (PFDoA)	82.9		89.3	108			16.6
	Perfluorododecanoic acid (PFDoA)	113		120	129			6.61
	Perfluoroheptanesulfonic acid (PFHpS)	74.6		90.3	62.6			36.2
	Perfluoroheptanesulfonic acid (PFHpS)	101		130	94.2			29.1
	Perfluoroheptanesulfonic acid (PFHpS)	112		85.2	100			16.3
	Perfluoroheptanesulfonic acid (PFHpS)	91.8		110	91.5			18.1
	Perfluoroheptanesulfonic acid (PFHpS)	117		129	139			7.18
	Perfluoroheptanesulfonic acid (PFHpS)	158		123	130			3.71
	Perfluoroheptanesulfonic acid (PFHpS)	80.0		71.9	78.0			8.14
	Perfluoroheptanesulfonic acid (PFHpS)	76.9	83.7			8.42		
	Perfluoroheptanesulfonic acid (PFHpS)	99.7		113	108			5.11
	Perfluoroheptanesulfonic acid (PFHpS)	73.1		134	139			4.00
	Perfluoroheptanoic acid (PFHpA)	78.2		56.2	94.7			51.0
	Perfluoroheptanoic acid (PFHpA)	132		148	83.0			32.7
	Perfluoroheptanoic acid (PFHpA)	98.0						25.5
	Perfluoroheptanoic acid (PFHpA)	85.7		122	164			20.9
	Perfluoroheptanoic acid (PFHpA)	145		91.7	106			7.34
	Perfluoroheptanoic acid (PFHpA)	144						16.4
	Perfluoroheptanoic acid (PFHpA)	93.4		72.0	119			43.3
	Perfluoroheptanoic acid (PFHpA)	99.8	94.8			5.18		
	Perfluoroheptanoic acid (PFHpA)	79.3		97.6	135			28.0
	Perfluoroheptanoic acid (PFHpA)	84.9		91.5	119			26.4
	Perfluorohexanesulfonic acid (PFHxS)	102		66.8	116			43.7
	Perfluorohexanesulfonic acid (PFHxS)	134						15.2
	Perfluorohexanesulfonic acid (PFHxS)	125		106	139			26.8
	Perfluorohexanesulfonic acid (PFHxS)	87.2		129	118			8.15
Perfluorohexanesulfonic acid (PFHxS)	132		84.2	89.5			1.48	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 8321B	Perfluorohexanesulfonic acid (PFHxS)	153						10.5
	Perfluorohexanesulfonic acid (PFHxS)	123		95.7	117			17.5
	Perfluorohexanesulfonic acid (PFHxS)	98.5	96.5			2.05		
	Perfluorohexanesulfonic acid (PFHxS)	80.3		89.5	92.9			3.78
	Perfluorohexanesulfonic acid (PFHxS)	120		178	180			0.970
	Perfluorohexanoic acid (PFHxA)	79.4		77.4	132			52.4
	Perfluorohexanoic acid (PFHxA)	112		95.1	98.0			1.74
	Perfluorohexanoic acid (PFHxA)	100		81.5	112			11.7
	Perfluorohexanoic acid (PFHxA)	117		126	238			44.2
	Perfluorohexanoic acid (PFHxA)	149						37.4
	Perfluorohexanoic acid (PFHxA)							19.8
	Perfluorohexanoic acid (PFHxA)	126		102	110			6.15
	Perfluorohexanoic acid (PFHxA)	88.6	94.3			6.17		
	Perfluorohexanoic acid (PFHxA)	72.2		78.5	100			20.4
	Perfluorohexanoic acid (PFHxA)	95.9		145	130			11.1
	Perfluorononanesulfonic acid (PFNS)	89.7		70.2	118			50.5
	Perfluorononanesulfonic acid (PFNS)	136		98.7	115			13.5
	Perfluorononanesulfonic acid (PFNS)	116		100	129			24.8
	Perfluorononanesulfonic acid (PFNS)	89.6		120	107			10.8
	Perfluorononanesulfonic acid (PFNS)	152		94.8	98.8			4.12
	Perfluorononanesulfonic acid (PFNS)	123		90.4	92.8			2.63
	Perfluorononanesulfonic acid (PFNS)	112		93.3	103			10.1
	Perfluorononanesulfonic acid (PFNS)	95.5	93.6			2.03		
	Perfluorononanesulfonic acid (PFNS)	85.4		82.9	86.2			3.80
	Perfluorononanesulfonic acid (PFNS)	73.0		111	110			1.26
	Perfluorononanoic acid (PFNA)	65.3		81.4	48.9			44.6
	Perfluorononanoic acid (PFNA)	105		210	91.7			47.8
	Perfluorononanoic acid (PFNA)	96.0						19.8
	Perfluorononanoic acid (PFNA)	104		131	180			31.9
	Perfluorononanoic acid (PFNA)	120		102	146			35.7
	Perfluorononanoic acid (PFNA)	159		140	119			13.4
	Perfluorononanoic acid (PFNA)	76.1		58.3	75.8			20.3
	Perfluorononanoic acid (PFNA)	122	108			11.6		
	Perfluorononanoic acid (PFNA)	93.0		105	117			9.93
	Perfluorononanoic acid (PFNA)	112		116	112			2.99
	Perfluorooctanesulfonic acid (PFOS)	84.3						45.2
	Perfluorooctanesulfonic acid (PFOS)	126						24.4
	Perfluorooctanesulfonic acid (PFOS)	114		128	162			19.5
	Perfluorooctanesulfonic acid (PFOS)	95.8		112	72.0			25.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8321B	Perfluorooctanesulfonic acid (PFOS)	113		106	101			3.37
	Perfluorooctanesulfonic acid (PFOS)	128						14.0
	Perfluorooctanesulfonic acid (PFOS)	104		90.3	129			12.0
	Perfluorooctanesulfonic acid (PFOS)	83.9	85.4			1.80		
	Perfluorooctanesulfonic acid (PFOS)	83.6		77.8	87.8			6.79
	Perfluorooctanesulfonic acid (PFOS)	95.0		97.0	89.9			7.54
	Perfluorooctanoic acid (PFOA)	61.1		43.4	81.7			53.9
	Perfluorooctanoic acid (PFOA)	116		182	93.6			47.0
	Perfluorooctanoic acid (PFOA)	125		65.4	118			17.1
	Perfluorooctanoic acid (PFOA)	99.6		97.8	145			33.1
	Perfluorooctanoic acid (PFOA)	152		109	153			27.3
	Perfluorooctanoic acid (PFOA)	121		52.1	77.0			16.6
	Perfluorooctanoic acid (PFOA)	80.6		54.0	72.2			23.4
	Perfluorooctanoic acid (PFOA)	88.8	90.2			1.56		
	Perfluorooctanoic acid (PFOA)	114		107	135			18.4
	Perfluorooctanoic acid (PFOA)	75.1		134	122			9.73
	Perfluoropentanesulfonic acid (PFPeS)	85.7		74.1	106			35.7
	Perfluoropentanesulfonic acid (PFPeS)	135		147	112			25.2
	Perfluoropentanesulfonic acid (PFPeS)	113		111	136			20.2
	Perfluoropentanesulfonic acid (PFPeS)	96.1		111	121			8.67
	Perfluoropentanesulfonic acid (PFPeS)	150		136	139			0.973
	Perfluoropentanesulfonic acid (PFPeS)	151						10.8
	Perfluoropentanesulfonic acid (PFPeS)	86.1		83.7	85.4			2.09
	Perfluoropentanesulfonic acid (PFPeS)	85.5	88.2			3.03		
	Perfluoropentanesulfonic acid (PFPeS)	142		110	113			2.10
	Perfluoropentanesulfonic acid (PFPeS)	93.2		159	146			8.44
	Perfluoropentanoic acid (PFPeA)	93.2		39.2	83.6			46.9
	Perfluoropentanoic acid (PFPeA)	142		145	133			5.35
	Perfluoropentanoic acid (PFPeA)	99.5						41.4
	Perfluoropentanoic acid (PFPeA)	98.1		133	196			28.7
	Perfluoropentanoic acid (PFPeA)	140		60.3	143			22.9
	Perfluoropentanoic acid (PFPeA)	152						18.7
	Perfluoropentanoic acid (PFPeA)	106		73.9	79.6			4.33
Perfluoropentanoic acid (PFPeA)	109	94.5			14.3			
Perfluoropentanoic acid (PFPeA)	110		93.4	124			20.9	
Perfluoropentanoic acid (PFPeA)	112		182	139			22.1	
Perfluorotetradecanoic acid (PFTeA)	84.3		77.3	90.2			15.3	
Perfluorotetradecanoic acid (PFTeA)	91.8		91.7	105			13.4	
Perfluorotetradecanoic acid (PFTeA)	129		118	136			13.0	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	
							SMP	MS
EPA 8321B	Perfluorotetradecanoic acid (PFTeA)	97.8		112	136			19.9
	Perfluorotetradecanoic acid (PFTeA)	146		93.0	110			16.9
	Perfluorotetradecanoic acid (PFTeA)	123		95.7	87.8			8.60
	Perfluorotetradecanoic acid (PFTeA)	91.7		80.8	107			27.7
	Perfluorotetradecanoic acid (PFTeA)	46.9	47.0			0.0873		
	Perfluorotetradecanoic acid (PFTeA)	80.3		93.1	110			16.7
	Perfluorotetradecanoic acid (PFTeA)	64.2		94.6	113			17.5
	Perfluorotridecanoic acid (PFTriA)	78.4		61.6	72.1			15.7
	Perfluorotridecanoic acid (PFTriA)	107		102	133			26.4
	Perfluorotridecanoic acid (PFTriA)	114		127	173			28.5
	Perfluorotridecanoic acid (PFTriA)	124		101	109			7.14
	Perfluorotridecanoic acid (PFTriA)	130		80.9	121			39.8
	Perfluorotridecanoic acid (PFTriA)	158		104	119			13.5
	Perfluorotridecanoic acid (PFTriA)	92.4		81.9	103			23.1
	Perfluorotridecanoic acid (PFTriA)	41.8	53.7			24.9		
	Perfluorotridecanoic acid (PFTriA)	104		104	145			32.3
	Perfluorotridecanoic acid (PFTriA)	82.4		102	86.6			16.3
	Perfluoroundecanoic acid (PFUnA)	120		80.3	126			44.1
	Perfluoroundecanoic acid (PFUnA)	129		111	126			12.7
	Perfluoroundecanoic acid (PFUnA)	138						8.80
	Perfluoroundecanoic acid (PFUnA)	121		93.8	110			16.2
	Perfluoroundecanoic acid (PFUnA)	128		96.7	122			23.2
	Perfluoroundecanoic acid (PFUnA)	132		107	133			21.5
	Perfluoroundecanoic acid (PFUnA)	110		99.5	130			22.5
	Perfluoroundecanoic acid (PFUnA)	91.4	102			10.7		
	Perfluoroundecanoic acid (PFUnA)	97.1		95.3	121			21.4
	Perfluoroundecanoic acid (PFUnA)	89.0		134	117			13.8

Reference Method Descriptions

Method	Description	Associated Samples
EPA 6020A	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting RCRA Projects	2158231
EPA 7473	Mercury in aqueous samples using thermal decomposition, amalgamation, and AA spectroscopy.	2158230
EPA 8260D	Volatile organic pollutants in acid preserved water matrices using GC/MS	2158235, 2158236
EPA 8270E	EPA Method 8270, Semi-volatile organic pollutants including PAHs, excluding PCBs and Toxaphene, in water matrices by GC/MS.	2158229

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Perfluorinated alkyl substances in sediment/solid matrices by HPLC/MS/MS	2157867, 2157868, 2157869, 2157870, 2157871, 2157872, 2157873, 2157874, 2157875, 2157876, 2157877, 2157878, 2157879, 2157880, 2157881, 2157882, 2157883, 2157884, 2157885, 2157957, 2157958, 2157959, 2157960, 2157961, 2157962, 2157963, 2157964, 2157965, 2157966, 2157967, 2157968, 2157969, 2157970, 2157971, 2157972, 2157973, 2157975, 2158009, 2158010, 2158011, 2158012, 2158013, 2158014, 2158015, 2158016, 2158017, 2158018, 2158019, 2158020, 2158021, 2158022, 2158023, 2158024, 2158025, 2158026, 2158027, 2158052, 2158053, 2158054, 2158055, 2158056, 2158057, 2158058, 2158059, 2158060, 2158061, 2158062, 2158063, 2158064, 2158065, 2158066, 2158067, 2158068, 2158095, 2158096, 2158097, 2158098, 2158099, 2158100, 2158101, 2158102, 2158103, 2158104, 2158105, 2158106, 2158107, 2158108, 2158109, 2158110, 2158111, 2158112, 2158113, 2158114, 2158143, 2158144, 2158145, 2158146, 2158147, 2158148, 2158149, 2158150, 2158151, 2158152, 2158153, 2158154, 2158155, 2158156, 2158157, 2158158, 2158159, 2158160, 2158183, 2158184, 2158185, 2158186, 2158187, 2158188, 2158189, 2158190, 2158191, 2158192, 2158193, 2158194, 2158195, 2158196, 2158197, 2158198, 2158199, 2158200, 2158201, 2158223, 2158224, 2158225, 2158226, 2158227, 2158228, 2158326, 2158327
EPA 8321B	Perfluorinated alkyl substances in water matrices by HPLC/MS/MS	2157886, 2157978, 2158028, 2158070, 2158071, 2158072, 2158161, 2158162, 2158202, 2158232, 2158233, 2158234

Reference Method Descriptions

Method	Description	Associated Samples
SM 2540 G (20th)	Percent solid determination before the other sample preparations.	2157887, 2157888, 2157889, 2157890, 2157891, 2157892, 2157894, 2157895, 2157896, 2157897, 2157898, 2157899, 2157900, 2157901, 2157902, 2157903, 2157904, 2157905, 2157906, 2157979, 2157980, 2157981, 2157982, 2157983, 2157984, 2157985, 2157986, 2157987, 2157988, 2157989, 2157990, 2157991, 2157992, 2157993, 2157994, 2157995, 2157997, 2158029, 2158030, 2158031, 2158032, 2158033, 2158034, 2158035, 2158036, 2158037, 2158038, 2158039, 2158040, 2158041, 2158042, 2158043, 2158044, 2158045, 2158046, 2158048, 2158073, 2158074, 2158075, 2158076, 2158077, 2158078, 2158079, 2158080, 2158081, 2158082, 2158083, 2158084, 2158085, 2158086, 2158088, 2158091, 2158092, 2158115, 2158116, 2158117, 2158118, 2158119, 2158120, 2158121, 2158122, 2158123, 2158124, 2158125, 2158126, 2158127, 2158128, 2158129, 2158130, 2158131, 2158132, 2158133, 2158134, 2158163, 2158164, 2158165, 2158166, 2158167, 2158168, 2158169, 2158170, 2158171, 2158172, 2158173, 2158174, 2158175, 2158176, 2158179, 2158180, 2158181, 2158182, 2158203, 2158204, 2158205, 2158206, 2158207, 2158208, 2158209, 2158210, 2158211, 2158212, 2158213, 2158214, 2158216, 2158217, 2158218, 2158219, 2158220, 2158221, 2158222, 2158237, 2158238, 2158240, 2158241, 2158242, 2158243, 2158328, 2158329

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 6020A	02/17/2020	02/19/2020 16:50	Elliott D. Healy	02/24/2020 16:34	Justin Cutchin	2158231
	02/17/2020	02/19/2020 16:50	Elliott D. Healy	02/26/2020 16:43	Justin Cutchin	2158231
EPA 7473	02/17/2020			02/18/2020 14:23	Vijayalakshmi Reddy	2158230
EPA 8260D	02/17/2020	02/24/2020 10:30	Yi Lin Luo	02/24/2020 13:58	Yi Lin Luo	2158235
	02/17/2020	02/24/2020 10:30	Yi Lin Luo	02/24/2020 15:47	Yi Lin Luo	2158236
EPA 8270E	02/17/2020	02/19/2020 10:00	Hoor Shaik	02/20/2020 12:39	Mohammad Ghaffari	2158229
	02/17/2020	02/19/2020 10:00	Hoor Shaik	02/20/2020 18:57	Mohammad Ghaffari	2158229
EPA 8321B	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 06:10	Pramila Ghimire	2157867
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 06:30	Pramila Ghimire	2157868
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 06:49	Pramila Ghimire	2157869
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 07:09	Pramila Ghimire	2157870
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 08:08	Pramila Ghimire	2157872
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 08:47	Pramila Ghimire	2157874
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	02/26/2020 09:45	Pramila Ghimire	2157877
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 08:34	Pramila Ghimire	2157871
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 09:13	Pramila Ghimire	2157873
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 09:32	Pramila Ghimire	2157875
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 09:52	Pramila Ghimire	2157876
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 10:11	Pramila Ghimire	2157878
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 14:47	Pramila Ghimire	2157871
	02/17/2020	02/18/2020 10:00	Pramila Ghimire	03/03/2020 15:06	Pramila Ghimire	2157873
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 13:14	Pramila Ghimire	2157879
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 13:34	Pramila Ghimire	2157880
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 13:53	Pramila Ghimire	2157881
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 14:52	Pramila Ghimire	2157883
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 15:31	Pramila Ghimire	2157885
	02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 16:10	Pramila Ghimire	2157958
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 16:29	Pramila Ghimire	2157959	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/26/2020 17:08	Pramila Ghimire	2157961	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/27/2020 09:54	Pramila Ghimire	2157963	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/27/2020 10:34	Pramila Ghimire	2157965	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/27/2020 11:13	Pramila Ghimire	2157967	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/27/2020 11:32	Pramila Ghimire	2157968	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	02/27/2020 11:52	Pramila Ghimire	2157969	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 10:31	Pramila Ghimire	2157882	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 10:50	Pramila Ghimire	2157884	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 11:10	Pramila Ghimire	2157957	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 11:49	Pramila Ghimire	2157960	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 12:08	Pramila Ghimire	2157962	
02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 12:47	Pramila Ghimire	2157964	

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/17/2020	02/19/2020 09:15	Pramila Ghimire	03/03/2020 13:07	Pramila Ghimire	2157966
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/01/2020 23:27	Mohammad Ghaffari	2157970
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/01/2020 23:47	Mohammad Ghaffari	2157971
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 00:06	Mohammad Ghaffari	2157972
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 00:26	Mohammad Ghaffari	2157973
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 01:05	Mohammad Ghaffari	2157975
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 01:24	Mohammad Ghaffari	2158009
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 01:44	Mohammad Ghaffari	2158010
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 02:03	Mohammad Ghaffari	2158011
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 02:23	Mohammad Ghaffari	2158012
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 02:42	Mohammad Ghaffari	2158013
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 03:02	Mohammad Ghaffari	2158014
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 03:22	Mohammad Ghaffari	2158015
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 04:01	Mohammad Ghaffari	2158016
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 04:20	Mohammad Ghaffari	2158017
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 04:40	Mohammad Ghaffari	2158018
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 04:59	Mohammad Ghaffari	2158019
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 05:19	Mohammad Ghaffari	2158020
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 05:38	Mohammad Ghaffari	2158021
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 05:58	Mohammad Ghaffari	2158022
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 06:17	Mohammad Ghaffari	2158023
	02/17/2020	02/20/2020 09:00	Pramila Ghimire	03/02/2020 10:47	Mohammad Ghaffari	2157973
	02/17/2020	02/21/2020 10:00	Pramila Ghimire	02/29/2020 14:36	Mohammad Ghaffari	2157886
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 00:21	Mohammad Ghaffari	2158026
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 01:20	Mohammad Ghaffari	2158052
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 03:17	Mohammad Ghaffari	2158058
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 03:37	Mohammad Ghaffari	2158059
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 04:16	Mohammad Ghaffari	2158060
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 04:55	Mohammad Ghaffari	2158062
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 05:14	Mohammad Ghaffari	2158063
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 05:34	Mohammad Ghaffari	2158064
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 06:13	Mohammad Ghaffari	2158066
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/01/2020 06:32	Mohammad Ghaffari	2158067
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 03:01	Mohammad Ghaffari	2158024
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 03:21	Mohammad Ghaffari	2158025
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 03:41	Mohammad Ghaffari	2158053
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 04:20	Mohammad Ghaffari	2158054
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 04:39	Mohammad Ghaffari	2158055
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 04:59	Mohammad Ghaffari	2158056
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 05:18	Mohammad Ghaffari	2158057

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 05:38	Mohammad Ghaffari	2158061
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/03/2020 05:57	Mohammad Ghaffari	2158065
	02/17/2020	02/22/2020 10:30	Rasheda Ghaffari	03/05/2020 17:47	Mohammad Ghaffari	2158027
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 16:37	Mohammad Ghaffari	2158105
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 16:57	Mohammad Ghaffari	2158106
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 17:16	Mohammad Ghaffari	2158107
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 17:36	Mohammad Ghaffari	2158108
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 17:56	Mohammad Ghaffari	2158109
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 18:35	Mohammad Ghaffari	2158111
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/01/2020 18:54	Mohammad Ghaffari	2158112
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 11:27	Mohammad Ghaffari	2158110
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 12:03	Mohammad Ghaffari	2158097
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 12:23	Mohammad Ghaffari	2158098
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 20:11	Mohammad Ghaffari	2158099
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 20:31	Mohammad Ghaffari	2158100
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 20:50	Mohammad Ghaffari	2158101
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 21:10	Mohammad Ghaffari	2158102
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 21:29	Mohammad Ghaffari	2158103
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/02/2020 21:49	Mohammad Ghaffari	2158104
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/03/2020 00:06	Mohammad Ghaffari	2158068
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/03/2020 00:45	Mohammad Ghaffari	2158095
	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/03/2020 01:04	Mohammad Ghaffari	2158096
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 01:11	Mohammad Ghaffari	2158114
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 01:31	Mohammad Ghaffari	2158143
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 01:50	Mohammad Ghaffari	2158144
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 02:29	Mohammad Ghaffari	2158145
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 02:49	Mohammad Ghaffari	2158146
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 03:08	Mohammad Ghaffari	2158147
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 03:28	Mohammad Ghaffari	2158148
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 03:47	Mohammad Ghaffari	2158149
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 04:07	Mohammad Ghaffari	2158150
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 04:26	Mohammad Ghaffari	2158151
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 04:46	Mohammad Ghaffari	2158152
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 05:25	Mohammad Ghaffari	2158153
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 05:44	Mohammad Ghaffari	2158154
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 06:24	Mohammad Ghaffari	2158156
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 06:43	Mohammad Ghaffari	2158157
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 07:22	Mohammad Ghaffari	2158159
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 07:42	Mohammad Ghaffari	2158160
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/05/2020 20:23	Mohammad Ghaffari	2158143

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/09/2020 12:36	Mohammad Ghaffari	2158155
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/09/2020 12:55	Mohammad Ghaffari	2158158
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/09/2020 13:34	Mohammad Ghaffari	2158155
	02/17/2020	02/23/2020 09:00	Pramila Ghimire	03/10/2020 21:04	Pramila Ghimire	2158113
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 09:39	Mohammad Ghaffari	2158183
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 09:58	Mohammad Ghaffari	2158184
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 10:37	Mohammad Ghaffari	2158186
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 11:16	Mohammad Ghaffari	2158187
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 11:36	Mohammad Ghaffari	2158188
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 11:55	Mohammad Ghaffari	2158189
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 12:15	Mohammad Ghaffari	2158190
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 12:34	Mohammad Ghaffari	2158191
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 12:54	Mohammad Ghaffari	2158192
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 13:13	Mohammad Ghaffari	2158193
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 13:33	Mohammad Ghaffari	2158194
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 14:12	Mohammad Ghaffari	2158195
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 14:31	Mohammad Ghaffari	2158196
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 14:51	Mohammad Ghaffari	2158197
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 15:11	Mohammad Ghaffari	2158198
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 15:30	Mohammad Ghaffari	2158199
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 15:50	Mohammad Ghaffari	2158200
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 16:09	Mohammad Ghaffari	2158201
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 16:29	Mohammad Ghaffari	2158223
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/05/2020 21:41	Mohammad Ghaffari	2158183
	02/17/2020	02/23/2020 10:00	Pramila Ghimire	03/09/2020 14:11	Mohammad Ghaffari	2158185
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 15:45	Mohammad Ghaffari	2158070
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 16:05	Mohammad Ghaffari	2158071
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 16:24	Mohammad Ghaffari	2158232
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 16:44	Mohammad Ghaffari	2158234
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 18:02	Mohammad Ghaffari	2157978
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 18:21	Mohammad Ghaffari	2158028
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 18:41	Mohammad Ghaffari	2158072
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 19:00	Mohammad Ghaffari	2158161
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 19:20	Mohammad Ghaffari	2158162
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 19:39	Mohammad Ghaffari	2158202
	02/17/2020	02/25/2020 11:00	Hoor Shaik	03/04/2020 19:59	Mohammad Ghaffari	2158233
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	02/28/2020 19:24	Mohammad Ghaffari	2158225
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	02/28/2020 20:03	Mohammad Ghaffari	2158227
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	02/28/2020 20:23	Mohammad Ghaffari	2158228
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	03/05/2020 18:06	Mohammad Ghaffari	2158226

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/17/2020	02/26/2020 12:00	Pramila Ghimire	03/05/2020 18:26	Mohammad Ghaffari	2158326
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	03/05/2020 18:45	Mohammad Ghaffari	2158327
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	03/06/2020 01:55	Mohammad Ghaffari	2158326
	02/17/2020	02/26/2020 12:00	Pramila Ghimire	03/10/2020 22:03	Pramila Ghimire	2158224

Chemical Analysis Report

SIS-2020-02-17-04

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

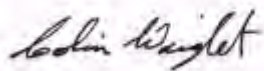
Event Description: **Current Indian River State College Fire Training Facility IDW**
Request ID: **RQ-2020-02-10-22**
Customer: **SIS**
Project ID: **SIS-PFAS**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Road
Twin Towers Bldg. MS# 4515
Tallahassee, FL 32399
Attn: Jeff Newton

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 11-MAR-2020 08:45



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Pesticides and Priority Organic Pollutants.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: I R S C

Collection Date/Time: 02/14/2020 08:42

Field ID: IDW-5

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158049	EPA 8270E	Acenaphthene	9.0	U	ug/kg	P379007	
		Acenaphthylene	9.0	U	ug/kg	P379007	
		Anthracene	9.0	U	ug/kg	P379007	
		Azobenzene/1,2-Diphenylhydrazine	81	U	ug/kg	P379007	
		Benzidine	1.8E+03	UJ	ug/kg	P379007	MS
		Benzo(a)anthracene	9.0	UJ	ug/kg	P379007	MS
		Benzo(a)pyrene	9.0	U	ug/kg	P379007	
		Benzo(b)fluoranthene	9.0	U	ug/kg	P379007	
		Benzo(k)fluoranthene	9.0	U	ug/kg	P379007	
		Benzo(g,h,i)perylene	9.0	U	ug/kg	P379007	
		Bis(2-chloroethoxy)methane	81	U	ug/kg	P379007	
		Bis(2-chloroethyl)ether	81	U	ug/kg	P379007	
		Bis(2-chloroisopropyl)ether	81	U	ug/kg	P379007	
		Bis(2-ethylhexyl)phthalate	490	UJ	ug/kg	P379007	LCS, MS
		Butyl benzyl phthalate	81	UJ	ug/kg	P379007	MS
		4-Bromophenyl phenyl ether	81	U	ug/kg	P379007	
		2-Chloronaphthalene	81	U	ug/kg	P379007	
		4-Chlorophenyl phenyl ether	81	U	ug/kg	P379007	
		Chrysene	9.0	UJ	ug/kg	P379007	MS
		Di-n-butyl phthalate	490	UJ	ug/kg	P379007	LCS, MS
		Di-n-octyl phthalate	81	U	ug/kg	P379007	
		Dibenzo(a,h)anthracene	9.0	U	ug/kg	P379007	
		3,3'-Dichlorobenzidine	4.9E+03	UJ	ug/kg	P379007	MS
		Diethyl phthalate	81	U	ug/kg	P379007	
		Dimethyl phthalate	81	U	ug/kg	P379007	
		2,4-Dinitrotoluene	81	U	ug/kg	P379007	
		2,6-Dinitrotoluene	81	U	ug/kg	P379007	
		Fluoranthene	9.0	U	ug/kg	P379007	
		Fluorene	9.0	U	ug/kg	P379007	
		Hexachlorobenzene	81	U	ug/kg	P379007	
		Hexachlorobutadiene	240	U	ug/kg	P379007	
		Hexachlorocyclopentadiene	81	U	ug/kg	P379007	
		Hexachloroethane	240	U	ug/kg	P379007	
		Indeno(1,2,3-cd)pyrene	9.0	U	ug/kg	P379007	
		Isophorone	81	U	ug/kg	P379007	
		Naphthalene	9.0	U	ug/kg	P379007	
		Nitrobenzene	81	U	ug/kg	P379007	
		N-Nitrosodimethylamine	490	U	ug/kg	P379007	
		N-Nitrosodi-n-propylamine	81	U	ug/kg	P379007	
		Phenanthrene	9.0	U	ug/kg	P379007	
		Pyrene	9.0	U	ug/kg	P379007	
		1,2,4-Trichlorobenzene	240	U	ug/kg	P379007	
		4-Chloro-3-methylphenol	81	U	ug/kg	P379007	
		2-Chlorophenol	240	U	ug/kg	P379007	

Field ID: IDW-5

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes		
2158049	EPA 8270E	2,4-Dichlorophenol	81	U	ug/kg	P379007			
		2,4-Dimethylphenol	490	U	ug/kg	P379007			
		2,4-Dinitrophenol	490	U	ug/kg	P379007			
		2-Methyl-4,6-dinitrophenol	81	U	ug/kg	P379007			
		2-Nitrophenol	81	U	ug/kg	P379007			
		4-Nitrophenol	81	U	ug/kg	P379007			
		Pentachlorophenol	81	U	ug/kg	P379007			
		Phenol	81	U	ug/kg	P379007			
		2,4,6-Trichlorophenol	81	U	ug/kg	P379007			
		N-Nitrosodiphenylamine/ Diphenylamine	81	U	ug/kg	P379007			
		2158050	EPA 7473	Mercury	0.019		mg/Kg	P379959	
		2158051	EPA 6020A	Arsenic	0.713		mg/Kg	P379338	
				Barium	10.5		mg/Kg	P379338	
				Cadmium	0.012	I	mg/Kg	P379338	
Chromium	7.59				mg/Kg	P379338			
Lead	4.21				mg/Kg	P379338			
Selenium	0.24			I	mg/Kg	P379338			
Silver	0.0066			I	mg/Kg	P379338			
2158069	EPA 8321B			Perfluorobutanesulfonic acid (PFBS)**	0.16	U	ug/Kg	P379090	RPD
		Perfluorodecanoic acid (PFDA)**	0.16	U	ug/Kg	P379090	RPD		
		Perfluorododecanoic acid (PFDoA)**	0.16	U	ug/Kg	P379090	MS, RPD		
		Perfluoroheptanoic acid (PFHpA)**	0.32	U	ug/Kg	P379090	MS		
		Perfluorohexanesulfonic acid (PFHxS)**	0.16	U	ug/Kg	P379090	MS, RPD		
		Perfluorohexanoic acid (PFHxA)**	0.32	U	ug/Kg	P379090	MS		
		Perfluorononanoic acid (PFNA)**	0.16	U	ug/Kg	P379090			
		Perfluorooctanesulfonic acid (PFOS)**	0.32	U	ug/Kg	P379090	MS, RPD		
		Perfluorooctanoic acid (PFOA)**	0.16	U	ug/Kg	P379090			
		Perfluorotetradecanoic acid (PFTeA)**	0.16	U	ug/Kg	P379090	RPD		
		Perfluorotridecanoic acid (PFTriA)**	0.16	U	ug/Kg	P379090	MS, RPD		
		Perfluoroundecanoic acid (PFUnA)**	0.16	U	ug/Kg	P379090	MS, RPD		
		N-Me perfluorooctanesulfonamidoAc acid**	0.16	U	ug/Kg	P379090			
		N-Et perfluorooctanesulfonamidoAc acid**	0.16	U	ug/Kg	P379090			
		Perfluoropentanoic acid (PFPeA)**	0.64	U	ug/Kg	P379090	MS		
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.32	U	ug/Kg	P379090	MS, RPD		
		Perfluoropentanesulfonic acid (PFPeS)**	0.16	U	ug/Kg	P379090	RPD		
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	0.64	U	ug/Kg	P379090			
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.32	U	ug/Kg	P379090	MS		
		Perfluoroheptanesulfonic acid (PFHpS)**	0.16	U	ug/Kg	P379090			
		Perfluorononanesulfonic acid (PFNS)**	0.16	U	ug/Kg	P379090	RPD		
		Perfluorodecanesulfonic acid (PFDS)**	0.16	U	ug/Kg	P379090			
2158093	EPA 8260D	Benzene	2.7	U	ug/kg	P379613			
		Bromodichloromethane	2.7	U	ug/kg	P379613			

Field ID: IDW-5

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2158093	EPA 8260D	Bromoform	2.7	U	ug/kg	P379613	
		Bromomethane	2.7	U	ug/kg	P379613	
		2-Butanone	14	U	ug/kg	P379613	
		Carbon tetrachloride	2.7	U	ug/kg	P379613	
		Chlorobenzene	2.7	U	ug/kg	P379613	
		Chloroethane	2.7	U	ug/kg	P379613	
		Chloroform	2.7	U	ug/kg	P379613	
		Chloromethane	2.7	U	ug/kg	P379613	
		Dibromochloromethane	2.7	U	ug/kg	P379613	
		1,2-Dichlorobenzene	2.7	U	ug/kg	P379613	
		1,3-Dichlorobenzene	2.7	U	ug/kg	P379613	
		1,4-Dichlorobenzene	2.7	U	ug/kg	P379613	
		1,1-Dichloroethane	2.7	U	ug/kg	P379613	
		1,2-Dichloroethane	2.7	U	ug/kg	P379613	
		1,1-Dichloroethene	2.7	U	ug/kg	P379613	
		cis-1,2-Dichloroethene	2.7	U	ug/kg	P379613	
		trans-1,2-Dichloroethene	2.7	U	ug/kg	P379613	
		1,2-Dichloropropane	2.7	U	ug/kg	P379613	
		cis-1,3-Dichloropropene	2.7	U	ug/kg	P379613	
		trans-1,3-Dichloropropene	2.7	U	ug/kg	P379613	
		Ethylbenzene	2.7	U	ug/kg	P379613	
		Methylene chloride	14	U	ug/kg	P379613	
		1,1,2,2-Tetrachloroethane	2.7	U	ug/kg	P379613	
		Tetrachloroethene	2.7	U	ug/kg	P379613	
		Toluene	2.7	U	ug/kg	P379613	
		1,1,1-Trichloroethane	2.7	U	ug/kg	P379613	
		1,1,2-Trichloroethane	2.7	U	ug/kg	P379613	
		Trichloroethene	2.7	U	ug/kg	P379613	
		Trichlorofluoromethane	2.7	U	ug/kg	P379613	
		Vinyl chloride	2.7	U	ug/kg	P379613	
		Methyl-t-butyl ether	2.7	U	ug/kg	P379613	
		o-Xylene	2.7	U	ug/kg	P379613	
		m,p-Xylene	2.7	U	ug/kg	P379613	
2158094	SM 2540 G (20th)	% Solid**	72.9	A	%	P379630	

Ref. Method and Comment:
 EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 6020A
Batch ID: P379338

Component	Result	Code	Units
Arsenic	0.016	U	mg/Kg
Barium	0.054	U	mg/Kg
Cadmium	0.011	U	mg/Kg
Chromium	0.27	U	mg/Kg
Lead	0.11	U	mg/Kg
Selenium	0.11	U	mg/Kg
Silver	0.0041	U	mg/Kg

Reference Method: EPA 7473
Batch ID: P379959

Component	Result	Code	Units
Mercury	5.0E-04	U	mg/Kg

Reference Method: EPA 8260D
Batch ID: P379613

Component	Result	Code	Units
1,1-Dichloroethane	2.0	U	ug/kg
1,1-Dichloroethene	2.0	U	ug/kg
1,1,1-Trichloroethane	2.0	U	ug/kg
1,1,2-Trichloroethane	2.0	U	ug/kg
1,1,2,2-Tetrachloroethane	2.0	U	ug/kg
1,2-Dichlorobenzene	2.0	U	ug/kg
1,2-Dichloroethane	2.0	U	ug/kg
1,2-Dichloropropane	2.0	U	ug/kg
1,3-Dichlorobenzene	2.0	U	ug/kg
1,4-Dichlorobenzene	2.0	U	ug/kg
2-Butanone	10	U	ug/kg
Benzene	2.0	U	ug/kg
Bromodichloromethane	2.0	U	ug/kg
Bromoform	2.0	U	ug/kg
Bromomethane	2.0	U	ug/kg
Carbon tetrachloride	2.0	U	ug/kg
Chlorobenzene	2.0	U	ug/kg
Chloroethane	2.0	U	ug/kg
Chloroform	2.0	U	ug/kg
Chloromethane	2.0	U	ug/kg
cis-1,2-Dichloroethene	2.0	U	ug/kg
cis-1,3-Dichloropropene	2.0	U	ug/kg
Dibromochloromethane	2.0	U	ug/kg
Ethylbenzene	2.0	U	ug/kg
m,p-Xylene	2.0	U	ug/kg
Methyl-t-butyl ether	2.0	U	ug/kg
Methylene chloride	10	U	ug/kg
o-Xylene	2.0	U	ug/kg
Tetrachloroethene	2.0	U	ug/kg
Toluene	2.0	U	ug/kg
trans-1,2-Dichloroethene	2.0	U	ug/kg
trans-1,3-Dichloropropene	2.0	U	ug/kg
Trichloroethene	2.0	U	ug/kg
Trichlorofluoromethane	2.0	U	ug/kg

Quality Assurance Report Method Blank Results

Reference Method: EPA 8260D
Batch ID: P379613

Component	Result	Code	Units
Vinyl chloride	2.0	U	ug/kg

Reference Method: EPA 8270E
Batch ID: P379007

Component	Result	Code	Units
1,2,4-Trichlorobenzene	180	U	ug/kg
2-Chloronaphthalene	60	U	ug/kg
2-Chlorophenol	180	U	ug/kg
2-Methyl-4,6-dinitrophenol	60	U	ug/kg
2-Nitrophenol	60	U	ug/kg
2,4-Dichlorophenol	60	U	ug/kg
2,4-Dimethylphenol	360	U	ug/kg
2,4-Dinitrophenol	360	U	ug/kg
2,4-Dinitrotoluene	60	U	ug/kg
2,4,6-Trichlorophenol	60	U	ug/kg
2,6-Dinitrotoluene	60	U	ug/kg
3,3'-Dichlorobenzidine	3.6E+03	U	ug/kg
4-Bromophenyl phenyl ether	60	U	ug/kg
4-Chloro-3-methylphenol	60	U	ug/kg
4-Chlorophenyl phenyl ether	60	U	ug/kg
4-Nitrophenol	60	U	ug/kg
Acenaphthene	6.7	U	ug/kg
Acenaphthylene	6.7	U	ug/kg
Anthracene	6.7	U	ug/kg
Azobenzene/1,2-Diphenylhydrazine	60	U	ug/kg
Benzidine	1.3E+03	U	ug/kg
Benzo(a)anthracene	6.7	U	ug/kg
Benzo(a)pyrene	6.7	U	ug/kg
Benzo(b)fluoranthene	6.7	U	ug/kg
Benzo(g,h,i)perylene	6.7	U	ug/kg
Benzo(k)fluoranthene	6.7	U	ug/kg
Bis(2-chloroethoxy)methane	60	U	ug/kg
Bis(2-chloroethyl)ether	60	U	ug/kg
Bis(2-chloroisopropyl)ether	60	U	ug/kg
Bis(2-ethylhexyl)phthalate	360	U	ug/kg
Butyl benzyl phthalate	60	U	ug/kg
Chrysene	6.7	U	ug/kg
Di-n-butyl phthalate	360	U	ug/kg
Di-n-octyl phthalate	60	U	ug/kg
Dibenzo(a,h)anthracene	6.7	U	ug/kg
Diethyl phthalate	60	U	ug/kg
Dimethyl phthalate	60	U	ug/kg
Fluoranthene	6.7	U	ug/kg
Fluorene	6.7	U	ug/kg
Hexachlorobenzene	60	U	ug/kg
Hexachlorobutadiene	180	U	ug/kg
Hexachlorocyclopentadiene	60	U	ug/kg
Hexachloroethane	180	U	ug/kg
Indeno(1,2,3-cd)pyrene	6.7	U	ug/kg
Isophorone	60	U	ug/kg
N-Nitrosodi-n-propylamine	60	U	ug/kg

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P379007

Component	Result	Code	Units
N-Nitrosodimethylamine	360	U	ug/kg
N-Nitrosodiphenylamine/ Diphenylamine	60	U	ug/kg
Naphthalene	6.7	U	ug/kg
Nitrobenzene	60	U	ug/kg
Pentachlorophenol	60	U	ug/kg
Phenanthrene	6.7	U	ug/kg
Phenol	60	U	ug/kg
Pyrene	6.7	U	ug/kg

Reference Method: EPA 8321B
Batch ID: P379090

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.20	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.40	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.20	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.10	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.10	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.10	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.10	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.10	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.10	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.20	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.10	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.20	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.10	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.10	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.20	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.10	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.10	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.40	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.10	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.10	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.10	U	ug/Kg

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 6020A
Batch ID: P379338

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	113		P	80 - 120
Barium	109		P	80 - 120
Cadmium	106		P	80 - 120
Chromium	113		P	80 - 120
Lead	111		P	80 - 120
Selenium	107		P	80 - 120
Silver	110		P	80 - 120

Reference Method: EPA 7473
Batch ID: P379959

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mercury	99.2		P	80 - 120

Reference Method: EPA 8260D
Batch ID: P379613

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1,1-Dichloroethane	113	98.5	P/P	60 - 140
1,1-Dichloroethene	112	106	P/P	60 - 140
1,1,1-Trichloroethane	117	109	P/P	70 - 140
1,1,2-Trichloroethane	101	87.2	P/P	70 - 140
1,1,2,2-Tetrachloroethane	106	98.7	P/P	55 - 140
1,2-Dichlorobenzene	105	92.2	P/P	45 - 140
1,2-Dichloroethane	107	92.4	P/P	60 - 140
1,2-Dichloropropane	104	86.4	P/P	70 - 140
1,3-Dichlorobenzene	104	92.6	P/P	45 - 140
1,4-Dichlorobenzene	108	96.9	P/P	45 - 140
2-Butanone	93.6	84.2	P/P	50 - 140
Benzene	110	95.9	P/P	70 - 140
Bromodichloromethane	115	94.6	P/P	70 - 140
Bromoform	108	92.4	P/P	50 - 140
Bromomethane	107	93.1	P/P	50 - 140
Carbon tetrachloride	113	107	P/P	70 - 140
Chlorobenzene	112	94.7	P/P	60 - 140
Chloroethane	108	97.8	P/P	50 - 140
Chloroform	116	98.3	P/P	70 - 140
Chloromethane	106	93.1	P/P	50 - 140
cis-1,2-Dichloroethene	101	85.7	P/P	70 - 140
cis-1,3-Dichloropropene	105	86.8	P/P	60 - 140
Dibromochloromethane	113	93.9	P/P	60 - 140
Ethylbenzene	123	106	P/P	60 - 140
m,p-Xylene	124	107	P/P	60 - 140
Methyl-t-butyl ether	104	86.5	P/P	60 - 140
Methylene chloride	112	90.6	P/P	60 - 140
o-Xylene	131	111	P/P	60 - 140
Tetrachloroethene	121	109	P/P	60 - 140
Toluene	109	95.7	P/P	60 - 140
trans-1,2-Dichloroethene	113	99.0	P/P	60 - 140
trans-1,3-Dichloropropene	104	85.4	P/P	60 - 140
Trichloroethene	123	109	P/P	70 - 140
Trichlorofluoromethane	106	102	P/P	50 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8260D
Batch ID: P379613

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Vinyl chloride	113	106	P/P	50 - 140

Reference Method: EPA 8270E
Batch ID: P379007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1,2,4-Trichlorobenzene	90.3		P	40 - 140
2-Chloronaphthalene	103		P	40 - 140
2-Chlorophenol	97.5		P	40 - 140
2-Methyl-4,6-dinitrophenol	103		P	40 - 140
2-Nitrophenol	79.4		P	40 - 140
2,4-Dichlorophenol	111		P	40 - 140
2,4-Dimethylphenol	103		P	40 - 140
2,4-Dinitrophenol	94.8		P	40 - 140
2,4-Dinitrotoluene	122		P	40 - 140
2,4,6-Trichlorophenol	119		P	40 - 140
2,6-Dinitrotoluene	132		P	40 - 140
3,3'-Dichlorobenzidine	180		P	10 - 200
4-Bromophenyl phenyl ether	126		P	40 - 140
4-Chloro-3-methylphenol	125		P	40 - 140
4-Chlorophenyl phenyl ether	121		P	40 - 140
4-Nitrophenol	97.9		P	40 - 140
Acenaphthene	110		P	40 - 140
Acenaphthylene	109		P	40 - 140
Anthracene	121		P	40 - 140
Azobenzene/1,2-Diphenylhydrazine	114		P	40 - 140
Benzidine	109		P	10 - 200
Benzo(a)anthracene	132		P	40 - 140
Benzo(a)pyrene	122		P	40 - 140
Benzo(b)fluoranthene	128		P	40 - 140
Benzo(g,h,i)perylene	129		P	40 - 140
Benzo(k)fluoranthene	112		P	40 - 140
Bis(2-chloroethoxy)methane	93.0		P	40 - 140
Bis(2-chloroethyl)ether	85.2		P	40 - 140
Bis(2-chloroisopropyl)ether	55.8		P	40 - 160
Bis(2-ethylhexyl)phthalate	147		F	40 - 140
Butyl benzyl phthalate	138		P	40 - 140
Chrysene	135		P	40 - 140
Di-n-butyl phthalate	144		F	40 - 140
Di-n-octyl phthalate	121		P	40 - 140
Dibenzo(a,h)anthracene	128		P	40 - 140
Diethyl phthalate	120		P	40 - 140
Dimethyl phthalate	122		P	40 - 140
Fluoranthene	122		P	40 - 140
Fluorene	108		P	40 - 140
Hexachlorobenzene	130		P	40 - 140
Hexachlorobutadiene	89.3		P	40 - 140
Hexachlorocyclopentadiene	104		P	40 - 140
Hexachloroethane	75.5		P	40 - 140
Indeno(1,2,3-cd)pyrene	129		P	40 - 140
Isophorone	92.9		P	40 - 140
N-Nitrosodi-n-propylamine	85.5		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P379007

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
N-Nitrosodimethylamine	70.5		P	40 - 140
N-Nitrosodiphenylamine/ Diphenylamine	103		P	40 - 140
Naphthalene	90.1		P	40 - 140
Nitrobenzene	83.8		P	40 - 140
Pentachlorophenol	122		P	40 - 140
Phenanthrene	123		P	40 - 140
Phenol	94.3		P	40 - 140
Pyrene	129		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P379090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	107		P	40 - 150
6:2 Fluorotelomer sulfonate (6:2 FTS)	92.5		P	40 - 150
8:2 Fluorotelomer sulfonate (8:2 FTS)	125		P	40 - 150
N-Et perfluorooctanesulfonamidoAc acid	79.7		P	40 - 150
N-Me perfluorooctanesulfonamidoAc acid	78.7		P	40 - 150
Perfluorobutanesulfonic acid (PFBS)	93.5		P	40 - 150
Perfluorodecanesulfonic acid (PFDS)	114		P	40 - 150
Perfluorodecanoic acid (PFDA)	79.8		P	40 - 150
Perfluorododecanoic acid (PFDoA)	89.2		P	40 - 150
Perfluoroheptanesulfonic acid (PFHpS)	91.8		P	40 - 150
Perfluoroheptanoic acid (PFHpA)	85.7		P	40 - 150
Perfluorohexanesulfonic acid (PFHxS)	87.2		P	40 - 150
Perfluorohexanoic acid (PFHxA)	117		P	40 - 150
Perfluorononanesulfonic acid (PFNS)	89.6		P	40 - 150
Perfluorononanoic acid (PFNA)	104		P	40 - 150
Perfluorooctanesulfonic acid (PFOS)	95.8		P	40 - 150
Perfluorooctanoic acid (PFOA)	99.6		P	40 - 150
Perfluoropentanesulfonic acid (PFPeS)	96.1		P	40 - 150
Perfluoropentanoic acid (PFPeA)	98.1		P	40 - 150
Perfluorotetradecanoic acid (PFTeA)	97.8		P	40 - 150
Perfluorotridecanoic acid (PFTriA)	124		P	40 - 150
Perfluoroundecanoic acid (PFUnA)	121		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 6020A
 Batch ID: P379338

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158051	Arsenic	102	97.9	P/P	75 - 125
2158051	Barium	105	101	P/P	75 - 125
2158051	Cadmium	101	98.4	P/P	75 - 125
2158051	Chromium	113	111	P/P	75 - 125
2158051	Lead	108	105	P/P	75 - 125
2158051	Selenium	100	95.5	P/P	75 - 125
2158051	Silver	106	102	P/P	75 - 125

Reference Method: EPA 7473
 Batch ID: P379959

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158050	Mercury	97.8	98.0	P/P	80 - 120

Reference Method: EPA 8260D
 Batch ID: P379613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158093	1,1-Dichloroethane	107	106	P/P	60 - 140
2158093	1,1-Dichloroethene	113	113	P/P	60 - 140
2158093	1,1,1-Trichloroethane	118	116	P/P	70 - 140
2158093	1,1,2-Trichloroethane	93.6	90.2	P/P	70 - 140
2158093	1,1,2,2-Tetrachloroethane	99.8	97.7	P/P	55 - 140
2158093	1,2-Dichlorobenzene	100	96.1	P/P	45 - 140
2158093	1,2-Dichloroethane	95.8	96.1	P/P	60 - 140
2158093	1,2-Dichloropropane	94.4	95.2	P/P	70 - 140
2158093	1,3-Dichlorobenzene	102	96.0	P/P	45 - 140
2158093	1,4-Dichlorobenzene	106	101	P/P	45 - 140
2158093	2-Butanone	83.3	78.2	P/P	50 - 140
2158093	Benzene	105	104	P/P	70 - 140
2158093	Bromodichloromethane	105	105	P/P	70 - 140
2158093	Bromoform	96.2	94.2	P/P	50 - 140
2158093	Bromomethane	102	100	P/P	50 - 140
2158093	Carbon tetrachloride	114	111	P/P	70 - 140
2158093	Chlorobenzene	107	105	P/P	60 - 140
2158093	Chloroethane	106	104	P/P	50 - 140
2158093	Chloroform	109	108	P/P	70 - 140
2158093	Chloromethane	99.4	101	P/P	50 - 140
2158093	cis-1,2-Dichloroethene	95.9	94.5	P/P	70 - 140
2158093	cis-1,3-Dichloropropene	95.0	96.0	P/P	60 - 140
2158093	Dibromochloromethane	104	103	P/P	60 - 140
2158093	Ethylbenzene	119	117	P/P	60 - 140
2158093	m,p-Xylene	120	117	P/P	60 - 140
2158093	Methyl-t-butyl ether	91.1	91.2	P/P	60 - 140
2158093	Methylene chloride	104	106	P/P	60 - 140
2158093	o-Xylene	125	125	P/P	60 - 140
2158093	Tetrachloroethene	120	115	P/P	60 - 140
2158093	Toluene	106	104	P/P	60 - 140
2158093	trans-1,2-Dichloroethene	109	108	P/P	60 - 140
2158093	trans-1,3-Dichloropropene	94.7	95.6	P/P	60 - 140
2158093	Trichloroethene	119	116	P/P	70 - 140
2158093	Trichlorofluoromethane	109	107	P/P	50 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8260D
 Batch ID: P379613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158093	Vinyl chloride	113	112	P/P	50 - 140

Reference Method: EPA 8270E
 Batch ID: P379007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158049	1,2,4-Trichlorobenzene	94.2	92.1	P/P	40 - 140
2158049	2-Chloronaphthalene	112	115	P/P	40 - 140
2158049	2-Chlorophenol	109	112	P/P	40 - 140
2158049	2-Methyl-4,6-dinitrophenol	113	121	P/P	40 - 140
2158049	2-Nitrophenol	90.2	95.0	P/P	40 - 140
2158049	2,4-Dichlorophenol	118	123	P/P	40 - 140
2158049	2,4-Dimethylphenol	104	106	P/P	40 - 140
2158049	2,4-Dinitrophenol	125	125	P/P	40 - 140
2158049	2,4-Dinitrotoluene	129	136	P/P	40 - 140
2158049	2,4,6-Trichlorophenol	129	133	P/P	40 - 140
2158049	2,6-Dinitrotoluene	127	137	P/P	40 - 140
2158049	3,3'-Dichlorobenzidine	206	222	F/F	10 - 200
2158049	4-Bromophenyl phenyl ether	129	131	P/P	40 - 140
2158049	4-Chloro-3-methylphenol	127	132	P/P	40 - 140
2158049	4-Chlorophenyl phenyl ether	129	133	P/P	40 - 140
2158049	4-Nitrophenol	111	114	P/P	40 - 140
2158049	Acenaphthene	118	122	P/P	40 - 140
2158049	Acenaphthylene	119	122	P/P	40 - 140
2158049	Anthracene	123	126	P/P	40 - 140
2158049	Azobenzene/1,2-Diphenylhydrazine	116	119	P/P	40 - 140
2158049	Benzidine	217	206	F/F	10 - 200
2158049	Benzo(a)anthracene	136	141	P/F	40 - 140
2158049	Benzo(a)pyrene	121	124	P/P	40 - 140
2158049	Benzo(b)fluoranthene	132	130	P/P	40 - 140
2158049	Benzo(g,h,i)perylene	128	131	P/P	40 - 140
2158049	Benzo(k)fluoranthene	106	112	P/P	40 - 140
2158049	Bis(2-chloroethoxy)methane	102	108	P/P	40 - 140
2158049	Bis(2-chloroethyl)ether	98.8	98.1	P/P	40 - 140
2158049	Bis(2-chloroisopropyl)ether	61.2	62.0	P/P	40 - 160
2158049	Bis(2-ethylhexyl)phthalate	152	162	F/F	40 - 140
2158049	Butyl benzyl phthalate	140	147	P/F	40 - 140
2158049	Chrysene	140	145	P/F	40 - 140
2158049	Di-n-butyl phthalate	152	136	F/P	40 - 140
2158049	Di-n-octyl phthalate	118	121	P/P	40 - 140
2158049	Dibenzo(a,h)anthracene	127	131	P/P	40 - 140
2158049	Diethyl phthalate	125	130	P/P	40 - 140
2158049	Dimethyl phthalate	130	134	P/P	40 - 140
2158049	Fluoranthene	122	126	P/P	40 - 140
2158049	Fluorene	116	120	P/P	40 - 140
2158049	Hexachlorobenzene	134	138	P/P	40 - 140
2158049	Hexachlorobutadiene	87.0	81.6	P/P	40 - 140
2158049	Hexachlorocyclopentadiene	102	94.4	P/P	40 - 140
2158049	Hexachloroethane	71.2	61.4	P/P	40 - 140
2158049	Indeno(1,2,3-cd)pyrene	128	131	P/P	40 - 140
2158049	Isophorone	99.1	104	P/P	40 - 140
2158049	N-Nitrosodi-n-propylamine	94.1	97.7	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
 Batch ID: P379007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158049	N-Nitrosodimethylamine	84.2	86.8	P/P	40 - 140
2158049	N-Nitrosodiphenylamine/ Diphenylamine	101	111	P/P	40 - 140
2158049	Naphthalene	96.6	98.2	P/P	40 - 140
2158049	Nitrobenzene	93.5	96.3	P/P	40 - 140
2158049	Pentachlorophenol	126	127	P/P	40 - 140
2158049	Phenanthrene	124	126	P/P	40 - 140
2158049	Phenol	102	106	P/P	40 - 140
2158049	Pyrene	132	139	P/P	40 - 140

Reference Method: EPA 8321B
 Batch ID: P379090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2158068	4:2 Fluorotelomer sulfonate (4:2 FTS)	172	79.5	F/P	40 - 150
2158068	6:2 Fluorotelomer sulfonate (6:2 FTS)	129	108	P/P	40 - 150
2158068	8:2 Fluorotelomer sulfonate (8:2 FTS)	168	148	F/P	40 - 150
2158068	N-Et perfluorooctanesulfonamidoAc acid	84.5	64.4	P/P	40 - 150
2158068	N-Me perfluorooctanesulfonamidoAc acid	81.8	65.7	P/P	40 - 150
2158068	Perfluorobutanesulfonic acid (PFBS)	137	86.8	P/P	40 - 150
2158068	Perfluorodecanesulfonic acid (PFDS)	139	121	P/P	40 - 150
2158068	Perfluorodecanoic acid (PFDA)	134	92.3	P/P	40 - 150
2158068	Perfluorododecanoic acid (PFDoA)	196	89.3	F/P	40 - 150
2158068	Perfluoroheptanesulfonic acid (PFHpS)	116	102	P/P	40 - 150
2158068	Perfluoroheptanoic acid (PFHpA)	152	116	F/P	40 - 150
2158068	Perfluorohexanesulfonic acid (PFHxS)	150	80.4	F/P	40 - 150
2158068	Perfluorohexanoic acid (PFHxA)	178	135	F/P	40 - 150
2158068	Perfluorononanesulfonic acid (PFNS)	126	81.2	P/P	40 - 150
2158068	Perfluorononanoic acid (PFNA)	122	126	P/P	40 - 150
2158068	Perfluorooctanesulfonic acid (PFOS)	232	107	F/P	40 - 150
2158068	Perfluorooctanoic acid (PFOA)	120	91.7	P/P	40 - 150
2158068	Perfluoropentanesulfonic acid (PFPeS)	150	97.8	P/P	40 - 150
2158068	Perfluoropentanoic acid (PFPeA)	152	127	F/P	40 - 150
2158068	Perfluorotetradecanoic acid (PFTeA)	140	83.4	P/P	40 - 150
2158068	Perfluorotridecanoic acid (PFTriA)	151	100	F/P	40 - 150
2158068	Perfluoroundecanoic acid (PFUnA)	196	125	F/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 6020A
 Batch ID: P379338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158051	Arsenic	4.09	Spike	P	0 - 20
2158051	Barium	3.05	Spike	P	0 - 20
2158051	Cadmium	2.51	Spike	P	0 - 20
2158051	Chromium	1.58	Spike	P	0 - 20
2158051	Lead	2.08	Spike	P	0 - 20
2158051	Selenium	5.02	Spike	P	0 - 20
2158051	Silver	4.02	Spike	P	0 - 20

Reference Method: EPA 7473
 Batch ID: P379959

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158050	Mercury	0.170	Spike	P	0 - 20

Reference Method: EPA 8260D
 Batch ID: P379613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158093	1,1-Dichloroethane	0.801	Spike	P	0 - 30
2158093	1,1-Dichloroethene	0.0176	Spike	P	0 - 30
2158093	1,1,1-Trichloroethane	1.61	Spike	P	0 - 30
2158093	1,1,2-Trichloroethane	3.76	Spike	P	0 - 30
2158093	1,1,2,2-Tetrachloroethane	2.16	Spike	P	0 - 30
2158093	1,2-Dichlorobenzene	4.15	Spike	P	0 - 30
2158093	1,2-Dichloroethane	0.302	Spike	P	0 - 30
2158093	1,2-Dichloropropane	0.886	Spike	P	0 - 30
2158093	1,3-Dichlorobenzene	5.62	Spike	P	0 - 30
2158093	1,4-Dichlorobenzene	4.98	Spike	P	0 - 30
2158093	2-Butanone	6.24	Spike	P	0 - 30
2158093	Benzene	1.06	Spike	P	0 - 30
2158093	Bromodichloromethane	0.363	Spike	P	0 - 30
2158093	Bromoform	2.10	Spike	P	0 - 30
2158093	Bromomethane	1.87	Spike	P	0 - 30
2158093	Carbon tetrachloride	2.62	Spike	P	0 - 30
2158093	Chlorobenzene	2.25	Spike	P	0 - 30
2158093	Chloroethane	2.60	Spike	P	0 - 30
2158093	Chloroform	1.28	Spike	P	0 - 30
2158093	Chloromethane	1.78	Spike	P	0 - 30
2158093	cis-1,2-Dichloroethene	1.47	Spike	P	0 - 30
2158093	cis-1,3-Dichloropropene	1.11	Spike	P	0 - 30
2158093	Dibromochloromethane	0.541	Spike	P	0 - 30
2158093	Ethylbenzene	2.45	Spike	P	0 - 30
2158093	m,p-Xylene	2.47	Spike	P	0 - 30
2158093	Methyl-t-butyl ether	0.0988	Spike	P	0 - 30
2158093	Methylene chloride	1.64	Spike	P	0 - 30
2158093	o-Xylene	0.359	Spike	P	0 - 30
2158093	Tetrachloroethene	3.92	Spike	P	0 - 30
2158093	Toluene	1.26	Spike	P	0 - 30
2158093	trans-1,2-Dichloroethene	1.07	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8260D
 Batch ID: P379613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158093	trans-1,3-Dichloropropene	0.957	Spike	P	0 - 30
2158093	Trichloroethene	2.27	Spike	P	0 - 30
2158093	Trichlorofluoromethane	1.89	Spike	P	0 - 30
2158093	Vinyl chloride	1.24	Spike	P	0 - 30
LFB	1,1-Dichloroethane	13.5	LCS	P	0 - 30
LFB	1,1-Dichloroethene	5.56	LCS	P	0 - 30
LFB	1,1,1-Trichloroethane	7.33	LCS	P	0 - 30
LFB	1,1,2-Trichloroethane	14.4	LCS	P	0 - 30
LFB	1,1,2,2-Tetrachloroethane	7.38	LCS	P	0 - 30
LFB	1,2-Dichlorobenzene	12.9	LCS	P	0 - 30
LFB	1,2-Dichloroethane	14.9	LCS	P	0 - 30
LFB	1,2-Dichloropropane	18.8	LCS	P	0 - 30
LFB	1,3-Dichlorobenzene	11.7	LCS	P	0 - 30
LFB	1,4-Dichlorobenzene	11.3	LCS	P	0 - 30
LFB	2-Butanone	10.6	LCS	P	0 - 30
LFB	Benzene	13.7	LCS	P	0 - 30
LFB	Bromodichloromethane	19.7	LCS	P	0 - 30
LFB	Bromoform	15.4	LCS	P	0 - 30
LFB	Bromomethane	14.3	LCS	P	0 - 30
LFB	Carbon tetrachloride	5.61	LCS	P	0 - 30
LFB	Chlorobenzene	16.7	LCS	P	0 - 30
LFB	Chloroethane	9.88	LCS	P	0 - 30
LFB	Chloroform	16.2	LCS	P	0 - 30
LFB	Chloromethane	13.1	LCS	P	0 - 30
LFB	cis-1,2-Dichloroethene	16.3	LCS	P	0 - 30
LFB	cis-1,3-Dichloropropene	18.5	LCS	P	0 - 30
LFB	Dibromochloromethane	18.6	LCS	P	0 - 30
LFB	Ethylbenzene	14.8	LCS	P	0 - 30
LFB	m,p-Xylene	14.4	LCS	P	0 - 30
LFB	Methyl-t-butyl ether	18.0	LCS	P	0 - 30
LFB	Methylene chloride	21.0	LCS	P	0 - 30
LFB	o-Xylene	17.1	LCS	P	0 - 30
LFB	Tetrachloroethene	10.1	LCS	P	0 - 30
LFB	Toluene	13.5	LCS	P	0 - 30
LFB	trans-1,2-Dichloroethene	13.5	LCS	P	0 - 30
LFB	trans-1,3-Dichloropropene	19.7	LCS	P	0 - 30
LFB	Trichloroethene	12.0	LCS	P	0 - 30
LFB	Trichlorofluoromethane	3.88	LCS	P	0 - 30
LFB	Vinyl chloride	6.21	LCS	P	0 - 30

Reference Method: EPA 8270E
 Batch ID: P379007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158049	1,2,4-Trichlorobenzene	2.28	Spike	P	0 - 40
2158049	2-Chloronaphthalene	2.88	Spike	P	0 - 40
2158049	2-Chlorophenol	2.56	Spike	P	0 - 40
2158049	2-Methyl-4,6-dinitrophenol	7.19	Spike	P	0 - 40
2158049	2-Nitrophenol	5.27	Spike	P	0 - 40
2158049	2,4-Dichlorophenol	4.31	Spike	P	0 - 40

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P379007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158049	2,4-Dimethylphenol	1.82	Spike	P	0 - 40
2158049	2,4-Dinitrophenol	0.160	Spike	P	0 - 40
2158049	2,4-Dinitrotoluene	5.35	Spike	P	0 - 40
2158049	2,4,6-Trichlorophenol	2.72	Spike	P	0 - 40
2158049	2,6-Dinitrotoluene	7.13	Spike	P	0 - 40
2158049	3,3'-Dichlorobenzidine	7.66	Spike	P	0 - 40
2158049	4-Bromophenyl phenyl ether	1.50	Spike	P	0 - 40
2158049	4-Chloro-3-methylphenol	3.37	Spike	P	0 - 40
2158049	4-Chlorophenyl phenyl ether	3.48	Spike	P	0 - 40
2158049	4-Nitrophenol	2.10	Spike	P	0 - 40
2158049	Acenaphthene	2.80	Spike	P	0 - 40
2158049	Acenaphthylene	2.33	Spike	P	0 - 40
2158049	Anthracene	2.09	Spike	P	0 - 40
2158049	Azobenzene/1,2-Diphenylhydrazine	1.91	Spike	P	0 - 40
2158049	Benzidine	5.28	Spike	P	0 - 40
2158049	Benzo(a)anthracene	3.95	Spike	P	0 - 40
2158049	Benzo(a)pyrene	2.12	Spike	P	0 - 40
2158049	Benzo(b)fluoranthene	0.855	Spike	P	0 - 40
2158049	Benzo(g,h,i)perylene	2.28	Spike	P	0 - 40
2158049	Benzo(k)fluoranthene	5.79	Spike	P	0 - 40
2158049	Bis(2-chloroethoxy)methane	5.51	Spike	P	0 - 40
2158049	Bis(2-chloroethyl)ether	0.772	Spike	P	0 - 40
2158049	Bis(2-chloroisopropyl)ether	1.17	Spike	P	0 - 40
2158049	Bis(2-ethylhexyl)phthalate	6.23	Spike	P	0 - 40
2158049	Butyl benzyl phthalate	5.27	Spike	P	0 - 40
2158049	Chrysene	4.13	Spike	P	0 - 40
2158049	Di-n-butyl phthalate	11.1	Spike	P	0 - 40
2158049	Di-n-octyl phthalate	2.18	Spike	P	0 - 40
2158049	Dibenzo(a,h)anthracene	2.57	Spike	P	0 - 40
2158049	Diethyl phthalate	4.26	Spike	P	0 - 40
2158049	Dimethyl phthalate	3.06	Spike	P	0 - 40
2158049	Fluoranthene	3.20	Spike	P	0 - 40
2158049	Fluorene	3.39	Spike	P	0 - 40
2158049	Hexachlorobenzene	2.83	Spike	P	0 - 40
2158049	Hexachlorobutadiene	6.36	Spike	P	0 - 40
2158049	Hexachlorocyclopentadiene	8.06	Spike	P	0 - 40
2158049	Hexachloroethane	14.8	Spike	P	0 - 40
2158049	Indeno(1,2,3-cd)pyrene	2.29	Spike	P	0 - 40
2158049	Isophorone	5.04	Spike	P	0 - 40
2158049	N-Nitrosodi-n-propylamine	3.75	Spike	P	0 - 40
2158049	N-Nitrosodimethylamine	2.99	Spike	P	0 - 40
2158049	N-Nitrosodiphenylamine/ Diphenylamine	9.34	Spike	P	0 - 40
2158049	Naphthalene	1.64	Spike	P	0 - 40
2158049	Nitrobenzene	2.91	Spike	P	0 - 40
2158049	Pentachlorophenol	0.725	Spike	P	0 - 40
2158049	Phenanthrene	1.60	Spike	P	0 - 40
2158049	Phenol	4.51	Spike	P	0 - 40
2158049	Pyrene	5.07	Spike	P	0 - 40

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P379090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2158068	4:2 Fluorotelomer sulfonate (4:2 FTS)	73.5	Spike	F	0 - 35
2158068	6:2 Fluorotelomer sulfonate (6:2 FTS)	17.8	Spike	P	0 - 35
2158068	8:2 Fluorotelomer sulfonate (8:2 FTS)	12.5	Spike	P	0 - 35
2158068	N-Et perfluorooctanesulfonamidoAc acid	27.0	Spike	P	0 - 35
2158068	N-Me perfluorooctanesulfonamidoAc acid	21.8	Spike	P	0 - 35
2158068	Perfluorobutanesulfonic acid (PFBS)	44.8	Spike	F	0 - 35
2158068	Perfluorodecanesulfonic acid (PFDS)	14.3	Spike	P	0 - 35
2158068	Perfluorodecanoic acid (PFDA)	36.9	Spike	F	0 - 35
2158068	Perfluorododecanoic acid (PFDoA)	74.8	Spike	F	0 - 35
2158068	Perfluoroheptanesulfonic acid (PFHpS)	12.0	Spike	P	0 - 35
2158068	Perfluoroheptanoic acid (PFHpA)	20.8	Spike	P	0 - 35
2158068	Perfluorohexanesulfonic acid (PFHxS)	54.8	Spike	F	0 - 35
2158068	Perfluorohexanoic acid (PFHxA)	21.4	Spike	P	0 - 35
2158068	Perfluorononanesulfonic acid (PFNS)	43.2	Spike	F	0 - 35
2158068	Perfluorononanoic acid (PFNA)	3.03	Spike	P	0 - 35
2158068	Perfluorooctanesulfonic acid (PFOS)	51.9	Spike	F	0 - 35
2158068	Perfluorooctanoic acid (PFOA)	22.4	Spike	P	0 - 35
2158068	Perfluoropentanesulfonic acid (PFPeS)	41.8	Spike	F	0 - 35
2158068	Perfluoropentanoic acid (PFPeA)	13.6	Spike	P	0 - 35
2158068	Perfluorotetradecanoic acid (PFTeA)	50.7	Spike	F	0 - 35
2158068	Perfluorotridecanoic acid (PFTriA)	40.5	Spike	F	0 - 35
2158068	Perfluoroundecanoic acid (PFUnA)	44.0	Spike	F	0 - 35

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2158049
Field Sample ID: IDW-5

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	2-Fluorobiphenyl	89.1	P	30 - 150
EPA 8270E	2-Fluorophenol	95.2	P	20 - 150
EPA 8270E	2,4,6-Tribromophenol	123	P	30 - 150
EPA 8270E	Nitrobenzene-d5	87.0	P	30 - 150
EPA 8270E	Phenol-d5	103	P	20 - 150
EPA 8270E	Terphenyl-d14	127	P	30 - 150

Lab Sample ID: 2158069
Field Sample ID: IDW-5

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	118	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	150	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	137	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	159	P	30 - 160

Lab Sample ID: 2158093
Field Sample ID: IDW-5

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8260D	1,2-Dichloroethane-d4	104	P	70 - 130
EPA 8260D	1,4-Dichlorobenzene-d4	104	P	70 - 130
EPA 8260D	Dibromofluoromethane	103	P	70 - 130
EPA 8260D	Toluene-d8	89.7	P	70 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8260D
Run ID: A97818
Included Lab Sample IDs: 2158093

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1,1-Dichloroethane	93.0		P	70 - 130
1,1-Dichloroethene	86.5		P	70 - 130
1,1,1-Trichloroethane	92.5		P	70 - 130
1,1,2-Trichloroethane	101		P	70 - 130
1,1,2,2-Tetrachloroethane	105		P	70 - 130
1,2-Dichlorobenzene	92.7		P	70 - 130
1,2-Dichloroethane	96.0		P	70 - 130
1,2-Dichloropropane	90.4		P	70 - 130
1,3-Dichlorobenzene	90.8		P	70 - 130
1,4-Dichlorobenzene	95.2		P	70 - 130
2-Butanone	88.4		P	70 - 130
Benzene	91.9		P	70 - 130
Bromodichloromethane	94.8		P	70 - 130
Bromoform	100		P	70 - 130
Bromomethane	92.6		P	70 - 130
Carbon tetrachloride	91.8		P	70 - 130
Chlorobenzene	97.4		P	70 - 130
Chloroethane	91.6		P	70 - 130
Chloroform	93.9		P	70 - 130
Chloromethane	97.8		P	70 - 130
cis-1,2-Dichloroethene	85.5		P	70 - 130
cis-1,3-Dichloropropene	90.1		P	70 - 130
Dibromochloromethane	101		P	70 - 130
Ethylbenzene	98.7		P	70 - 130
m,p-Xylene	101		P	70 - 130
Methyl-t-butyl ether	91.5		P	70 - 130
Methylene chloride	94.5		P	70 - 130
o-Xylene	97.8		P	70 - 130
Tetrachloroethene	96.2		P	70 - 130
Toluene	89.7		P	70 - 130
trans-1,2-Dichloroethene	88.0		P	70 - 130
trans-1,3-Dichloropropene	95.5		P	70 - 130
Trichloroethene	93.4		P	70 - 130
Trichlorofluoromethane	88.4		P	70 - 130
Vinyl chloride	89.6		P	70 - 130

Reference Method: EPA 8270E
Run ID: A97869
Included Lab Sample IDs: 2158049

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
1,2,4-Trichlorobenzene	103		P	70 - 130
2-Chloronaphthalene	104		P	70 - 130
2-Chlorophenol	106		P	70 - 130
2-Methyl-4,6-dinitrophenol	128		P	70 - 130
2-Nitrophenol	99.8		P	70 - 130
2,4-Dichlorophenol	106		P	70 - 130
2,4-Dimethylphenol	99.7		P	70 - 130
2,4-Dinitrophenol	118		P	70 - 130
2,4-Dinitrotoluene	101		P	70 - 130
2,4,6-Trichlorophenol	98.0		P	70 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A97869
Included Lab Sample IDs: 2158049

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,6-Dinitrotoluene	112		P	70 - 130
3,3'-Dichlorobenzidine	98.9		P	50 - 130
4-Bromophenyl phenyl ether	102		P	70 - 130
4-Chloro-3-methylphenol	108		P	70 - 130
4-Chlorophenyl phenyl ether	104		P	70 - 130
4-Nitrophenol	94.0		P	70 - 130
Acenaphthene	101		P	70 - 130
Acenaphthylene	101		P	70 - 130
Anthracene	101		P	70 - 130
Azobenzene/1,2-Diphenylhydrazine	95.6		P	70 - 130
Benzidine	65.0		P	50 - 130
Benzo(a)anthracene	101		P	70 - 130
Benzo(a)pyrene	103		P	70 - 130
Benzo(b)fluoranthene	107		P	70 - 130
Benzo(g,h,i)perylene	107		P	70 - 130
Benzo(k)fluoranthene	95.2		P	70 - 130
Bis(2-chloroethoxy)methane	98.2		P	70 - 130
Bis(2-chloroethyl)ether	107		P	70 - 130
Bis(2-chloroisopropyl)ether	70.1		P	70 - 130
Bis(2-ethylhexyl)phthalate	106		P	70 - 130
Butyl benzyl phthalate	104		P	70 - 130
Chrysene	100		P	70 - 130
Di-n-butyl phthalate	101		P	70 - 130
Di-n-octyl phthalate	104		P	70 - 130
Dibenzo(a,h)anthracene	105		P	70 - 130
Diethyl phthalate	97.7		P	70 - 130
Dimethyl phthalate	107		P	70 - 130
Fluoranthene	99.3		P	70 - 130
Fluorene	96.0		P	70 - 130
Hexachlorobenzene	105		P	70 - 130
Hexachlorobutadiene	102		P	70 - 130
Hexachlorocyclopentadiene	125		P	70 - 130
Hexachloroethane	105		P	70 - 130
Indeno(1,2,3-cd)pyrene	106		P	70 - 130
Isophorone	96.8		P	70 - 130
N-Nitrosodi-n-propylamine	96.0		P	70 - 130
N-Nitrosodimethylamine	79.2		P	70 - 130
N-Nitrosodiphenylamine/ Diphenylamine	106		P	70 - 130
Naphthalene	101		P	70 - 130
Nitrobenzene	94.4		P	70 - 130
Pentachlorophenol	97.3		P	70 - 130
Phenanthrene	101		P	70 - 130
Phenol	102		P	70 - 130
Pyrene	100		P	70 - 130

Reference Method: EPA 6020A
Run ID: A97919
Included Lab Sample IDs: 2158051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	104	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 6020A
Run ID: A97919
Included Lab Sample IDs: 2158051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	95.8	97.4	P/P	90 - 110
Cadmium	97.6	97.9	P/P	90 - 110
Chromium	103	103	P/P	90 - 110
Lead	102	99.9	P/P	90 - 110
Selenium	98.7	98.4	P/P	90 - 110
Silver	94.3	93.9	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A97947
Included Lab Sample IDs: 2158069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	69.2	64.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	72.0	77.1	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	102	93.9	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	68.8	69.4	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	68.0	69.3	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	70.6	68.2	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	90.6	90.8	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	64.5	61.5	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	93.6	66.0	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	76.3	69.7	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	94.7	80.4	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	67.7	66.3	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	84.1	83.7	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	64.8	62.5	P/P	60 - 160
Perfluorononanoic acid (PFNA)	75.7	90.7	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	75.2	72.6	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	93.3	81.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	79.8	78.9	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	85.5	88.4	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	63.6	66.7	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	81.4	75.7	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	109	105	P/P	60 - 160

Reference Method: EPA 7473
Run ID: A97960
Included Lab Sample IDs: 2158050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mercury	105	105	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
 Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
 Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 6020A	Arsenic	113		102	97.9			4.09
	Barium	109		105	101			3.05
	Cadmium	106		101	98.4			2.51
	Chromium	113		113	111			1.58
	Lead	111		108	105			2.08
	Selenium	107		100	95.5			5.02
	Silver	110		106	102			4.02
EPA 7473	Mercury	99.2		97.8	98.0			0.170
EPA 8260D	1,1-Dichloroethane	113	98.5	107	106	13.5		0.801
	1,1-Dichloroethene	112	106	113	113	5.56		0.0176
	1,1,1-Trichloroethane	117	109	118	116	7.33		1.61
	1,1,2-Trichloroethane	101	87.2	93.6	90.2	14.4		3.76
	1,1,2,2-Tetrachloroethane	106	98.7	99.8	97.7	7.38		2.16
	1,2-Dichlorobenzene	105	92.2	100	96.1	12.9		4.15
	1,2-Dichloroethane	107	92.4	95.8	96.1	14.9		0.302
	1,2-Dichloropropane	104	86.4	94.4	95.2	18.8		0.886
	1,3-Dichlorobenzene	104	92.6	102	96.0	11.7		5.62
	1,4-Dichlorobenzene	108	96.9	106	101	11.3		4.98
	2-Butanone	93.6	84.2	83.3	78.2	10.6		6.24
	Benzene	110	95.9	105	104	13.7		1.06
	Bromodichloromethane	115	94.6	105	105	19.7		0.363
	Bromoform	108	92.4	96.2	94.2	15.4		2.10
	Bromomethane	107	93.1	102	100	14.3		1.87
	Carbon tetrachloride	113	107	114	111	5.61		2.62
	Chlorobenzene	112	94.7	107	105	16.7		2.25
	Chloroethane	108	97.8	106	104	9.88		2.60
	Chloroform	116	98.3	109	108	16.2		1.28
	Chloromethane	106	93.1	99.4	101	13.1		1.78
	cis-1,2-Dichloroethene	101	85.7	95.9	94.5	16.3		1.47
	cis-1,3-Dichloropropene	105	86.8	95.0	96.0	18.5		1.11
	Dibromochloromethane	113	93.9	104	103	18.6		0.541
	Ethylbenzene	123	106	119	117	14.8		2.45
	m,p-Xylene	124	107	120	117	14.4		2.47
	Methyl-t-butyl ether	104	86.5	91.1	91.2	18.0		0.0988
	Methylene chloride	112	90.6	104	106	21.0		1.64
	o-Xylene	131	111	125	125	17.1		0.359
	Tetrachloroethene	121	109	120	115	10.1		3.92
	Toluene	109	95.7	106	104	13.5		1.26
	trans-1,2-Dichloroethene	113	99.0	109	108	13.5		1.07
trans-1,3-Dichloropropene	104	85.4	94.7	95.6	19.7		0.957	
Trichloroethene	123	109	119	116	12.0		2.27	
Trichlorofluoromethane	106	102	109	107	3.88		1.89	
Vinyl chloride	113	106	113	112	6.21		1.24	
EPA 8270E	1,2,4-Trichlorobenzene	90.3		94.2	92.1			2.28
	2-Chloronaphthalene	103		112	115			2.88
	2-Chlorophenol	97.5		109	112			2.56
	2-Methyl-4,6-dinitrophenol	103		113	121			7.19
	2-Nitrophenol	79.4		90.2	95.0			5.27
	2,4-Dichlorophenol	111		118	123			4.31
	2,4-Dimethylphenol	103		104	106			1.82
	2,4-Dinitrophenol	94.8		125	125			0.160
	2,4-Dinitrotoluene	122		129	136			5.35
	2,4,6-Trichlorophenol	119		129	133			2.72
2,6-Dinitrotoluene	132		127	137			7.13	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
		LCS	SMP	LCS	SMP	SMP	MS
EPA 8270E	3,3'-Dichlorobenzidine	180		206	222		7.66
	4-Bromophenyl phenyl ether	126		129	131		1.50
	4-Chloro-3-methylphenol	125		127	132		3.37
	4-Chlorophenyl phenyl ether	121		129	133		3.48
	4-Nitrophenol	97.9		111	114		2.10
	Acenaphthene	110		118	122		2.80
	Acenaphthylene	109		119	122		2.33
	Anthracene	121		123	126		2.09
	Azobenzene/1,2-Diphenylhydrazine	114		116	119		1.91
	Benzidine	109		217	206		5.28
	Benzo(a)anthracene	132		136	141		3.95
	Benzo(a)pyrene	122		121	124		2.12
	Benzo(b)fluoranthene	128		132	130		0.855
	Benzo(g,h,i)perylene	129		128	131		2.28
	Benzo(k)fluoranthene	112		106	112		5.79
	Bis(2-chloroethoxy)methane	93.0		102	108		5.51
	Bis(2-chloroethyl)ether	85.2		98.8	98.1		0.772
	Bis(2-chloroisopropyl)ether	55.8		61.2	62.0		1.17
	Bis(2-ethylhexyl)phthalate	147		152	162		6.23
	Butyl benzyl phthalate	138		140	147		5.27
	Chrysene	135		140	145		4.13
	Di-n-butyl phthalate	144		152	136		11.1
	Di-n-octyl phthalate	121		118	121		2.18
	Dibenzo(a,h)anthracene	128		127	131		2.57
	Diethyl phthalate	120		125	130		4.26
	Dimethyl phthalate	122		130	134		3.06
	Fluoranthene	122		122	126		3.20
	Fluorene	108		116	120		3.39
	Hexachlorobenzene	130		134	138		2.83
	Hexachlorobutadiene	89.3		87.0	81.6		6.36
	Hexachlorocyclopentadiene	104		102	94.4		8.06
	Hexachloroethane	75.5		71.2	61.4		14.8
	Indeno(1,2,3-cd)pyrene	129		128	131		2.29
	Isophorone	92.9		99.1	104		5.04
	N-Nitrosodi-n-propylamine	85.5		94.1	97.7		3.75
	N-Nitrosodimethylamine	70.5		84.2	86.8		2.99
	N-Nitrosodiphenylamine/ Diphenylamine	103		101	111		9.34
	Naphthalene	90.1		96.6	98.2		1.64
	Nitrobenzene	83.8		93.5	96.3		2.91
	Pentachlorophenol	122		126	127		0.725
	Phenanthrene	123		124	126		1.60
	Phenol	94.3		102	106		4.51
Pyrene	129		132	139		5.07	
EPA 8321B	4:2 Fluorotelomer sulfonate (4:2 FTS)	107		172	79.5		73.5
	6:2 Fluorotelomer sulfonate (6:2 FTS)	92.5		129	108		17.8
	8:2 Fluorotelomer sulfonate (8:2 FTS)	125		168	148		12.5
	N-Et perfluorooctanesulfonamidoAc acid	79.7		84.5	64.4		27.0
	N-Me perfluorooctanesulfonamidoAc acid	78.7		81.8	65.7		21.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS	MS		
EPA 8321B	Perfluorobutanesulfonic acid (PFBS)	93.5	137	86.8		44.8
	Perfluorodecanesulfonic acid (PFDS)	114	139	121		14.3
	Perfluorodecanoic acid (PFDA)	79.8	134	92.3		36.9
	Perfluorododecanoic acid (PFDoA)	89.2	196	89.3		74.8
	Perfluoroheptanesulfonic acid (PFHpS)	91.8	116	102		12.0
	Perfluoroheptanoic acid (PFHpA)	85.7	152	116		20.8
	Perfluorohexanesulfonic acid (PFHxS)	87.2	150	80.4		54.8
	Perfluorohexanoic acid (PFHxA)	117	178	135		21.4
	Perfluoronanesulfonic acid (PFNS)	89.6	126	81.2		43.2
	Perfluoronanoic acid (PFNA)	104	122	126		3.03
	Perfluorooctanesulfonic acid (PFOS)	95.8	232	107		51.9
	Perfluorooctanoic acid (PFOA)	99.6	120	91.7		22.4
	Perfluoropentanesulfonic acid (PFPeS)	96.1	150	97.8		41.8
	Perfluoropentanoic acid (PFPeA)	98.1	152	127		13.6
	Perfluorotetradecanoic acid (PFTeA)	97.8	140	83.4		50.7
	Perfluorotridecanoic acid (PFTriA)	124	151	100		40.5
	Perfluoroundecanoic acid (PFUnA)	121	196	125		44.0

Reference Method Descriptions

Method	Description	Associated Samples
EPA 6020A	Metals, total recoverable, in solid samples using ICP mass spectrometry	2158051
EPA 7473	Mercury in solid samples using thermal decomposition, amalgamation and AA spectroscopy, reported as dry weight.	2158050
EPA 8260D	Volatile organic pollutants in soil matrix using GC/MS (heated purge - low level)	2158093
EPA 8270E	Semi-volatile organic pollutants, excluding PCBs and Toxaphene, in soil/sediments by GC/MS.	2158049
EPA 8321B	Perfluorinated alkyl substances in sediment/solid matrices by HPLC/MS/MS	2158069
SM 2540 G (20th)	Percent solid determination before the other sample preparations.	2158094

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 6020A	02/17/2020	02/21/2020 11:50	Elliott D. Healy	03/02/2020 22:06	Alexander Thompson	2158051
EPA 7473	02/17/2020			03/03/2020 12:03	Vijayalakshmi Reddy	2158050
EPA 8260D	02/17/2020	02/25/2020 11:00	Yi Lin Luo	02/25/2020 16:09	Yi Lin Luo	2158093
EPA 8270E	02/17/2020	02/27/2020 09:00	Hoor Shaik	02/27/2020 14:36	Mohammad Ghaffari	2158049
EPA 8321B	02/17/2020	02/22/2020 11:30	Rasheda Ghaffari	03/03/2020 00:25	Mohammad Ghaffari	2158069

Chemical Analysis Report

SIS-2020-03-06-02

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

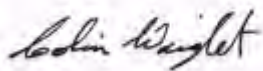
Event Description: **Indian River State College (IRSC)**
Request ID: **RQ-2020-03-02-74**
Customer: **SIS**
Project ID: **SIS-PFAS**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Road
Twin Towers Bldg. MS# 4515
Tallahassee, FL 32399
Attn: Jeff Newton

For additional information please contact
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Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 16-APR-2020 14:41



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: IRSC

Collection Date/Time: 03/03/2020 11:31

Field ID: SB-14(2-4')

Matrix: S-SOIL

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163136	EPA 8321B	Perfluorobutanesulfonic acid (PFBS)**	0.52		ug/Kg	P381419	
		Perfluorodecanoic acid (PFDA)**	0.16	I	ug/Kg	P381419	
		Perfluorododecanoic acid (PFDoA)**	0.11	U	ug/Kg	P381419	
		Perfluoroheptanoic acid (PFHpA)**	2.6		ug/Kg	P381419	
		Perfluorohexanesulfonic acid (PFHxS)**	24		ug/Kg	P381419	
		Perfluorohexanoic acid (PFHxA)**	3.4		ug/Kg	P381419	
		Perfluorononanoic acid (PFNA)**	9.7		ug/Kg	P381419	
		Perfluorooctanesulfonic acid (PFOS)**	270		ug/Kg	P381419	
		Perfluorooctanoic acid (PFOA)**	10		ug/Kg	P381419	
		Perfluorotetradecanoic acid (PFTeA)**	0.11	U	ug/Kg	P381419	
		Perfluorotridecanoic acid (PFTriA)**	0.11	U	ug/Kg	P381419	
		Perfluoroundecanoic acid (PFUnA)**	0.11	U	ug/Kg	P381419	
		N-Me perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P381419	
		N-Et perfluorooctanesulfonamidoAc acid**	0.11	U	ug/Kg	P381419	
		Perfluoropentanoic acid (PFPeA)**	3.9		ug/Kg	P381419	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	0.23	U	ug/Kg	P381419	
		Perfluoropentanesulfonic acid (PFPeS)**	0.99		ug/Kg	P381419	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	29		ug/Kg	P381419	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	0.23	U	ug/Kg	P381419	
		Perfluoroheptanesulfonic acid (PFHpS)**	1.8		ug/Kg	P381419	
		Perfluorononanesulfonic acid (PFNS)**	0.11	U	ug/Kg	P381419	
		Perfluorodecanesulfonic acid (PFDS)**	0.11	U	ug/Kg	P381419	
2163137	SM 2540 G (20th)	% Solid**	91.0	A	%	P380724	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P381419

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	0.19	U	ug/Kg
6:2 Fluorotelomer sulfonate (6:2 FTS)	0.38	U	ug/Kg
8:2 Fluorotelomer sulfonate (8:2 FTS)	0.19	U	ug/Kg
N-Et perfluorooctanesulfonamidoAc acid	0.096	U	ug/Kg
N-Me perfluorooctanesulfonamidoAc acid	0.096	U	ug/Kg
Perfluorobutanesulfonic acid (PFBS)	0.096	U	ug/Kg
Perfluorodecanesulfonic acid (PFDS)	0.096	U	ug/Kg
Perfluorodecanoic acid (PFDA)	0.096	U	ug/Kg
Perfluorododecanoic acid (PFDoA)	0.096	U	ug/Kg
Perfluoroheptanesulfonic acid (PFHpS)	0.096	U	ug/Kg
Perfluoroheptanoic acid (PFHpA)	0.19	U	ug/Kg
Perfluorohexanesulfonic acid (PFHxS)	0.096	U	ug/Kg
Perfluorohexanoic acid (PFHxA)	0.19	U	ug/Kg
Perfluorononanesulfonic acid (PFNS)	0.096	U	ug/Kg
Perfluorononanoic acid (PFNA)	0.096	U	ug/Kg
Perfluorooctanesulfonic acid (PFOS)	0.19	U	ug/Kg
Perfluorooctanoic acid (PFOA)	0.096	U	ug/Kg
Perfluoropentanesulfonic acid (PFPeS)	0.096	U	ug/Kg
Perfluoropentanoic acid (PFPeA)	0.38	U	ug/Kg
Perfluorotetradecanoic acid (PFTeA)	0.096	U	ug/Kg
Perfluorotridecanoic acid (PFTriA)	0.096	U	ug/Kg
Perfluoroundecanoic acid (PFUnA)	0.096	U	ug/Kg

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P381419

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	85.2		P	40 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	90.4		P	40 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	157		P	40 - 160
N-Et perfluorooctanesulfonamidoAc acid	133		P	40 - 160
N-Me perfluorooctanesulfonamidoAc acid	89.1		P	40 - 160
Perfluorobutanesulfonic acid (PFBS)	107		P	40 - 160
Perfluorodecanesulfonic acid (PFDS)	130		P	40 - 160
Perfluorodecanoic acid (PFDA)	79.9		P	40 - 160
Perfluorododecanoic acid (PFDoA)	113		P	40 - 160
Perfluoroheptanesulfonic acid (PFHpS)	121		P	40 - 160
Perfluoroheptanoic acid (PFHpA)	103		P	40 - 160
Perfluorohexanesulfonic acid (PFHxS)	155		P	40 - 160
Perfluorohexanoic acid (PFHxA)	156		P	40 - 160
Perfluorononanesulfonic acid (PFNS)	158		P	40 - 160
Perfluorononanoic acid (PFNA)	129		P	40 - 160
Perfluorooctanesulfonic acid (PFOS)	130		P	40 - 160
Perfluorooctanoic acid (PFOA)	137		P	40 - 160
Perfluoropentanesulfonic acid (PFPeS)	129		P	40 - 160
Perfluoropentanoic acid (PFPeA)	134		P	40 - 160
Perfluorotetradecanoic acid (PFTeA)	97.0		P	40 - 160
Perfluorotridecanoic acid (PFTriA)	151		P	40 - 160
Perfluoroundecanoic acid (PFUnA)	110		P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P381419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163136	4:2 Fluorotelomer sulfonate (4:2 FTS)	70.0	66.0	P/P	40 - 160
2163136	8:2 Fluorotelomer sulfonate (8:2 FTS)	153	157	P/P	40 - 160
2163136	N-Et perfluorooctanesulfonamidoAc acid	77.0	77.7	P/P	40 - 160
2163136	N-Me perfluorooctanesulfonamidoAc acid	66.0	69.3	P/P	40 - 160
2163136	Perfluorobutanesulfonic acid (PFBS)	115	129	P/P	40 - 160
2163136	Perfluorodecanesulfonic acid (PFDS)	91.3	93.1	P/P	40 - 160
2163136	Perfluorodecanoic acid (PFDA)	119	121	P/P	40 - 160
2163136	Perfluorododecanoic acid (PFDoA)	89.4	77.6	P/P	40 - 160
2163136	Perfluoroheptanesulfonic acid (PFHpS)	84.7	84.8	P/P	40 - 160
2163136	Perfluorononanesulfonic acid (PFNS)	120	121	P/P	40 - 160
2163136	Perfluoropentanesulfonic acid (PFPeS)	89.5	88.1	P/P	40 - 160
2163136	Perfluoropentanoic acid (PFPeA)	102	103	P/P	40 - 160
2163136	Perfluorotetradecanoic acid (PFTeA)	77.1	77.7	P/P	40 - 160
2163136	Perfluorotridecanoic acid (PFTriA)	120	111	P/P	40 - 160
2163136	Perfluoroundecanoic acid (PFUnA)	94.2	100	P/P	40 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P381419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163136	4:2 Fluorotelomer sulfonate (4:2 FTS)	5.90	Spike	P	0 - 35
2163136	6:2 Fluorotelomer sulfonate (6:2 FTS)	2.32	Spike	P	0 - 35
2163136	8:2 Fluorotelomer sulfonate (8:2 FTS)	2.79	Spike	P	0 - 35
2163136	N-Et perfluorooctanesulfonamidoAc acid	0.962	Spike	P	0 - 35
2163136	N-Me perfluorooctanesulfonamidoAc acid	4.95	Spike	P	0 - 35
2163136	Perfluorobutanesulfonic acid (PFBS)	8.28	Spike	P	0 - 35
2163136	Perfluorodecanesulfonic acid (PFDS)	1.93	Spike	P	0 - 35
2163136	Perfluorodecanoic acid (PFDA)	1.02	Spike	P	0 - 35
2163136	Perfluorododecanoic acid (PFDoA)	14.2	Spike	P	0 - 35
2163136	Perfluoroheptanesulfonic acid (PFHpS)	1.41	Spike	P	0 - 35
2163136	Perfluoroheptanoic acid (PFHpA)	7.05	Spike	P	0 - 35
2163136	Perfluorohexanesulfonic acid (PFHxS)	4.80	Spike	P	0 - 35
2163136	Perfluorohexanoic acid (PFHxA)	10.7	Spike	P	0 - 35
2163136	Perfluorononanesulfonic acid (PFNS)	0.644	Spike	P	0 - 35
2163136	Perfluorononanoic acid (PFNA)	0.135	Spike	P	0 - 35
2163136	Perfluorooctanesulfonic acid (PFOS)	3.01	Spike	P	0 - 35
2163136	Perfluorooctanoic acid (PFOA)	7.73	Spike	P	0 - 35
2163136	Perfluoropentanesulfonic acid (PFPeS)	2.07	Spike	P	0 - 35
2163136	Perfluoropentanoic acid (PFPeA)	1.60	Spike	P	0 - 35
2163136	Perfluorotetradecanoic acid (PFTeA)	0.778	Spike	P	0 - 35
2163136	Perfluorotridecanoic acid (PFTriA)	8.00	Spike	P	0 - 35
2163136	Perfluoroundecanoic acid (PFUnA)	5.91	Spike	P	0 - 35

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2163136
Field Sample ID: SB-14(2-4')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	104	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	108	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	82.1	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	86.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A98652
Included Lab Sample IDs: 2163136

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorooctanesulfonic acid (PFOS)	139	149	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A98659
Included Lab Sample IDs: 2163136

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	70.2	73.2	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	139	88.5	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	159	92.7	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	123	85.3	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	83.0	78.6	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	139	81.9	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	117	75.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	133	69.1	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	124	62.6	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	107	81.0	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	135	69.4	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	129	72.3	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	152	90.8	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	125	78.7	P/P	60 - 160
Perfluorononanoic acid (PFNA)	123	84.8	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	128	71.7	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	118	73.6	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	113	74.8	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	72.5	67.5	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	117	84.4	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	84.0	83.0	P/P	60 - 160

* Pass/Fail determinations are made for each bracketing calibration verification check.
 Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
 Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS	MS		
EPA 8321B	4:2 Fluorotelomer sulfonate (4:2 FTS)	85.2	70.0	66.0		5.90
	6:2 Fluorotelomer sulfonate (6:2 FTS)	90.4				2.32
	8:2 Fluorotelomer sulfonate (8:2 FTS)	157	153	157		2.79
	N-Et perfluorooctanesulfonamidoAc acid	133	77.0	77.7		0.962
	N-Me perfluorooctanesulfonamidoAc acid	89.1	66.0	69.3		4.95
	Perfluorobutanesulfonic acid (PFBS)	107	115	129		8.28
	Perfluorodecanesulfonic acid (PFDS)	130	91.3	93.1		1.93
	Perfluorodecanoic acid (PFDA)	79.9	119	121		1.02
	Perfluorododecanoic acid (PFDoA)	113	89.4	77.6		14.2
	Perfluoroheptanesulfonic acid (PFHpS)	121	84.7	84.8		1.41
	Perfluoroheptanoic acid (PFHpA)	103				7.05
	Perfluorohexanesulfonic acid (PFHxS)	155				4.80
	Perfluorohexanoic acid (PFHxA)	156				10.7
	Perfluorononanesulfonic acid (PFNS)	158	120	121		0.644
	Perfluorononanoic acid (PFNA)	129				0.135
	Perfluorooctanesulfonic acid (PFOS)	130				3.01
	Perfluorooctanoic acid (PFOA)	137				7.73
	Perfluoropentanesulfonic acid (PFPeS)	129	89.5	88.1		2.07
	Perfluoropentanoic acid (PFPeA)	134	102	103		1.60
	Perfluorotetradecanoic acid (PFTeA)	97.0	77.1	77.7		0.778
	Perfluorotridecanoic acid (PFTriA)	151	120	111		8.00
	Perfluoroundecanoic acid (PFUnA)	110	94.2	100		5.91

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Perfluorinated alkyl substances in sediment/solid matrices by HPLC/MS/MS	2163136
SM 2540 G (20th)	Percent solid determination before the other sample preparations.	2163137

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/06/2020	03/30/2020 14:00	Pramila Ghimire	04/01/2020 00:13	Pramila Ghimire	2163136
	03/06/2020	03/30/2020 14:00	Pramila Ghimire	04/03/2020 20:47	Pramila Ghimire	2163136

Chemical Analysis Report

SIS-2020-03-06-03

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

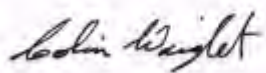
Event Description: **Current Indian River State College Fire Training Facility**
Request ID: **RQ-2020-03-09-08**
Customer: **SIS**
Project ID: **SIS-PFAS**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Road
Twin Towers Bldg. MS# 4515
Tallahassee, FL 32399
Attn: Jeff Newton

For additional information please contact
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Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 03-APR-2020 10:07



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/03/2020 09:26

Field ID: DEPMW-1 (5-15')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163138	EPA 8321B	Perfluorooctanoic acid (PFOA)**	74		ng/L	P380269	
		Perfluorooctanesulfonic acid (PFOS)**	760		ng/L	P380269	
		Perfluorobutanesulfonic acid (PFBS)**	21		ng/L	P380269	
		Perfluorodecanoic acid (PFDA)**	2.2	I	ng/L	P380269	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380269	
		Perfluoroheptanoic acid (PFHpA)**	150	J	ng/L	P380269	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	240		ng/L	P380269	
		Perfluorohexanoic acid (PFHxA)**	120		ng/L	P380269	
		Perfluorononanoic acid (PFNA)**	43		ng/L	P380269	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380269	
		Perfluorotridecanoic acid (PFTriA)**	0.40	UJ	ng/L	P380269	RPD
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380269	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380269	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380269	
		Perfluoropentanoic acid (PFPeA)**	330		ng/L	P380269	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380269	
		Perfluoropentanesulfonic acid (PFPeS)**	26		ng/L	P380269	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	26		ng/L	P380269	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380269	
		Perfluoroheptanesulfonic acid (PFHpS)**	17		ng/L	P380269	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380269	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380269	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/03/2020 09:26

Field ID: DEPMW-1 (5-15')DUP

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163139	EPA 8321B	Perfluorooctanoic acid (PFOA)**	74		ng/L	P380269	
		Perfluorooctanesulfonic acid (PFOS)**	890		ng/L	P380269	
		Perfluorobutanesulfonic acid (PFBS)**	22		ng/L	P380269	
		Perfluorodecanoic acid (PFDA)**	2.9	I	ng/L	P380269	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380269	
		Perfluoroheptanoic acid (PFHpA)**	160	J	ng/L	P380269	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	230		ng/L	P380269	
		Perfluorohexanoic acid (PFHxA)**	130		ng/L	P380269	
		Perfluorononanoic acid (PFNA)**	48		ng/L	P380269	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380269	
		Perfluorotridecanoic acid (PFTriA)**	0.40	UJ	ng/L	P380269	RPD
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380269	
		N-Me perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P380269	
		N-Et perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P380269	
		Perfluoropentanoic acid (PFPeA)**	340		ng/L	P380269	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380269	
		Perfluoropentanesulfonic acid (PFPeS)**	27		ng/L	P380269	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	27		ng/L	P380269	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380269	
		Perfluoroheptanesulfonic acid (PFHpS)**	16		ng/L	P380269	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380269	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380269	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/03/2020 09:30

Field ID: FRB-3

Matrix: W-FRB

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163155	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/03/2020 10:52

Field ID: DEPMW-2 (7-17')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163140	EPA 8321B	Perfluorooctanoic acid (PFOA)**	34		ng/L	P380269	
		Perfluorooctanesulfonic acid (PFOS)**	500		ng/L	P380269	
		Perfluorobutanesulfonic acid (PFBS)**	41		ng/L	P380269	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380269	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380269	
		Perfluoroheptanoic acid (PFHpA)**	97	J	ng/L	P380269	RPD
		Perfluorohexanesulfonic acid (PFHxS)**	170		ng/L	P380269	
		Perfluorohexanoic acid (PFHxA)**	460		ng/L	P380269	
		Perfluorononanoic acid (PFNA)**	15		ng/L	P380269	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380269	
		Perfluorotridecanoic acid (PFTriA)**	0.40	UJ	ng/L	P380269	RPD
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380269	
		N-Me perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P380269	
		N-Et perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P380269	
		Perfluoropentanoic acid (PFPeA)**	620		ng/L	P380269	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380269	
		Perfluoropentanesulfonic acid (PFPeS)**	29		ng/L	P380269	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	26		ng/L	P380269	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	5.2	I	ng/L	P380269	
		Perfluoroheptanesulfonic acid (PFHpS)**	8.3		ng/L	P380269	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380269	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380269	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/03/2020 11:16

Field ID: EQB-12

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163152	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/03/2020 11:57

Field ID: DEPMW-8 (7-17')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163141	EPA 8321B	Perfluorooctanoic acid (PFOA)**	12		ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	190		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	5.0		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	6.5	I	ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	8.9		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	6.5	I	ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	9.0	I	ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	2.3		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	1.7		ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/03/2020 12:53

Field ID: DEPMW-3 (7-17')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163142	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.9E+03		ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	1.1E+04		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	770		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	2.2	I	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	4.0E+03		ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	1.1E+04		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	9.3E+03		ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	230		ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.1	I	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	1.0E+04		ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	9.4		ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	1.5E+03		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	2.0E+04		ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	200	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	620		ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/03/2020 15:05

Field ID: DEPMW-12 (5-15')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163143	EPA 8321B	Perfluorooctanoic acid (PFOA)**	3.8	I	ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	23		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	5.5		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	2.3	I	ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	7.1		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	I	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	0.66	I	ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.47	I	ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/03/2020 16:05

Field ID: DEPMW-10 (5-15')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163144	EPA 8321B	Perfluorooctanoic acid (PFOA)**	15		ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	710		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	38		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	59		ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	67		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	46		ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	1.7	I	ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	54		ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	6.6		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	3.4		ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/04/2020 08:45

Field ID: DEPMW-11 (5-15')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163145	EPA 8321B	Perfluorooctanoic acid (PFOA)**	26		ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	410		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	15		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	17		ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	20		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	7.5	I	ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	10	I	ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	6.5		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	1.1	I	ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/04/2020 09:40

Field ID: DEPMW-5 (5-15')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163146	EPA 8321B	Perfluorooctanoic acid (PFOA)**	430		ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	1.7E+03		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	140		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	24		ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	860		ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	4.4E+03		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	1.2E+03		ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	62		ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	1.5E+03		ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	300		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.3E+03		ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	83		ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	51	I	ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/04/2020 09:40

Field ID: DEPMW-5 (5-15')DUP

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163147	EPA 8321B	Perfluorooctanoic acid (PFOA)**	390	I	ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	1.4E+03		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	160		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	22		ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	960		ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	5.1E+03		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	1.2E+03		ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	56		ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	1.5E+03		ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	340		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	1.3E+03		ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	79		ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	60	I	ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/04/2020 10:42

Field ID: DEPMW-6 (7-17')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163148	EPA 8321B	Perfluorooctanoic acid (PFOA)**	450		ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	4.1E+03		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	280		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	1.8E+03		ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	2.8E+03		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	3.6E+03		ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	95		ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	3.9E+03		ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.9	I	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	690		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	3.9E+03		ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	60		ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/04/2020 11:33

Field ID: DEPMW-9 (7-17')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163149	EPA 8321B	Perfluorooctanoic acid (PFOA)**	110		ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	540		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	34		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	330		ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	380		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	210		ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	14		ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.58	I	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	180		ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	50		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	26		ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.5	I	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	13		ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/04/2020 13:16

Field ID: EQB-13

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163153	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/04/2020 16:30

Field ID: DEPMW-7 (5-15')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163150	EPA 8321B	Perfluorooctanoic acid (PFOA)**	420		ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	380		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	92		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	1.5E+03		ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	240		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	4.2E+03		ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	58		ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.1	I	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	5.6E+03		ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.4	I	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	26		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	5.9E+03		ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	12		ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/05/2020 08:26

Field ID: DEPMW-4 (7-17')

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163151	EPA 8321B	Perfluorooctanoic acid (PFOA)**	18		ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	420		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	3.4		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	18		ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	15		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	12		ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	1.3	I	ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	10	I	ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	2.7		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	4.3		ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: Indian River State College FTF

Collection Date/Time: 03/05/2020 08:39

Field ID: EQB-14

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2163154	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	U	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P380269

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	2.0	U	ng/L
6:2 Fluorotelomer sulfonate (6:2 FTS)	4.0	U	ng/L
8:2 Fluorotelomer sulfonate (8:2 FTS)	2.0	U	ng/L
N-Et perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
N-Me perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	1.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	1.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.40	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.40	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	1.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	1.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	0.40	U	ng/L
Perfluorotridecanoic acid (PFTriA)	0.40	U	ng/L
Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L

Reference Method: EPA 8321B
Batch ID: P380554

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	2.0	U	ng/L
6:2 Fluorotelomer sulfonate (6:2 FTS)	4.0	U	ng/L
8:2 Fluorotelomer sulfonate (8:2 FTS)	2.0	U	ng/L
N-Et perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
N-Me perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	1.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	1.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.40	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.40	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	1.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	1.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	0.40	U	ng/L
Perfluorotridecanoic acid (PFTriA)	0.40	U	ng/L
Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P380269

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	130	135	P/P	30 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	113	150	P/P	30 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	154	156	P/P	30 - 160
N-Et perfluorooctanesulfonamidoAc acid	74.9	83.3	P/P	30 - 160
N-Me perfluorooctanesulfonamidoAc acid	102	119	P/P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	110	114	P/P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	70.1	89.4	P/P	30 - 160
Perfluorodecanoic acid (PFDA)	94.9	128	P/P	30 - 160
Perfluorododecanoic acid (PFDoA)	60.4	67.0	P/P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	100	115	P/P	30 - 160
Perfluoroheptanoic acid (PFHpA)	75.6	114	P/P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	77.2	87.1	P/P	30 - 160
Perfluorohexanoic acid (PFHxA)	78.4	96.1	P/P	30 - 160
Perfluorononanesulfonic acid (PFNS)	69.1	78.6	P/P	30 - 160
Perfluorononanoic acid (PFNA)	111	100	P/P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	71.1	82.8	P/P	30 - 160
Perfluorooctanoic acid (PFOA)	103	109	P/P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	107	114	P/P	30 - 160
Perfluoropentanoic acid (PFPeA)	81.7	96.0	P/P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	48.4	51.3	P/P	30 - 160
Perfluorotridecanoic acid (PFTriA)	50.1	81.5	P/P	30 - 160
Perfluoroundecanoic acid (PFUnA)	109	117	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P380554

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	120		P	30 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	128		P	30 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	120		P	30 - 160
N-Et perfluorooctanesulfonamidoAc acid	118		P	30 - 160
N-Me perfluorooctanesulfonamidoAc acid	95.2		P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	99.5		P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	106		P	30 - 160
Perfluorodecanoic acid (PFDA)	90.8		P	30 - 160
Perfluorododecanoic acid (PFDoA)	61.3		P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	97.1		P	30 - 160
Perfluoroheptanoic acid (PFHpA)	121		P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	107		P	30 - 160
Perfluorohexanoic acid (PFHxA)	108		P	30 - 160
Perfluorononanesulfonic acid (PFNS)	121		P	30 - 160
Perfluorononanoic acid (PFNA)	56.8		P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	151		P	30 - 160
Perfluorooctanoic acid (PFOA)	97.8		P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	148		P	30 - 160
Perfluoropentanoic acid (PFPeA)	99.4		P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	39.9		P	30 - 160
Perfluorotridecanoic acid (PFTriA)	80.2		P	30 - 160
Perfluoroundecanoic acid (PFUnA)	87.3		P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P380554

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163557	4:2 Fluorotelomer sulfonate (4:2 FTS)	151	151	P/P	30 - 160
2163557	6:2 Fluorotelomer sulfonate (6:2 FTS)	151	152	P/P	30 - 160
2163557	8:2 Fluorotelomer sulfonate (8:2 FTS)	109	108	P/P	30 - 160
2163557	N-Et perfluorooctanesulfonamidoAc acid	108	105	P/P	30 - 160
2163557	N-Me perfluorooctanesulfonamidoAc acid	83.0	81.5	P/P	30 - 160
2163557	Perfluorobutanesulfonic acid (PFBS)	91.1	87.2	P/P	30 - 160
2163557	Perfluorodecanesulfonic acid (PFDS)	82.5	75.8	P/P	30 - 160
2163557	Perfluorodecanoic acid (PFDA)	76.6	89.7	P/P	30 - 160
2163557	Perfluorododecanoic acid (PFDoA)	77.3	73.5	P/P	30 - 160
2163557	Perfluoroheptanesulfonic acid (PFHpS)	87.1	78.7	P/P	30 - 160
2163557	Perfluoroheptanoic acid (PFHpA)	152	91.4	P/P	30 - 160
2163557	Perfluorohexanesulfonic acid (PFHxS)	84.3	84.0	P/P	30 - 160
2163557	Perfluorohexanoic acid (PFHxA)	129	86.6	P/P	30 - 160
2163557	Perfluorononanesulfonic acid (PFNS)	97.3	95.1	P/P	30 - 160
2163557	Perfluorononanoic acid (PFNA)	81.1	66.4	P/P	30 - 160
2163557	Perfluorooctanoic acid (PFOA)	101	87.3	P/P	30 - 160
2163557	Perfluoropentanesulfonic acid (PFPeS)	146	139	P/P	30 - 160
2163557	Perfluorotetradecanoic acid (PFTeA)	74.0	76.6	P/P	30 - 160
2163557	Perfluorotridecanoic acid (PFTriA)	76.4	77.0	P/P	30 - 160
2163557	Perfluoroundecanoic acid (PFUnA)	89.8	77.8	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P380269

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	4:2 Fluorotelomer sulfonate (4:2 FTS)	4.45	LCS	P	0 - 30
LFB	6:2 Fluorotelomer sulfonate (6:2 FTS)	28.0	LCS	P	0 - 30
LFB	8:2 Fluorotelomer sulfonate (8:2 FTS)	1.60	LCS	P	0 - 30
LFB	N-Et perfluorooctanesulfonamidoAc acid	10.6	LCS	P	0 - 30
LFB	N-Me perfluorooctanesulfonamidoAc acid	15.8	LCS	P	0 - 30
LFB	Perfluorobutanesulfonic acid (PFBS)	3.17	LCS	P	0 - 30
LFB	Perfluorodecanesulfonic acid (PFDS)	24.3	LCS	P	0 - 30
LFB	Perfluorodecanoic acid (PFDA)	29.4	LCS	P	0 - 30
LFB	Perfluorododecanoic acid (PFDoA)	10.4	LCS	P	0 - 30
LFB	Perfluoroheptanesulfonic acid (PFHpS)	13.9	LCS	P	0 - 30
LFB	Perfluoroheptanoic acid (PFHpA)	40.5	LCS	F	0 - 30
LFB	Perfluorohexanesulfonic acid (PFHxS)	12.0	LCS	P	0 - 30
LFB	Perfluorohexanoic acid (PFHxA)	20.3	LCS	P	0 - 30
LFB	Perfluorononanesulfonic acid (PFNS)	12.9	LCS	P	0 - 30
LFB	Perfluorononanoic acid (PFNA)	9.50	LCS	P	0 - 30
LFB	Perfluorooctanesulfonic acid (PFOS)	15.2	LCS	P	0 - 30
LFB	Perfluorooctanoic acid (PFOA)	5.45	LCS	P	0 - 30
LFB	Perfluoropentanesulfonic acid (PFPeS)	6.78	LCS	P	0 - 30
LFB	Perfluoropentanoic acid (PFPeA)	16.0	LCS	P	0 - 30
LFB	Perfluorotetradecanoic acid (PFTeA)	5.90	LCS	P	0 - 30
LFB	Perfluorotridecanoic acid (PFTriA)	47.7	LCS	F	0 - 30
LFB	Perfluoroundecanoic acid (PFUnA)	6.73	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P380554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163557	4:2 Fluorotelomer sulfonate (4:2 FTS)	0.0760	Spike	P	0 - 30
2163557	6:2 Fluorotelomer sulfonate (6:2 FTS)	0.486	Spike	P	0 - 30
2163557	8:2 Fluorotelomer sulfonate (8:2 FTS)	1.71	Spike	P	0 - 30
2163557	N-Et perfluorooctanesulfonamidoAc acid	2.85	Spike	P	0 - 30
2163557	N-Me perfluorooctanesulfonamidoAc acid	1.70	Spike	P	0 - 30
2163557	Perfluorobutanesulfonic acid (PFBS)	3.60	Spike	P	0 - 30
2163557	Perfluorodecanesulfonic acid (PFDS)	7.00	Spike	P	0 - 30
2163557	Perfluorodecanoic acid (PFDA)	15.7	Spike	P	0 - 30
2163557	Perfluorododecanoic acid (PFDoA)	5.08	Spike	P	0 - 30
2163557	Perfluoroheptanesulfonic acid (PFHpS)	9.63	Spike	P	0 - 30
2163557	Perfluoroheptanoic acid (PFHpA)	29.0	Spike	P	0 - 30
2163557	Perfluorohexanesulfonic acid (PFHxS)	0.249	Spike	P	0 - 30
2163557	Perfluorohexanoic acid (PFHxA)	27.1	Spike	P	0 - 30
2163557	Perfluorononanesulfonic acid (PFNS)	2.30	Spike	P	0 - 30
2163557	Perfluorononanoic acid (PFNA)	19.9	Spike	P	0 - 30
2163557	Perfluorooctanesulfonic acid (PFOS)	8.65	Spike	P	0 - 30
2163557	Perfluorooctanoic acid (PFOA)	5.62	Spike	P	0 - 30
2163557	Perfluoropentanesulfonic acid (PFPeS)	4.33	Spike	P	0 - 30
2163557	Perfluoropentanoic acid (PFPeA)	12.4	Spike	P	0 - 30
2163557	Perfluorotetradecanoic acid (PFTeA)	3.43	Spike	P	0 - 30
2163557	Perfluorotridecanoic acid (PFTriA)	0.856	Spike	P	0 - 30
2163557	Perfluoroundecanoic acid (PFUnA)	13.3	Spike	P	0 - 30

Quality Assurance Report Precision

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2163138
Field Sample ID: DEPMW-1 (5-15')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	83.6	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	118	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	81.1	P	30 - 160

Lab Sample ID: 2163139
Field Sample ID: DEPMW-1 (5-15')DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	97.0	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	118	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	104	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	78.1	P	30 - 160

Lab Sample ID: 2163140
Field Sample ID: DEPMW-2 (7-17')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	88.7	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	88.0	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	98.3	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	61.8	P	30 - 160

Lab Sample ID: 2163141
Field Sample ID: DEPMW-8 (7-17')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	113	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	85.7	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	120	P	30 - 160

Lab Sample ID: 2163142
Field Sample ID: DEPMW-3 (7-17')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	125	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	109	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	73.2	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	74.3	P	30 - 160

Lab Sample ID: 2163143
Field Sample ID: DEPMW-12 (5-15')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	101	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	74.2	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	117	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	104	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2163144
Field Sample ID: DEPMW-10 (5-15')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	81.3	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	111	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	130	P	30 - 160

Lab Sample ID: 2163145
Field Sample ID: DEPMW-11 (5-15')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	134	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	125	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	137	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	123	P	30 - 160

Lab Sample ID: 2163146
Field Sample ID: DEPMW-5 (5-15')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	132	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	156	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	80.0	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	93.0	P	30 - 160

Lab Sample ID: 2163147
Field Sample ID: DEPMW-5 (5-15')DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	91.5	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	82.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	79.1	P	30 - 160

Lab Sample ID: 2163148
Field Sample ID: DEPMW-6 (7-17')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	118	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	76.6	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	101	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	60.5	P	30 - 160

Lab Sample ID: 2163149
Field Sample ID: DEPMW-9 (7-17')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	139	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	102	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	127	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	117	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2163150
Field Sample ID: DEPMW-7 (5-15')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	155	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	82.6	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	154	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	97.0	P	30 - 160

Lab Sample ID: 2163151
Field Sample ID: DEPMW-4 (7-17')

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	112	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	89.0	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	113	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	117	P	30 - 160

Lab Sample ID: 2163152
Field Sample ID: EQB-12

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	122	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	104	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	122	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	129	P	30 - 160

Lab Sample ID: 2163153
Field Sample ID: EQB-13

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	116	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	98.6	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	128	P	30 - 160

Lab Sample ID: 2163154
Field Sample ID: EQB-14

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	155	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	124	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	140	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	129	P	30 - 160

Lab Sample ID: 2163155
Field Sample ID: FRB-3

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	139	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	127	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	138	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	154	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98126

Included Lab Sample IDs: 2163138, 2163139, 2163140

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	126	155	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	148	126	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	77.3	94.3	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	94.3	74.4	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	111	114	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	114	116	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	106	89.3	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	89.3	98.5	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	112	113	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	113	114	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	112	131	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	122	112	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	90.4	97.7	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	97.7	89.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	62.0	89.1	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	89.1	72.2	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	69.4	78.3	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	78.3	61.0	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	107	113	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	113	108	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	63.0	76.3	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	76.3	65.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	79.7	94.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	89.1	79.7	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	63.7	67.2	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	79.3	92.9	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	88.5	79.3	P/P	60 - 160
Perfluorononanoic acid (PFNA)	79.0	84.4	P/P	60 - 160
Perfluorononanoic acid (PFNA)	84.4	96.6	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	72.9	102	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	113	123	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	121	113	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	67.2	72.3	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	68.0	67.2	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	73.3	99.3	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	99.3	82.2	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	79.6	95.9	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	81.5	79.6	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98310

Included Lab Sample IDs: 2163141, 2163142, 2163143, 2163144, 2163145, 2163146, 2163147, 2163148, 2163149, 2163150, 2163151, 2163152, 2163153, 2163154, 2163155

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	94.8	101	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	95.8	94.8	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	98.8	95.8	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	72.8	83.7	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	80.8	72.8	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	83.7	69.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98310

Included Lab Sample IDs: 2163141, 2163142, 2163143, 2163144, 2163145, 2163146, 2163147, 2163148, 2163149, 2163150, 2163151, 2163152, 2163153, 2163154, 2163155

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
6:2 Fluorotelomer sulfonate (6:2 FTS)	89.8	102	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	92.3	91.7	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	146	147	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	85.1	94.1	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	91.0	85.1	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	94.1	80.0	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	123	123	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	123	130	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	126	123	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	101	106	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	104	99.0	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	106	104	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	114	121	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	117	118	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	121	117	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	121	129	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	129	130	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	130	114	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	103	75.1	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	106	77.6	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	77.6	103	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	61.3	70.4	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	73.5	61.3	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	77.6	73.5	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	106	114	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	113	113	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	114	113	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	103	110	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	110	103	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	123	103	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	109	122	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	119	127	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	122	119	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	106	84.4	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	109	73.9	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	84.4	109	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	131	136	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	136	142	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	142	151	P/P	60 - 160
Perfluorononanoic acid (PFNA)	60.6	66.3	P/P	60 - 160
Perfluorononanoic acid (PFNA)	66.3	70.4	P/P	60 - 160
Perfluorononanoic acid (PFNA)	70.4	67.5	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	106	100	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	111	131	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	149	156	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	152	149	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	156	138	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	107	79.6	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	79.6	94.1	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	94.1	60.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98310

Included Lab Sample IDs: 2163141, 2163142, 2163143, 2163144, 2163145, 2163146, 2163147, 2163148, 2163149, 2163150, 2163151, 2163152, 2163153, 2163154, 2163155

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoropentanesulfonic acid (PFPeS)	125	128	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	128	108	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	138	125	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	108	141	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	109	65.9	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	114	83.5	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	83.5	109	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	64.8	65.4	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	65.4	71.2	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	71.2	69.0	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	108	105	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	86.1	98.0	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	94.2	68.2	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	98.0	94.2	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	109	77.8	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	82.1	61.1	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	83.6	82.1	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	85.7	83.6	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98336

Included Lab Sample IDs: 2163138, 2163139, 2163140

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorohexanoic acid (PFHxA)	100	110	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	73.6	71.8	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	78.3	73.6	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	73.7	76.5	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	108	127	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	128	108	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98349

Included Lab Sample IDs: 2163142, 2163148, 2163150

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
6:2 Fluorotelomer sulfonate (6:2 FTS)	91.2	67.7	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	133	112	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	110	115	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	108	124	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	109	68.2	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	142	144	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	103	108	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98464

Included Lab Sample IDs: 2163142, 2163148, 2163150

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoroheptanoic acid (PFHpA)	132	120	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98516

Included Lab Sample IDs: 2163146, 2163147

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
8:2 Fluorotelomer sulfonate (8:2 FTS)	155	151	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	146	127	P/P	60 - 160
Perfluorononanoic acid (PFNA)	76.5	79.5	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	154	133	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	87.6	70.1	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	101	100	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	91.8	82.8	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	70.8	60.5	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98557

Included Lab Sample IDs: 2163146, 2163147

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
6:2 Fluorotelomer sulfonate (6:2 FTS)	85.6	136	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	115	117	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	69.7	130	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	68.0	116	P/P	60 - 160

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	
							SMP	MS
EPA 8321B	4:2 Fluorotelomer sulfonate (4:2 FTS)	130	135			4.45		
	4:2 Fluorotelomer sulfonate (4:2 FTS)	120		151	151			0.0760
	6:2 Fluorotelomer sulfonate (6:2 FTS)	113	150			28.0		
	6:2 Fluorotelomer sulfonate (6:2 FTS)	128		151	152			0.486
	8:2 Fluorotelomer sulfonate (8:2 FTS)	154	156			1.60		
	8:2 Fluorotelomer sulfonate (8:2 FTS)	120		109	108			1.71
	N-Et perfluorooctanesulfonamidoAc acid	74.9	83.3			10.6		
	N-Et perfluorooctanesulfonamidoAc acid	118		108	105			2.85
	N-Me perfluorooctanesulfonamidoAc acid	102	119			15.8		
	N-Me perfluorooctanesulfonamidoAc acid	95.2		83.0	81.5			1.70
	Perfluorobutanesulfonic acid (PFBS)	110	114			3.17		
	Perfluorobutanesulfonic acid (PFBS)	99.5		91.1	87.2			3.60
	Perfluorodecanesulfonic acid (PFDS)	70.1	89.4			24.3		
	Perfluorodecanesulfonic acid (PFDS)	106		82.5	75.8			7.00
	Perfluorodecanoic acid (PFDA)	94.9	128			29.4		
	Perfluorodecanoic acid (PFDA)	90.8		76.6	89.7			15.7
	Perfluorododecanoic acid (PFDoA)	60.4	67.0			10.4		
	Perfluorododecanoic acid (PFDoA)	61.3		77.3	73.5			5.08
	Perfluoroheptanesulfonic acid (PFHpS)	100	115			13.9		
	Perfluoroheptanesulfonic acid (PFHpS)	97.1		87.1	78.7			9.63
	Perfluoroheptanoic acid (PFHpA)	75.6	114			40.5		
	Perfluoroheptanoic acid (PFHpA)	121		152	91.4			29.0
	Perfluorohexanesulfonic acid (PFHxS)	77.2	87.1			12.0		
	Perfluorohexanesulfonic acid (PFHxS)	107		84.3	84.0			0.249
	Perfluorohexanoic acid (PFHxA)	78.4	96.1			20.3		
	Perfluorohexanoic acid (PFHxA)	108		129	86.6			27.1
	Perfluorononanesulfonic acid (PFNS)	69.1	78.6			12.9		
	Perfluorononanesulfonic acid (PFNS)	121		97.3	95.1			2.30
	Perfluorononanoic acid (PFNA)	111	100			9.50		
	Perfluorononanoic acid (PFNA)	56.8		81.1	66.4			19.9
	Perfluorooctanesulfonic acid (PFOS)	71.1	82.8			15.2		
	Perfluorooctanesulfonic acid (PFOS)	151						8.65
	Perfluorooctanoic acid (PFOA)	103	109			5.45		
Perfluorooctanoic acid (PFOA)	97.8		101	87.3			5.62	
Perfluoropentanesulfonic acid (PFPeS)	107	114			6.78			

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
EPA 8321B	Perfluoropentanesulfonic acid (PFPeS)	148		146	139			4.33
	Perfluoropentanoic acid (PFPeA)	81.7	96.0			16.0		
	Perfluoropentanoic acid (PFPeA)	99.4						12.4
	Perfluorotetradecanoic acid (PFTeA)	48.4	51.3			5.90		
	Perfluorotetradecanoic acid (PFTeA)	39.9		74.0	76.6			3.43
	Perfluorotridecanoic acid (PFTriA)	50.1	81.5			47.7		
	Perfluorotridecanoic acid (PFTriA)	80.2		76.4	77.0			0.856
	Perfluoroundecanoic acid (PFUnA)	109	117			6.73		
	Perfluoroundecanoic acid (PFUnA)	87.3		89.8	77.8			13.3

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Perfluorinated alkyl substances in water matrices by HPLC/MS/MS	2163138, 2163139, 2163140, 2163141, 2163142, 2163143, 2163144, 2163145, 2163146, 2163147, 2163148, 2163149, 2163150, 2163151, 2163152, 2163153, 2163154, 2163155

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/06/2020	03/10/2020 10:00	Hoor Shaik	03/11/2020 03:54	Pramila Ghimire	2163140
	03/06/2020	03/10/2020 10:00	Hoor Shaik	03/11/2020 06:30	Pramila Ghimire	2163138
	03/06/2020	03/10/2020 10:00	Hoor Shaik	03/11/2020 06:50	Pramila Ghimire	2163139
	03/06/2020	03/10/2020 10:00	Hoor Shaik	03/17/2020 18:58	Pramila Ghimire	2163138
	03/06/2020	03/10/2020 10:00	Hoor Shaik	03/17/2020 19:18	Pramila Ghimire	2163139
	03/06/2020	03/10/2020 10:00	Hoor Shaik	03/17/2020 22:34	Pramila Ghimire	2163140
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/16/2020 21:43	Pramila Ghimire	2163141
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/16/2020 22:03	Pramila Ghimire	2163142
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/16/2020 22:22	Pramila Ghimire	2163143
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/16/2020 23:02	Pramila Ghimire	2163144
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/16/2020 23:21	Pramila Ghimire	2163145
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/16/2020 23:41	Pramila Ghimire	2163146
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 00:00	Pramila Ghimire	2163147
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 00:20	Pramila Ghimire	2163148
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 00:40	Pramila Ghimire	2163149
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 00:59	Pramila Ghimire	2163150
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 01:19	Pramila Ghimire	2163151
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 01:58	Pramila Ghimire	2163152
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 02:17	Pramila Ghimire	2163153
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 02:37	Pramila Ghimire	2163154
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 02:57	Pramila Ghimire	2163155
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 13:06	Pramila Ghimire	2163142
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 14:04	Pramila Ghimire	2163148
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 14:43	Pramila Ghimire	2163150
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/26/2020 11:24	Pramila Ghimire	2163142
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/26/2020 12:23	Pramila Ghimire	2163148
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/26/2020 13:02	Pramila Ghimire	2163150
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/30/2020 12:02	Pramila Ghimire	2163146
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/30/2020 12:22	Pramila Ghimire	2163147
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/30/2020 13:22	Pramila Ghimire	2163146
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/30/2020 13:41	Pramila Ghimire	2163147
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/30/2020 21:28	Pramila Ghimire	2163146
	03/06/2020	03/13/2020 10:00	Hoor Shaik	03/30/2020 21:47	Pramila Ghimire	2163147

Chemical Analysis Report

SIS-2020-03-11-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

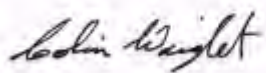
Event Description: **Current Indian River State College Fire Training Facility**
Request ID: **RQ-2020-03-09-08**
Customer: **SIS**
Project ID: **SIS-PFAS**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Road
Twin Towers Bldg. MS# 4515
Tallahassee, FL 32399
Attn: Jeff Newton

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 03-APR-2020 10:21



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: IRSC

Collection Date/Time: 03/09/2020 14:04

Field ID: Dep MW-19 (40-50)

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2164429	EPA 8321B	Perfluorooctanoic acid (PFOA)**	11		ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	54		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	4.0		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	2.5	I	ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	13		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	I	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	5.6		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.7		ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 03/09/2020 15:14

Field ID: Dep MW-17 (40-50)

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2164430	EPA 8321B	Perfluorooctanoic acid (PFOA)**	8.7		ng/L	P380554	
		Perfluorooctanesulfonic acid (PFOS)**	54		ng/L	P380554	
		Perfluorobutanesulfonic acid (PFBS)**	5.3		ng/L	P380554	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380554	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380554	
		Perfluoroheptanoic acid (PFHpA)**	3.1	I	ng/L	P380554	
		Perfluorohexanesulfonic acid (PFHxS)**	17		ng/L	P380554	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380554	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380554	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380554	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380554	
		Perfluoroundecanoic acid (PFUnA)**	1.0	I	ng/L	P380554	
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380554	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380554	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoropentanesulfonic acid (PFPeS)**	6.4		ng/L	P380554	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	U	ng/L	P380554	
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380554	
		Perfluoroheptanesulfonic acid (PFHpS)**	3.1		ng/L	P380554	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380554	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380554	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: IRSC

Collection Date/Time: 03/09/2020 16:16

Field ID: Dep MW-14 (40-50)

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2164431	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.1	I	ng/L	P380555	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P380555	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P380555	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380555	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380555	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P380555	
		Perfluorohexanesulfonic acid (PFHxS)**	0.93	I	ng/L	P380555	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380555	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380555	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380555	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380555	
		Perfluoroundecanoic acid (PFUnA)**	1.0	UJ	ng/L	P380555	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380555	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P380555	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	UJ	ng/L	P380555	LCS
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P380555	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380555	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380555	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 03/09/2020 17:00

Field ID: Dep MW-13 (40-50)

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2164432	EPA 8321B	Perfluorooctanoic acid (PFOA)**	4.9		ng/L	P380555	
		Perfluorooctanesulfonic acid (PFOS)**	4.6	I	ng/L	P380555	
		Perfluorobutanesulfonic acid (PFBS)**	3.8		ng/L	P380555	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380555	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380555	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P380555	
		Perfluorohexanesulfonic acid (PFHxS)**	9.0		ng/L	P380555	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380555	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380555	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380555	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380555	
		Perfluoroundecanoic acid (PFUnA)**	1.0	UJ	ng/L	P380555	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380555	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoropentanesulfonic acid (PFPeS)**	4.8		ng/L	P380555	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	UJ	ng/L	P380555	LCS
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.54	I	ng/L	P380555	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380555	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380555	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 03/10/2020 09:19

Field ID: Dep MW-16 (40-50)

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2164433	EPA 8321B	Perfluorooctanoic acid (PFOA)**	17		ng/L	P380555	
		Perfluorooctanesulfonic acid (PFOS)**	75		ng/L	P380555	
		Perfluorobutanesulfonic acid (PFBS)**	3.1		ng/L	P380555	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380555	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380555	
		Perfluoroheptanoic acid (PFHpA)**	5.5	I	ng/L	P380555	
		Perfluorohexanesulfonic acid (PFHxS)**	13		ng/L	P380555	
		Perfluorohexanoic acid (PFHxA)**	2.4	I	ng/L	P380555	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380555	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380555	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380555	
		Perfluoroundecanoic acid (PFUnA)**	1.0	UJ	ng/L	P380555	RPD
		N-Me perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P380555	
		N-Et perfluorooctanesulfonamidoAc acid**	0.40	U	ng/L	P380555	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380555	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoropentanesulfonic acid (PFPeS)**	3.1		ng/L	P380555	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.8	I J	ng/L	P380555	LCS
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.2		ng/L	P380555	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380555	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380555	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 03/10/2020 10:30

Field ID: Dep MW-18 (38-48)

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2164434	EPA 8321B	Perfluorooctanoic acid (PFOA)**	23		ng/L	P380555	
		Perfluorooctanesulfonic acid (PFOS)**	72		ng/L	P380555	
		Perfluorobutanesulfonic acid (PFBS)**	3.6		ng/L	P380555	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380555	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380555	
		Perfluoroheptanoic acid (PFHpA)**	2.8	I	ng/L	P380555	
		Perfluorohexanesulfonic acid (PFHxS)**	8.2		ng/L	P380555	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380555	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380555	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380555	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380555	
		Perfluoroundecanoic acid (PFUnA)**	1.0	UJ	ng/L	P380555	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380555	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoropentanesulfonic acid (PFPeS)**	2.2		ng/L	P380555	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	UJ	ng/L	P380555	LCS
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.1		ng/L	P380555	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380555	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380555	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 03/10/2020 10:30

Field ID: FRB 4

Matrix: W-FRB

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2164437	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P380555	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P380555	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P380555	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380555	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380555	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P380555	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P380555	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380555	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380555	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380555	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380555	
		Perfluoroundecanoic acid (PFUnA)**	1.0	UJ	ng/L	P380555	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380555	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P380555	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	UJ	ng/L	P380555	LCS
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P380555	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380555	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380555	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 03/10/2020 11:25

Field ID: Dep MW-15 (40-50)

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2164435	EPA 8321B	Perfluorooctanoic acid (PFOA)**	24		ng/L	P380555	
		Perfluorooctanesulfonic acid (PFOS)**	56		ng/L	P380555	
		Perfluorobutanesulfonic acid (PFBS)**	8.7		ng/L	P380555	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380555	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380555	
		Perfluoroheptanoic acid (PFHpA)**	6.0	I	ng/L	P380555	
		Perfluorohexanesulfonic acid (PFHxS)**	25		ng/L	P380555	
		Perfluorohexanoic acid (PFHxA)**	3.6	I	ng/L	P380555	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380555	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380555	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380555	
		Perfluoroundecanoic acid (PFUnA)**	1.0	UJ	ng/L	P380555	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380555	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoropentanesulfonic acid (PFPeS)**	9.5		ng/L	P380555	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	UJ	ng/L	P380555	LCS
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoroheptanesulfonic acid (PFHpS)**	2.8		ng/L	P380555	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380555	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380555	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 03/10/2020 11:45

Field ID: EQB 15

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2164436	EPA 8321B	Perfluorooctanoic acid (PFOA)**	1.0	U	ng/L	P380555	
		Perfluorooctanesulfonic acid (PFOS)**	2.0	U	ng/L	P380555	
		Perfluorobutanesulfonic acid (PFBS)**	0.40	U	ng/L	P380555	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380555	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380555	
		Perfluoroheptanoic acid (PFHpA)**	2.0	U	ng/L	P380555	
		Perfluorohexanesulfonic acid (PFHxS)**	0.40	U	ng/L	P380555	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380555	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380555	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380555	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380555	
		Perfluoroundecanoic acid (PFUnA)**	1.0	UJ	ng/L	P380555	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380555	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoropentanesulfonic acid (PFPeS)**	0.40	U	ng/L	P380555	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	UJ	ng/L	P380555	LCS
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoroheptanesulfonic acid (PFHpS)**	0.40	U	ng/L	P380555	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380555	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380555	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: IRSC

Collection Date/Time: 03/10/2020 10:30

Field ID: Dep MW-18 (38-48) Dup

Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2164447	EPA 8321B	Perfluorooctanoic acid (PFOA)**	28		ng/L	P380555	
		Perfluorooctanesulfonic acid (PFOS)**	61		ng/L	P380555	
		Perfluorobutanesulfonic acid (PFBS)**	3.2		ng/L	P380555	
		Perfluorodecanoic acid (PFDA)**	1.0	U	ng/L	P380555	
		Perfluorododecanoic acid (PFDoA)**	1.0	U	ng/L	P380555	
		Perfluoroheptanoic acid (PFHpA)**	3.8	I	ng/L	P380555	
		Perfluorohexanesulfonic acid (PFHxS)**	8.6		ng/L	P380555	
		Perfluorohexanoic acid (PFHxA)**	2.0	U	ng/L	P380555	
		Perfluorononanoic acid (PFNA)**	1.0	U	ng/L	P380555	
		Perfluorotetradecanoic acid (PFTeA)**	0.40	U	ng/L	P380555	
		Perfluorotridecanoic acid (PFTriA)**	0.40	U	ng/L	P380555	
		Perfluoroundecanoic acid (PFUnA)**	1.0	UJ	ng/L	P380555	RPD
		N-Me perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		N-Et perfluorooctanesulfonamidoAcid**	0.40	U	ng/L	P380555	
		Perfluoropentanoic acid (PFPeA)**	4.0	U	ng/L	P380555	
		4:2 Fluorotelomer sulfonate (4:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoropentanesulfonic acid (PFPeS)**	2.5		ng/L	P380555	
		6:2 Fluorotelomer sulfonate (6:2 FTS)**	4.0	UJ	ng/L	P380555	LCS
		8:2 Fluorotelomer sulfonate (8:2 FTS)**	2.0	U	ng/L	P380555	
		Perfluoroheptanesulfonic acid (PFHpS)**	1.9		ng/L	P380555	
		Perfluorononanesulfonic acid (PFNS)**	0.40	U	ng/L	P380555	
		Perfluorodecanesulfonic acid (PFDS)**	0.40	U	ng/L	P380555	

Ref. Method and Comment:

EPA 8321B: Insufficient sample to perform matrix spikes. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P380554

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	2.0	U	ng/L
6:2 Fluorotelomer sulfonate (6:2 FTS)	4.0	U	ng/L
8:2 Fluorotelomer sulfonate (8:2 FTS)	2.0	U	ng/L
N-Et perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
N-Me perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	1.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	1.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.40	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.40	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	1.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	1.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	0.40	U	ng/L
Perfluorotridecanoic acid (PFTriA)	0.40	U	ng/L
Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L

Reference Method: EPA 8321B
Batch ID: P380555

Component	Result	Code	Units
4:2 Fluorotelomer sulfonate (4:2 FTS)	2.0	U	ng/L
6:2 Fluorotelomer sulfonate (6:2 FTS)	4.0	U	ng/L
8:2 Fluorotelomer sulfonate (8:2 FTS)	2.0	U	ng/L
N-Et perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
N-Me perfluorooctanesulfonamidoAc acid	0.40	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	1.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	1.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.40	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.40	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	1.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	1.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	0.40	U	ng/L
Perfluorotridecanoic acid (PFTriA)	0.40	U	ng/L
Perfluoroundecanoic acid (PFUnA)	1.0	U	ng/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P380554

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	120		P	30 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	128		P	30 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	120		P	30 - 160
N-Et perfluorooctanesulfonamidoAc acid	118		P	30 - 160
N-Me perfluorooctanesulfonamidoAc acid	95.2		P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	99.5		P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	106		P	30 - 160
Perfluorodecanoic acid (PFDA)	90.8		P	30 - 160
Perfluorododecanoic acid (PFDoA)	61.3		P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	97.1		P	30 - 160
Perfluoroheptanoic acid (PFHpA)	121		P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	107		P	30 - 160
Perfluorohexanoic acid (PFHxA)	108		P	30 - 160
Perfluorononanesulfonic acid (PFNS)	121		P	30 - 160
Perfluorononanoic acid (PFNA)	56.8		P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	151		P	30 - 160
Perfluorooctanoic acid (PFOA)	97.8		P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	148		P	30 - 160
Perfluoropentanoic acid (PFPeA)	99.4		P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	39.9		P	30 - 160
Perfluorotridecanoic acid (PFTriA)	80.2		P	30 - 160
Perfluoroundecanoic acid (PFUnA)	87.3		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P380555

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	72.1	70.3	P/P	30 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	204	159	F/P	30 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	111	98.9	P/P	30 - 160
N-Et perfluorooctanesulfonamidoAc acid	93.7	92.7	P/P	30 - 160
N-Me perfluorooctanesulfonamidoAc acid	92.9	85.8	P/P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	87.8	98.2	P/P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	62.8	63.4	P/P	30 - 160
Perfluorodecanoic acid (PFDA)	99.5	107	P/P	30 - 160
Perfluorododecanoic acid (PFDoA)	112	130	P/P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	83.0	77.5	P/P	30 - 160
Perfluoroheptanoic acid (PFHpA)	95.2	105	P/P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	108	113	P/P	30 - 160
Perfluorohexanoic acid (PFHxA)	80.8	95.1	P/P	30 - 160
Perfluorononanesulfonic acid (PFNS)	74.5	68.1	P/P	30 - 160
Perfluorononanoic acid (PFNA)	121	132	P/P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	72.8	75.9	P/P	30 - 160
Perfluorooctanoic acid (PFOA)	91.6	103	P/P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	76.0	80.3	P/P	30 - 160
Perfluoropentanoic acid (PFPeA)	106	101	P/P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	58.8	58.2	P/P	30 - 160
Perfluorotridecanoic acid (PFTriA)	44.5	49.5	P/P	30 - 160
Perfluoroundecanoic acid (PFUnA)	98.0	70.5	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P380554

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2163557	4:2 Fluorotelomer sulfonate (4:2 FTS)	151	151	P/P	30 - 160
2163557	6:2 Fluorotelomer sulfonate (6:2 FTS)	151	152	P/P	30 - 160
2163557	8:2 Fluorotelomer sulfonate (8:2 FTS)	109	108	P/P	30 - 160
2163557	N-Et perfluorooctanesulfonamidoAc acid	108	105	P/P	30 - 160
2163557	N-Me perfluorooctanesulfonamidoAc acid	83.0	81.5	P/P	30 - 160
2163557	Perfluorobutanesulfonic acid (PFBS)	91.1	87.2	P/P	30 - 160
2163557	Perfluorodecanesulfonic acid (PFDS)	82.5	75.8	P/P	30 - 160
2163557	Perfluorodecanoic acid (PFDA)	76.6	89.7	P/P	30 - 160
2163557	Perfluorododecanoic acid (PFDoA)	77.3	73.5	P/P	30 - 160
2163557	Perfluoroheptanesulfonic acid (PFHpS)	87.1	78.7	P/P	30 - 160
2163557	Perfluoroheptanoic acid (PFHpA)	152	91.4	P/P	30 - 160
2163557	Perfluorohexanesulfonic acid (PFHxS)	84.3	84.0	P/P	30 - 160
2163557	Perfluorohexanoic acid (PFHxA)	129	86.6	P/P	30 - 160
2163557	Perfluorononanesulfonic acid (PFNS)	97.3	95.1	P/P	30 - 160
2163557	Perfluorononanoic acid (PFNA)	81.1	66.4	P/P	30 - 160
2163557	Perfluorooctanoic acid (PFOA)	101	87.3	P/P	30 - 160
2163557	Perfluoropentanesulfonic acid (PFPeS)	146	139	P/P	30 - 160
2163557	Perfluorotetradecanoic acid (PFTeA)	74.0	76.6	P/P	30 - 160
2163557	Perfluorotridecanoic acid (PFTriA)	76.4	77.0	P/P	30 - 160
2163557	Perfluoroundecanoic acid (PFUnA)	89.8	77.8	P/P	30 - 160

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P380554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2163557	4:2 Fluorotelomer sulfonate (4:2 FTS)	0.0760	Spike	P	0 - 30
2163557	6:2 Fluorotelomer sulfonate (6:2 FTS)	0.486	Spike	P	0 - 30
2163557	8:2 Fluorotelomer sulfonate (8:2 FTS)	1.71	Spike	P	0 - 30
2163557	N-Et perfluorooctanesulfonamidoAc acid	2.85	Spike	P	0 - 30
2163557	N-Me perfluorooctanesulfonamidoAc acid	1.70	Spike	P	0 - 30
2163557	Perfluorobutanesulfonic acid (PFBS)	3.60	Spike	P	0 - 30
2163557	Perfluorodecanesulfonic acid (PFDS)	7.00	Spike	P	0 - 30
2163557	Perfluorodecanoic acid (PFDA)	15.7	Spike	P	0 - 30
2163557	Perfluorododecanoic acid (PFDoA)	5.08	Spike	P	0 - 30
2163557	Perfluoroheptanesulfonic acid (PFHpS)	9.63	Spike	P	0 - 30
2163557	Perfluoroheptanoic acid (PFHpA)	29.0	Spike	P	0 - 30
2163557	Perfluorohexanesulfonic acid (PFHxS)	0.249	Spike	P	0 - 30
2163557	Perfluorohexanoic acid (PFHxA)	27.1	Spike	P	0 - 30
2163557	Perfluorononanesulfonic acid (PFNS)	2.30	Spike	P	0 - 30
2163557	Perfluorononanoic acid (PFNA)	19.9	Spike	P	0 - 30
2163557	Perfluorooctanesulfonic acid (PFOS)	8.65	Spike	P	0 - 30
2163557	Perfluorooctanoic acid (PFOA)	5.62	Spike	P	0 - 30
2163557	Perfluoropentanesulfonic acid (PFPeS)	4.33	Spike	P	0 - 30
2163557	Perfluoropentanoic acid (PFPeA)	12.4	Spike	P	0 - 30
2163557	Perfluorotetradecanoic acid (PFTeA)	3.43	Spike	P	0 - 30
2163557	Perfluorotridecanoic acid (PFTriA)	0.856	Spike	P	0 - 30
2163557	Perfluoroundecanoic acid (PFUnA)	13.3	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P380555

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	4:2 Fluorotelomer sulfonate (4:2 FTS)	2.58	LCS	P	0 - 30
LFB	6:2 Fluorotelomer sulfonate (6:2 FTS)	24.6	LCS	P	0 - 30
LFB	8:2 Fluorotelomer sulfonate (8:2 FTS)	11.9	LCS	P	0 - 30
LFB	N-Et perfluorooctanesulfonamidoAc acid	1.02	LCS	P	0 - 30
LFB	N-Me perfluorooctanesulfonamidoAc acid	7.93	LCS	P	0 - 30
LFB	Perfluorobutanesulfonic acid (PFBS)	11.1	LCS	P	0 - 30
LFB	Perfluorodecanesulfonic acid (PFDS)	0.988	LCS	P	0 - 30
LFB	Perfluorodecanoic acid (PFDA)	7.59	LCS	P	0 - 30
LFB	Perfluorododecanoic acid (PFDoA)	15.1	LCS	P	0 - 30
LFB	Perfluoroheptanesulfonic acid (PFHpS)	6.78	LCS	P	0 - 30
LFB	Perfluoroheptanoic acid (PFHpA)	9.53	LCS	P	0 - 30
LFB	Perfluorohexanesulfonic acid (PFHxS)	4.54	LCS	P	0 - 30
LFB	Perfluorohexanoic acid (PFHxA)	16.2	LCS	P	0 - 30
LFB	Perfluorononanesulfonic acid (PFNS)	8.87	LCS	P	0 - 30
LFB	Perfluorononanoic acid (PFNA)	8.49	LCS	P	0 - 30
LFB	Perfluorooctanesulfonic acid (PFOS)	4.13	LCS	P	0 - 30
LFB	Perfluorooctanoic acid (PFOA)	12.1	LCS	P	0 - 30
LFB	Perfluoropentanesulfonic acid (PFPeS)	5.53	LCS	P	0 - 30
LFB	Perfluoropentanoic acid (PFPeA)	4.13	LCS	P	0 - 30
LFB	Perfluorotetradecanoic acid (PFTeA)	1.00	LCS	P	0 - 30
LFB	Perfluorotridecanoic acid (PFTriA)	10.8	LCS	P	0 - 30
LFB	Perfluoroundecanoic acid (PFUnA)	32.6	LCS	F	0 - 30

Quality Assurance Report Precision

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2164429
Field Sample ID: Dep MW-19 (40-50)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	130	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	96.0	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	131	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	123	P	30 - 160

Lab Sample ID: 2164430
Field Sample ID: Dep MW-17 (40-50)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	123	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	104	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	120	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	131	P	30 - 160

Lab Sample ID: 2164431
Field Sample ID: Dep MW-14 (40-50)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	66.8	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	93.6	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	103	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	105	P	30 - 160

Lab Sample ID: 2164432
Field Sample ID: Dep MW-13 (40-50)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	92.4	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	75.2	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	105	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	102	P	30 - 160

Lab Sample ID: 2164433
Field Sample ID: Dep MW-16 (40-50)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	69.2	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	77.1	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	91.5	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	120	P	30 - 160

Lab Sample ID: 2164434
Field Sample ID: Dep MW-18 (38-48)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	80.8	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	67.9	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	98.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	91.6	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2164435
Field Sample ID: Dep MW-15 (40-50)

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	93.3	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	70.5	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	102	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	99.4	P	30 - 160

Lab Sample ID: 2164436
Field Sample ID: EQB 15

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	72.3	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	93.8	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	99.9	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	107	P	30 - 160

Lab Sample ID: 2164437
Field Sample ID: FRB 4

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	86.1	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	110	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	97.4	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	129	P	30 - 160

Lab Sample ID: 2164447
Field Sample ID: Dep MW-18 (38-48) Dup

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Perfluorobutanesulfonate-13C	64.0	P	30 - 160
EPA 8321B	Perfluorodecanoic acid-13C	125	P	30 - 160
EPA 8321B	Perfluorohexanesulfonate-13C	107	P	30 - 160
EPA 8321B	Perfluorohexanoic acid-13C	132	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98310

Included Lab Sample IDs: 2164429, 2164430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	94.8	101	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	83.7	69.5	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	94.1	80.0	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	123	130	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	104	99.0	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	117	118	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	130	114	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	103	75.1	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	61.3	70.4	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	113	113	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	110	103	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	119	127	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	109	73.9	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	142	151	P/P	60 - 160
Perfluorononanoic acid (PFNA)	70.4	67.5	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	156	138	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	94.1	60.5	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	128	108	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	109	65.9	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	71.2	69.0	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	105	74.8	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	94.2	68.2	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	82.1	61.1	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98412

Included Lab Sample IDs: 2164431, 2164432, 2164433, 2164434, 2164435, 2164436, 2164437, 2164447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4:2 Fluorotelomer sulfonate (4:2 FTS)	111	62.6	P/P	60 - 160
4:2 Fluorotelomer sulfonate (4:2 FTS)	62.6	61.3	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	102	101	P/P	60 - 160
6:2 Fluorotelomer sulfonate (6:2 FTS)	114	102	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	116	83.2	P/P	60 - 160
8:2 Fluorotelomer sulfonate (8:2 FTS)	83.2	78.8	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	103	94.6	P/P	60 - 160
N-Et perfluorooctanesulfonamidoAc acid	94.6	98.3	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	116	98.2	P/P	60 - 160
N-Me perfluorooctanesulfonamidoAc acid	98.2	96.6	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	102	97.3	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	120	102	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	113	71.4	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	71.4	72.4	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	106	112	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	132	106	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	128	128	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	128	134	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	117	86.3	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	86.3	84.5	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	102	96.9	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	96.9	104	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98412

Included Lab Sample IDs: 2164431, 2164432, 2164433, 2164434, 2164435, 2164436, 2164437, 2164447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorohexanesulfonic acid (PFHxS)	109	116	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	116	109	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	101	79.4	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	79.4	96.1	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	119	84.9	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	84.9	79.1	P/P	60 - 160
Perfluorononanoic acid (PFNA)	107	108	P/P	60 - 160
Perfluorononanoic acid (PFNA)	108	132	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	127	79.1	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	79.1	75.5	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	113	81.8	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	81.8	86.6	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	129	80.0	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	80.0	81.7	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	62.5	72.3	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	80.1	62.5	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	64.7	64.3	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	99.3	64.7	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	65.5	61.1	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	96.2	65.5	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	107	71.4	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	71.4	79.4	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98520

Included Lab Sample IDs: 2164434, 2164447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorobutanesulfonic acid (PFBS)	152	119	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	107	76.8	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	94.0	115	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	115	79.2	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	72.8	143	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	97.2	80.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A98557

Included Lab Sample IDs: 2164434, 2164447

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoroheptanoic acid (PFHpA)	69.7	130	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	68.0	116	P/P	60 - 160

* Pass/Fail determinations are made for each bracketing calibration verification check.
 Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
 Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8321B	4:2 Fluorotelomer sulfonate (4:2 FTS)	120		151	151			0.0760
	4:2 Fluorotelomer sulfonate (4:2 FTS)	70.3	72.1			2.58		
	6:2 Fluorotelomer sulfonate (6:2 FTS)	128		151	152			0.486
	6:2 Fluorotelomer sulfonate (6:2 FTS)	204	159			24.6		
	8:2 Fluorotelomer sulfonate (8:2 FTS)	120		109	108			1.71
	8:2 Fluorotelomer sulfonate (8:2 FTS)	98.9	111			11.9		
	N-Et perfluorooctanesulfonamidoAc acid	118		108	105			2.85
	N-Et perfluorooctanesulfonamidoAc acid	92.7	93.7			1.02		
	N-Me perfluorooctanesulfonamidoAc acid	95.2		83.0	81.5			1.70
	N-Me perfluorooctanesulfonamidoAc acid	85.8	92.9			7.93		
	Perfluorobutanesulfonic acid (PFBS)	99.5		91.1	87.2			3.60
	Perfluorobutanesulfonic acid (PFBS)	98.2	87.8			11.1		
	Perfluorodecanesulfonic acid (PFDS)	106		82.5	75.8			7.00
	Perfluorodecanesulfonic acid (PFDS)	63.4	62.8			0.988		
	Perfluorodecanoic acid (PFDA)	90.8		76.6	89.7			15.7
	Perfluorodecanoic acid (PFDA)	107	99.5			7.59		
	Perfluorododecanoic acid (PFDoA)	61.3		77.3	73.5			5.08
	Perfluorododecanoic acid (PFDoA)	130	112			15.1		
	Perfluoroheptanesulfonic acid (PFHpS)	97.1		87.1	78.7			9.63
	Perfluoroheptanesulfonic acid (PFHpS)	77.5	83.0			6.78		
	Perfluoroheptanoic acid (PFHpA)	121		152	91.4			29.0
	Perfluoroheptanoic acid (PFHpA)	105	95.2			9.53		
	Perfluorohexanesulfonic acid (PFHxS)	107		84.3	84.0			0.249
	Perfluorohexanesulfonic acid (PFHxS)	113	108			4.54		
	Perfluorohexanoic acid (PFHxA)	108		129	86.6			27.1
	Perfluorohexanoic acid (PFHxA)	95.1	80.8			16.2		
	Perfluorononanesulfonic acid (PFNS)	121		97.3	95.1			2.30
	Perfluorononanesulfonic acid (PFNS)	68.1	74.5			8.87		
	Perfluorononanoic acid (PFNA)	56.8		81.1	66.4			19.9
	Perfluorononanoic acid (PFNA)	132	121			8.49		
	Perfluorooctanesulfonic acid (PFOS)	151						8.65
	Perfluorooctanesulfonic acid (PFOS)	75.9	72.8			4.13		
Perfluorooctanoic acid (PFOA)	97.8		101	87.3			5.62	
Perfluorooctanoic acid (PFOA)	103	91.6			12.1			
Perfluoropentanesulfonic acid (PFPeS)	148		146	139			4.33	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	
							SMP	MS
EPA 8321B	Perfluoropentanesulfonic acid (PFPeS)	80.3	76.0			5.53		
	Perfluoropentanoic acid (PFPeA)	99.4						12.4
	Perfluoropentanoic acid (PFPeA)	106	101			4.13		
	Perfluorotetradecanoic acid (PFTeA)	39.9		74.0	76.6			3.43
	Perfluorotetradecanoic acid (PFTeA)	58.2	58.8			1.00		
	Perfluorotridecanoic acid (PFTriA)	80.2		76.4	77.0			0.856
	Perfluorotridecanoic acid (PFTriA)	49.5	44.5			10.8		
	Perfluoroundecanoic acid (PFUnA)	87.3		89.8	77.8			13.3
	Perfluoroundecanoic acid (PFUnA)	98.0	70.5			32.6		

Reference Method Descriptions

Method	Description	Associated Samples
EPA 8321B	Perfluorinated alkyl substances in water matrices by HPLC/MS/MS	2164429, 2164430, 2164431, 2164432, 2164433, 2164434, 2164435, 2164436, 2164437, 2164447

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/11/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 03:55	Pramila Ghimire	2164429
	03/11/2020	03/13/2020 10:00	Hoor Shaik	03/17/2020 04:15	Pramila Ghimire	2164430
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/18/2020 21:10	Pramila Ghimire	2164431
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/18/2020 21:30	Pramila Ghimire	2164432
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/18/2020 21:49	Pramila Ghimire	2164433
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/18/2020 22:09	Pramila Ghimire	2164434
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/18/2020 22:28	Pramila Ghimire	2164435
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/18/2020 22:48	Pramila Ghimire	2164436
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/18/2020 23:27	Pramila Ghimire	2164437
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/18/2020 23:47	Pramila Ghimire	2164447
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/27/2020 16:29	Pramila Ghimire	2164434
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/27/2020 16:48	Pramila Ghimire	2164447
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/27/2020 17:08	Pramila Ghimire	2164434
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/27/2020 17:28	Pramila Ghimire	2164447
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/30/2020 22:07	Pramila Ghimire	2164434
	03/11/2020	03/13/2020 10:00	Pramila Ghimire	03/30/2020 22:27	Pramila Ghimire	2164447

APPENDIX D
Final IDW Manifests

NON-HAZARDOUS WASTE MANIFEST 1. Generator ID Number: FLEXEMPT 2. Page 1 of 1 3. Emergency Response Phone: (813)390-0659 4. Waste Tracking Number: 1001-01

5. Generator's Name and Mailing Address: F.D.E.P., 2600 Blair Stone Rd., Tallahassee, FL 32399, (950) 245-8700
 Generator's Site Address (if different than mailing address): Site: Indian River State College, 4600 Kirby Loop Rd., Ft. Pierce, FL, (888) 755-1177 c/o Geosyntec, ERIC 7410

6. Transporter 1 Company Name: Universal Environmental Solutions, LLC U.S. EPA ID Number: FLR000199802

7. Transporter 2 Company Name: A & D Environmental Services (SC), LLC U.S. EPA ID Number: SCD987598331

8. Designated Facility Name and Site Address: A & D Environmental Services (GA), LLC, 100 Waste Research Dr., Macon, GA 31206 (478) 788-8899 U.S. EPA ID Number: GAR000007484

9. Waste Shipping Name and Description	10. Containers		11. Total Quantity	12. Unit Wt./Vol.
	No.	Type		
1. Non-Regulated Material, Liquids (Investigative Derived Waste, Water)	002	DM	110	G
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information: 1) Approval # GA20190321

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeor's Printed/Typed Name: Amy Langteau (as Agent of FDEP) Signature: Amy N. Langteau Month: 10 Day: 01 Year: 19

15. International Shipments: Import to U.S. Export from U.S. Port of entry/exit: Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
 Transporter 1 Printed/Typed Name: EARL GOODEN Signature: Earl Gooden Month: 10 Day: 01 Year: 19

Transporter 2 Printed/Typed Name: Kent Wilk Signature: Kent Wilk Month: 10 Day: 03 Year: 19

17. Discrepancy

17a. Discrepancy Indication Space: Quantity Type Residue Partial Rejection Full Rejection

17b. Alternate Facility (or Generator): Manifest Reference Number: U.S. EPA ID Number:

Facility's Phone:

17c. Signature of Alternate Facility (or Generator): Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Marc R. Woz Signature: Marc R. Woz Month: 10 Day: 08 Year: 19

GENERATOR

INTERNATIONAL

TRANSPORTER

DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number FLEXEMPT	2. Page 1 of 1	3. Emergency Response Phone (813)300-0859	4. Waste Tracking Number 0506-D1	
5. Generator's Name and Mailing Address F.D.E.P. 2800 Blair Stone Rd. Tallahassee, FL. 32399			Generator's Site Address (if different than mailing address) Site: Indian River State College 4800 Kirby Loop Rd. / Ft. Pierce, FL. (ERIC #5051) c/o Geosyntec			
Generator's Phone: (850) 245-8700			6. Transporter 1 Company Name A & D Environmental Services (SC), LLC		U.S. EPA ID Number SGD987598331	
7. Transporter 2 Company Name			U.S. EPA ID Number		U.S. EPA ID Number	
8. Designated Facility Name and Site Address A & D Environmental Services (GA), LLC 100 Waste Research Dr. Macon, GA. 31206 (478) 788-8888			U.S. EPA ID Number GA000007434			
Facility's Phone:						
9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit WL/Vol	
		No.	Type			
1. Non Regulated Material, Liquids (Investigative Derived Waste, Water) #GA20200173		020	DM	1,100	G	
2. Non Regulated Material, Solids (Investigative Derived Waste, Soil) #GA20200174		028	DM	1540	G	
3.						
4.						
13. Special Handling Instructions and Additional Information D231 443791 8 2005-0041						
14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.						
Generator's/Offeror's Printed/Typed Name Zachary Mungler on behalf of Florida Department of Environmental Protection				Signature <i>[Signature]</i>		Month Day Year 05 06 2020
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry: Date leaving U.S.						
16. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name Kent W...			Signature <i>[Signature]</i>		Month Day Year 05 06 2020	
Transporter 2 Printed/Typed Name			Signature		Month Day Year	
17. Discrepancy						
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
17b. Alternate Facility (or Generator)			Manifest Reference Number		U.S. EPA ID Number	
Facility's Phone:						
17c. Signature of Alternate Facility (or Generator)					Month Day Year	
18. Designated Facility Owner or Operator. Certification of receipt of materials covered by the manifest except as noted in Item 17a						
Printed/Typed Name Ma...			Signature <i>[Signature]</i>		Month Day Year 05 06 20	

GENERATOR
 INTL
 TRANSPORTER
 DESIGNATED FACILITY