

FOCUSED SITE INVESTIGATION REPORT

TOWN PROPERTY
323 ROUTE 81
KILLINGWORTH, CONNECTICUT 06419

Revision: 0

EnSafe Project Number
0888828869

Prepared for:

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EXECUTIVE SUMMARY

EnSafe Inc. has prepared a Focused Site Investigation Report (Report) for the Town of Killingworth Property (Town Property) located at 323 Route 81, in Killingworth, Connecticut. The Report was prepared in general accordance with the Connecticut Department of Energy and Environmental Protection (CTDEEP) Site Characterization Guidance Document with a focus on potential materials or activities that would be a source of per- and polyfluoroalkyl substances (PFAS) under the CTDEEP Department of Administrative Services Contract No. 18PSX0153.

The CTDEEP requested a PFAS investigation to be conducted at the Town Property due to firefighting related activities conducted in the past at the site and the presence of PFAS detected in drinking water wells in the area of the site in 2021.

Based on data obtained during implementation of the subsurface investigation, it appears that PFAS are present at several sampling locations at concentrations exceeding applicable regulatory standards. The highest concentration of PFAS in soil and ground water appears to be in the vicinity of the reported firefighting activities, located east of the fire department building. The residual PFAS in soil may be acting as an ongoing source, which could continue to impact underlying groundwater.

1.0 INTRODUCTION

EnSafe Inc. was retained by Connecticut Department of Energy and Environmental Protection (CTDEEP) to prepare a Focused Site Investigation Report for the Town of Killingworth Property (Town Property), located at 323 Route 81, in Killingworth, Connecticut (the Site). The CTDEEP requested a per- and polyfluoroalkyl substances (PFAS) investigation to be conducted at the Site due to the detection of PFAS in drinking water wells in the area of the Site in 2021. PFAS are present in Class B firefighting foam as well as many common products that are disposed in landfill areas and sanitary sewage systems.

1.1 Site Description

The Site is located at 323 Route 81 in Killingworth, Connecticut, identified as tax map 24 lot 7 on the Town of Killingworth Tax Assessors Office map. According to previous environmental assessment reports and available historical information, the Town Property was used as a farm prior to becoming the town hall property in 1965 (Figure 1 — figures are shown at the end of the report). The Site is currently developed with 12 buildings/structures which include: the Town Hall Office, Fire Station, Public Works Garage, Sand and Salt Storage Building, dog pound, Emergency Management/Resident State Trooper, cellular service building(s), radio/cellular tower, a Fire Training building, and several sheds. Historical Site figures identify the current cellular service building as the Southern New England Telephone Civil Defense Building; however the building(s) now contain equipment for cellular tower operations and are no longer occupied on a regular basis or used for civil defense purposes. Photographs of Site buildings and pertinent features are included in Appendix A.

Water is supplied through two drilled bedrock wells located on the Town Property. One well is located to the west of the paved driveway behind the Fire Station and serves the Fire Station, Town Hall, Emergency Management, and dog pound buildings. The second well is located within the wooded area south of the Public Works Garage and serves the Public Works Garage. Septic systems for domestic wastewater disposal are located to the northeast of the Town Hall building, north of the Fire Department Building, and north of the Public Works Garage. Public water supply and centralized sewer systems are not available in the Town of Killingworth.

There are no catch basins or subsurface piping for collection and conveyance of storm water on the Town Property. The paved areas around the Town Hall and Fire Station drain by sheet flow toward the rear (east) area, with topography, and concentrate along the driveway adjacent to the dog pound. The concentrated flow appears to continue along the driveway toward the Public Works Garage, crosses the driveway, and enters the fill and wooded area to the south of the driveway, within the area where MW-12 is located.

1.2 Site History

1.2.1 Historical Documentation

Prior to 1965, the west portion of the Site appeared to be mostly cleared land used for residential and agricultural purposes and the east portion appears to be wooded undeveloped land. Several buildings were present on the Site and presumably used as either residences or were related to agricultural activities.

Based on information provided by the Town of Killingworth online Assessor's information, the buildings were constructed over several decades, with the following buildings and locations:

Northwest area:

- A portion of the Town Hall was constructed in the 1850s and a detached garage in 1902
- Framed sheds constructed between the 1960s to 2010
- The Fire Station constructed in 1970/1971
- Storage buildings (for public works material and equipment) over several years
- Addition to the Town Hall early 2000s
- Emergency Management and Resident State Trooper building in 2015

North / central area:

- Sand/Salt storage building late 1980s / circa 1990
- Public Works Garage in the 1990s
- Fire Training facility constructed in 2015

Southwest / central area:

- Transfer Station in the early 1980s

Review of historic aerial photographs and visual observations during the Site visit of several areas of the Town Property indicated that clearing and filling has occurred to raise grade or to level areas for construction of the salt shed between 1986 and 1990, and then again between 1990 and 2005 for the construction of the Public Works building. The Town Property remains relatively unchanged until the 2016 aerial when additional land clearing and leveling was conducted for construction of the firefighting area in the center of the Town Property.

Piles of fill including stone and asphalt milling are located within the Public Works area for use on street projects throughout town. The driveway and cleared areas off the driveway contain a variety of construction equipment and materials, such as stored catch basins, drainage piping, and piles of gravel and stone.

A floor drain is present within the Fire Station which discharges in the grass / overgrown area to the east of the Fire Station, near to the location of MW-13.

A 20,000-gallon underground water storage tank is located to the east of the paved area behind the Fire Station. The tank is utilized by the Fire Department as a cistern, whereby they can pump water from the tank utilizing fire apparatus' to fill fire trucks or to transfer water with hose lines to another location for firefighting or training purposes. There are no pumps, piping, or electrical service associated with the tank. The Killingworth Volunteer Fire Company (KVFC) indicated that the tank is typically refilled with water from the Middle School, utilizing tanker trucks to transfer the water. The cistern is accessed through a concrete tile and cover and was installed in approximately 2005 or 2006.

1.2.2 Database Research and Interviews

EnSafe obtained standard environmental record source information directly from Environmental Risk Information Services (ERIS). The Site address is listed with environmental records, as discussed below.

The Transfer Station, located in the southwestern portion of the subject property, is listed on the Facility Registry Service/Facility Index (FINDS/FRS), Enforcement and Compliance Data (ECHO), Occupational Safety and Health Administration (OSHA) databases. No violations or evidence was identified for this site indicating environmental impact or potential impact to the subject property.

The Department of Public Works, located in the northern portion of the subject property, is listed on the OSHA database. Violations were reported, but no information regarding them were reviewed. Based on the nature of the violation being part of health and safety, no evidence was identified for this site indicating environmental impact or potential impact to the subject property.

The Town Hall Building and Animal Control Building, located in the northwestern portion of the subject property, are listed on the OSHA database. Violations were reported, but no information regarding them were reviewed. Based on the nature of the violation being part of health and safety, no evidence was identified for this site indicating environmental impact or potential impact to the subject property.

The Killingworth Fire Department, located in the northwestern portion of the subject property, is listed on the Spill Incident Tracking System (SPILLS), OSHA, and underground storage tank (UST) databases. According to ERIS, two spills were listed for the Killingworth Fire Department that involved two USTs east of the building. During the removal of a 500-gallon UST containing fuel oil in

November 1999, fuel oil impacts were discovered (Marin, 1999). According to ERIS, a 50-gallon drum containing 20-gallons of diesel fuel was discovered on the side of the road and brought to the Killingworth Fire Department in 2011. No spill at the subject property was indicated based on the information reviewed. According to environmental database records, a 500-gallon UST containing gasoline is listed at the Killingworth Fire Department. The UST was installed in 1971 and is currently listed as permanently closed. The OSHA database listing for the Killingworth Fire Department lists several violations, but no information regarding them were reviewed. Based on the OSHA violations being health and safety related, both SPILL listings are closed, and the UST listing is permanently closed, no evidence was identified for this site indicating environmental impact or potential impact to the subject property.

The Killingworth Ambulance Department, located in the north of the subject property, is listed on the FINDS/ERS and ECHO databases. No violations or evidence was identified for this site indicating environmental impact or potential impact to the subject property.

In addition to the above environmental database records for the subject property, the adjoining property occupied by Killingworth Garage, located at 319 Route 81, is listed on the SPILLS, UST, leaking underground storage tank (LUST), Hazardous Waste Handlers (CT HAZ HANDLERS), and Releases from Federally Regulated USTs (LUST FED REG) databases. According to environmental database records, three spills are listed at the site. In 2009, approximately 13- gallons of gasoline was released to ground surface as a result of the overfilling of a tank. No further information regarding the cleanup of the spill was reviewed, however it was reported as closed. In 2010, approximately 17-gallons of gasoline was release to ground surface. No further information regarding cleanup of the spill was reviewed, but the spill was closed. In 2018, gasoline contamination was discovered during the removal of a UST from the site. No further information was reviewed, but the site is also listed on LUST FED REG database associated with this spill. Additionally, the spill was closed. According to environmental database records UST listing, the site currently has three 6,000-gallon USTs containing gasoline. Several former USTs containing used fuel oil and gasoline were reportedly removed in 1987 from the site. Additionally, according to the UST listing, several compliance violations were reported for the site, with no evidence of potential environmental impacts reviewed. The LUST database report indicates that a UST containing gasoline at the site had a calibration/calculation error and no gasoline was released. The UST was removed from the site and the LUST listing was closed. According to the CT HAZ HANDLERS database, the site is listed as producing approximately 67-gallons of gasoline and water waste in 2003. Based on the information reviewed, no evidence was identified for this site indicating environmental impact or potential impact to the subject property.

On June 10, 2022, EnSafe met with Mr. Richard Darin, Senior Trustee of the KVFC, and Fire Chief Donald Venuti, for a tour of the Fire Department building and a review of current and historical procedures for firefighting and training, with a focus on aqueous film-forming foam (AFFF) products. Mr. Darin provided EnSafe with an approximate location of the Fire Station floor drain discharge point. Firefighting training activities were historically performed to the southeast of the Fire Department building on the edge of the current pavement between the Fire Department and the cleared area west of the Public Works building. It is not known if the fire training area was historically paved with asphalt and if runoff discharged directly off the asphalt to the grass/overgrown area to the east. Chief Venuti indicated that no foam has been utilized in at least the past 18 years.

Prior to 1992 and after 1996, the Fire Department used a protein-based Class B firefighting foam during certain fire suppression activities and onsite firefighting training. One KVFC fire engine, Engine 855, was built in 1992 and included a foam system with a 50-gallon tank for foam concentrate. The KVFC trained with this engine, however, the foam system did not work correctly and after a short period of time, use of the foam system was discontinued. Engine 855 was sold to the Town of Ledyard in 2019. An unknown quantity of AFFF concentrate remained in the on-board storage when it was sold to the Town of Ledyard.

Due to the improper operation of the foam system on Engine 855, foam concentrate was stored in 5-gallon canisters and would be utilized through an external eductor, if needed.

The KVFC was unable to locate records of AFFF purchases. The KVFC contacted their two primary equipment vendors, Shipman's Fire Equipment and Firematic Supply Company. Shipman's indicated their records date back to 2019 and there were no records that KVFC purchased foam from them. Firematic indicated that their records date back 21 years and there were no records that KVFC purchased foam during that time. According to information provided by KVFC, the state of Connecticut removed five 5-gallon containers of "Universal Gold" (National Foam brand) AFFF concentrate for disposal on May 18, 2021 during a state wide take back program. The questionnaire and emails regarding the information above are included in Appendix B.

The KVFC no longer has any Class B foam concentrate in the buildings or on their apparatus. If they have a need for foam application, they will call a mutual aid fire company. The KVFC also does not own, store, or utilize Class A foam concentrate.

Mr. Darin recollected one motor vehicle fire in the 1980s where the KVFC applied foam. The vehicle fire was on Route 81 in the area of Whitewood Road (southern portion of the Beechwood Community) and consisted of a magnesium engine block that could not be extinguished with water. Therefore, the KVFC applied foam to the vehicle as part of the firefighting effort. The quantity and specific brand or composition of the foam was not known.

1.2.3 Previous Environmental Assessments

Previous environmental assessments were reviewed prior to initiating field activities for this Focused Site Investigation, including a 1999 Phase I completed by Marin Environmental. The Phase I described a subsurface investigation that was completed by Leggette, Brashears, and Graham, Inc. regarding sodium impacts discovered in the potable drinking water well on the Town Property in 1985. The sodium impacts in drinking water and groundwater were reportedly from the salt that was stored in a shed located on the Town Property. Twelve monitoring wells were installed as part of the subsurface investigation, including well clusters (shallow overburden wells and bedrock wells) labeled as MW-1S/D through MW-6S/D. The groundwater flow direction was reported to be towards the south-southeast.

A potential potable water well, TW-1, was installed in 1987 due to the town drinking water well being impacted with sodium. The Town of Killingworth Public Works Department reported that the sampling results from the TW-1 in 1987 indicated the water well was also impacted by sodium and therefore was never used as a drinking water well and subsequently referred to as the test well.

Marin Environmental, Inc. conducted a Phase II Environmental Site Assessment, which included subsurface investigation in 1999 to evaluate the findings of the Phase I targeting the following: historical USTs on the Town Property, transfer station aboveground storage tank and compactor; transfer station fill pile, former herbicide barrels buried behind Town Hall prior to expansion of Town Hall, groundwater assessment downgradient from Killingworth Garage; and suspected UST on the eastern side of the Fire Department. The subsurface investigation included test pits, soil borings, and groundwater sampling from temporary monitoring wells. Marin Environmental, Inc. documented the following findings:

- Shallow soil pesticide impacts east of the town hall (likely beneath the addition).
- Total petroleum hydrocarbon impacts in soil in the vicinity of a former 500-gallon gasoline UST located adjacent to the fire station on the east side of the building.

- Methyl tert-butyl ether impacts to groundwater in the vicinity of the transfer station compactor area and hydraulically downgradient from Killingworth Garage.
- A 500-gallon underground fuel oil storage tank emptied and removed in November 1999. The tank was located adjacent to the fire station on the east side of the building.
- A 550-gallon underground fuel oil storage tank, formerly located adjacent to the garage on the north side of the building, was removed in 1997.

2.0 SITE INVESTIGATION ACTIVITIES

EnSafe visited the subject property to mark out the locations for soil sampling and monitoring well installations on June 10, 2022. On June 13, 2022, Connecticut's Call-Before-You-Dig organization was contacted to request/clearance number 20222400532. On June 24, 2022, Underground Surveying LLC was subcontracted to locate subsurface underground utilities in the vicinity of the Fire Department and Public Works building.

The investigation was conducted within three areas of the Site identified as the fire department (FD), public works (PW), and fire training area (FTA). Sample locations are depicted on Figure 2 – Subsurface Investigation Map.

2.1 Drilling and Soil Sampling

2.1.1 Soil Borings

Soil boring and monitoring well construction activities occurred on June 27 and 28, 2022. Nineteen soil borings were advanced to varying depths ranging from 1.5 to 25 feet below ground surface (bgs), based on locations of subsurface utilities. Soil boring activities were predominately completed by New England Boring Contractors, Inc. (NEBC), of Glastonbury, Connecticut. NEBC utilized a Geoprobe® rig equipped with direct push technology to advance each soil boring. EnSafe field-classified soils as they were removed from soil borings. Three soil sample locations were completed utilizing hand tools, as described in Section 2.1.2. Soil descriptions and other pertinent information from each soil boring can be found on the Soil Boring Logs included in Appendix C.

2.1.2 Soil Sampling

A total of 37 soil samples were collected from 19 locations at varying depths between 0-16.5 feet bgs. The shallow soil samples (0-to-6-inch interval) were collected from the soil directly beneath the vegetative cover and root mass. The shallow soil samples were collected to assess the lateral extent of potential PFAS impacts. Borings FD-SB02 through FD-SB04 were completed using a battery- operated drill with soil auger attachments and hand tools to preclear holes. Soil samples were collected using stainless-steel sampling instruments (trowels). The remaining soil samples were collected from a 5-foot acetate sleeve advanced by a track mounted Geoprobe®. The Geoprobe® rig equipped with a 5-foot sampler lined with a single-use acetate sleeve was used to collect the deeper interval soil samples to assess the vertical extent of potential impacts. The soil observed during sample collection was predominately brown to dark brown silty sands to coarse sands.

Reusable hand tools were used for shallow soil sample collection at the Site. This soil sampling equipment was decontaminated prior to, and after, each use as follows:

- Wiped manually to remove soil with a disposable paper towel;
- Washed with potable water and Alconox using a scrub brush;
- Rinsed with deionized water; and
- Wiped with new disposable paper towels to remove Alconox residue.

Decontamination rinsate was collected in 5-gallon buckets and transferred to drums stored at the Town Property upon completion of the sampling event.

Soil samples were placed in laboratory-supplied sample jars and then placed in coolers containing ice. Samples were delivered under chain-of-custody to Phoenix Environmental Laboratories, Inc., a CTDEEP certified laboratory, for analysis of 18 PFAS compounds by United States Environmental Protection Agency (U.S. EPA) Method 537 (modified).

2.1.3 Monitoring Well Installation

Overburden monitoring wells, designated as MW-11 through MW-14 were installed with a hollow stem auger drill rig utilizing 4.75-inch diameter augers. Drilling and monitoring well construction activities were completed by NEBC, under the supervision of EnSafe personnel. Monitoring wells MW- 11, FD-SB11/MW-12, FD-SB05/MW-13, and MW-14 were installed at the Town Property on July 5 and 6, 2022. During soil boring activities, groundwater was encountered at varying depths between 10 and 15 feet bgs in soil borings PW-SB05, FD-SB05, FD-SB06, and FD-SB11. The monitoring wells were constructed of 2-inch diameter polyvinyl chloride well screen and 2- inch diameter solid polyvinyl chloride riser. The monitoring well's screened interval was selected to span the groundwater table. The annular space between the boring wall and the well screen was packed with clean filter sand from the bottom of the boring to approximately 1 foot above the screened interval. A hydrated bentonite seal was then placed above the clean filter sand. Sand backfill was placed above each bentonite seal. Monitoring wells were completed flush to grade with a road box or protective steel riser set in concrete.

After completion of the monitoring wells, the wells were purged on July 5, 2022. The purpose was to remove (to the extent practical) fine grained sediments surrounding the well screens to allow the collection of representative groundwater samples. Purged water was drum as part of well development activities and was stored at the Town Property for offsite disposal.

Several previously existing monitoring wells were located at or near to the Town Property. The wells were installed in 1985 as result of sodium detections in drinking water wells. Monitoring wells MW- 1S/1D, 2S/2D, 3S/3D, and 4S/4D were evaluated and purged on July 5, 2022. Monitoring wells MW-5S/5D and 6S/6D were not able to be located and therefore were not sampled as part of this investigation. Additionally, a deep drilled well (TW-1) that was previously used for testing purposes on the Town Property was evaluated and determined to be suitable for sampling.

Monitoring well construction details can be found on the Soil Boring and Monitoring Well logs included in Appendix C.

2.1.4 Site Survey and Groundwater Flow Direction

EnSafe conducted a relative elevation survey of the monitoring wells. The survey was completed to determine the top-of-casing elevation for each new and existing Town Property monitoring wells in relation to a Site benchmark, designated as a spike in a tree, and assigned an elevation of 448.12 feet (Figure 3). Top-of-casing elevations and relative groundwater elevations are provided in Table 1 (all Tables are located at the end of the report).

The relative groundwater elevation data from the July 2022 gauging event was used to develop the groundwater contours presented on Figure 3. Based on the gauging data, groundwater appears to flow towards the southeast. The inferred groundwater flow pattern appears to mimic the slope of surface topography.

2.1.5 Groundwater Sampling

On July 12, 2022, groundwater samples were collected from monitoring wells MW-1S/1D, MW-2S/2D, MW-3S/3D, MW-4S/4D, MW-11, MW-12, MW-13, MW-14, and the test well TW-1 in accordance with EnSafe's Sampling Protocol and CTDEEP "Low Flow Sampling" Guidance. Prior to sampling, the water level was gauged to the nearest 0.01 foot below the top of the well casing using an electronic water level indicator. After gauging, EnSafe purged the well in general accordance with the low flow purging and sampling techniques. Indicator parameters were monitored during purging and evaluated against the stabilization criteria.

Monitoring wells were purged using a peristaltic pump at flow rates ranging from approximately 90 milliliters per minute to 120 milliliters per minute. To assess stabilization, the field parameters were monitored and recorded in 3 to 5-minute intervals on Well Purging Field Water Quality Measurements Forms (Appendix D). Stabilization criteria was not achieved for MW-1S, MW-4D, MW-11, MW-12, or MW-13, however, based on the volume of groundwater purged from each well, representative groundwater samples are believed to have been collected.

Following stabilization, groundwater samples were collected while maintaining a consistent flow rate. Groundwater samples were transferred into laboratory-prepared containers, packed on ice in a shipping cooler, and submitted under chain-of-custody documentation to Phoenix Environmental Laboratories, Inc., for analysis of 18 PFAS compounds by U.S. EPA Method 537 (modified).

2.1.6 Surface Water Sampling

During the July 2022 sampling event, a surface water sample (SW01) was collected from a surface water body along Wolf Hollow Lane, which is utilized as a water supply for fire protection purposes. The surface water sample was obtained utilizing a peristaltic pump and new polyethylene tubing, with the tubing inlet placed approximately 6 inches beneath the water surface. The surface water sample was submitted under chain-of-custody documentation to Phoenix Environmental Laboratories, Inc. for PFAS analysis via U.S. EPA method 537 (modified).

2.1.7 Quality Control Soil and Groundwater Sampling Field and Equipment Blanks

Field quality control samples were collected to assess the potential introduction of field contaminants to soil and groundwater samples and to determine sampling variability. The frequency of quality control sample collection was consistent with CTDEEP guidance. EnSafe collected a field duplicate, matrix spike, and matrix spike duplicate in general accordance with EnSafe's PFAS Field Sampling Protocol for quality assurance and quality control. Quality control samples were transferred into laboratory-prepared containers, packed on ice in a shipping cooler, and submitted under chain-of-custody documentation to Phoenix Environmental Laboratories, Inc., for analysis of 18 PFAS compounds by U.S. EPA Method 537 (modified).

A data quality assessment (DQA) and data usability evaluation (DUE) is provided with the laboratory reports in Appendix E.

3.0 PHYSICAL SETTING

The following section describes the general physical characteristics of Town Property, including topography, geology, hydrogeology. Physical characteristics of the Town Property have been compiled using a combination of information sources such as the environmental database search, previous environmental assessments, and observations and field measurements obtained during implementation of the Site investigation field program.

3.1 Topography

The elevation of Town Property ranges from approximately 360 to 460 feet above mean sea level. The Town Property slopes downward to the east southeast toward a forested area with freshwater wetlands, as identified on the environmental database report.

Portions of the subject property have been cut and filled to create level areas for building construction, parking, and driveways. Areas of fill are present on both the north and south sides of the driveway, located to the east of the dog pound. The fill on the north side of the driveway appears to be composed of asphalt millings. Additional fill areas are present to the east of the sand and salt storage building and further to the east where Public Works stores equipment and materials.

The surrounding topography is described as woodland terrain, with surface topography ranging from approximately 300 to 470 feet above mean sea level (see Figure 4).

3.2 Geology

Overburden at the Town Property, characterized as fill and topsoil ranging from 1 to 8 feet bgs, is underlain by glacial till consisting of mostly sand with varying amounts of silt, gravel, and clay from 1 to 25 feet bgs. The underlain till is generally silty sand with coarser sand and gravel below, approximately 15 feet. Bedrock is characterized as Monson Gneiss, which is interlayered light to dark, mostly medium grained gneiss and amphibolite.

The surrounding area is presumed to have similar geology as the Town Property.

3.3 Hydrogeology

3.3.1 Surface Water

The nearest body of water to the Town Property is a pond located on Wolf Hollow Lane, approximately 0.25 mile to the east northeast.

3.3.2 Groundwater

Groundwater is present in the overburden glacial till ranging from 13 to 25 bgs. Groundwater flows in an east to southeast direction. Groundwater at the Town Property is classified as GAA by CTDEEP. Class GAA is groundwater within public water supply watershed or within the area of influence of a community or non-community water supply well and is presumed to be suitable for direct human consumption without treatment.

4.0 SITE INVESTIGATION FINDINGS

The primary purpose of this investigation was to evaluate if PFAS-related impacts exist within soil and groundwater at the Town Property.

4.1 Regulatory Criteria

Laboratory analytical results for the soil and groundwater were compared to CTDEEP Remediation Standard Regulations (RSRS) Additional Polluting Substances (APS) criteria. The CTDEEP utilized the 2016 Connecticut Department of Public Health (CT DPH) drinking water action level and supporting documentation to develop values which may be used pursuant to the APS provision within the RSRS. The APS consists of the sum of five PFAS chemicals, including perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorononanoic acid (PFNA), perfluorohexane sulfonate (PFHxS), and perfluoroheptanoic acid (PFHpA). Soil results are compared to the CTDEEP APS Residential Direct Exposure Criteria (RDEC) which is 1,350 nanograms per gram (ng/g) for the sum of five PFAS compounds and GA Pollutant Mobility Criteria (GAPMC) which is 1.4 ng/g for the sum of five PFAS compounds.

Groundwater results are compared to the CTDEEP APS Groundwater Protection Criteria (GWPC) for PFAS, consisting of the sum of five PFAS chemicals (PFOA, PFOS, PFNA, PFHxS, and PFHpA) with a level of 70 nanograms per liter (ng/l) or 70 parts per trillion (ppt). Additionally, the results of the groundwater samples were compared to CT DPH Drinking Water Action Levels due to the Site being located in a Ground Water Quality Classification area GAA and in close proximity to an *Area of Contribution to Public Supply Well*. The June 15, 2022 CT DPH Drinking Water Action Levels are presented below:

Analyte	CTDPH Drinking Water Action Level
	nanograms per liter (ng/l)
Perfluorooctane sulfonic acid (PFOS)	10
Perfluorononanoic acid (PFNA)	12
Perfluorooctanoic acid (PFOA)	16
Perfluorohexane sulfonic acid (PFHxS)	49

4.1.1 Soil Analytical Results Summary

Analytical data for the samples collected from soil borings completed on June 27 and 28, 2022 indicate that 26 of the 37 soil samples had one or more of the following PFAS compounds detected above laboratory detection limits at varying depths: PFOA, PFOS, PFNA, PFHxS, PFHpA, N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA), Perfluorodecanoic Acid (PFDA),

Perfluorododecanoic Acid (PFDoA), Perfluorotetradecanoic acid (PFTEDA), Perfluorotridecanoic acid (PFTTrDA), or Perfluoroundecanoic Acid (PFUnA). Reported concentrations for 14 soil samples exceeded the APS GAPMC, with concentrations for the sum of five compounds ranging from 1.55 to 69.5 ng/g. Eleven of the samples exceeding the APS GAPMC were collected from the Fire Department area of the subject property from depth intervals of 0-6, 6-18, or 13-25 inches bgs. One sample exceeding the APS GAPMC was collected from the Public Works area from a depth interval of 4 to 4.5 feet bgs. Two samples exceeding the APS GAPMC were collected from the fire training area from depth intervals of 1-2 and 3-5 feet bgs. The soil analytical results are summarized on Table 2 and a copy of the August 9, 2022 laboratory analytical results are included in Appendix E.

4.1.2 Groundwater Analytical Results Summary

Analytical data for the groundwater samples collected on July 12 and 13, 2022 indicate that 12 of the 13 samples had one or more of the following PFAS compounds reported at concentrations above laboratory detection limits: PFOA, PFOS, PFNA, PFHxS, PFHpA, Perfluorobutanesulfonic acid (PFBS), or Perfluorohexanoic Acid (PFHxA). Reported concentrations for six of the 13 groundwater samples (MW1D, MW1S, MW3D, MW11, MW14, and TW1) ranged from 151 ng/L to 12,912 ng/L, which exceeds the APS GWPC. The groundwater results are summarized on Table 3 and a copy of the August 9, 2022 laboratory analytical results are included in Appendix E.

4.1.3 Surface Water Analytical Results Summary

Analytical data for the surface water sample, SW1, collected on July 13, 2022 from the pond along Wolf Hollow Lane indicates that one or more of the following PFAS compounds were reported at concentrations above laboratory detection limits: PFOA, PFOS, PFHxS, PFHpA, PFBS, and PFHxA. Concentrations ranged between 2.46 ng/L to 8.47 ng/L. The results of the surface water results are summarized on Table 4 and a copy of the August 9, 2022 laboratory analytical results are included in Appendix E.

5.0 CONCEPTUAL SITE MODEL

According to information provided by the Town of Killingworth, the Site was residential agricultural land until Town of Killingworth obtained ownership in 1965. The Site is surrounded by a mix of undeveloped woodland and residential areas, in addition to an auto repair business to the south. Topography on the Site is sloping downward to the southeast towards the Public Works building and wooded area. The Site contains several town buildings including the Town Hall, Fire Station, fire training building, Public Works buildings, dog pound, sheds, and a cell tower. The nearest surface water body is an unnamed pond (SW1) along Wolf Hollow Lane to the northeast of the Site (Figure 1). Several wetland areas are located east and southeast of the Site along Roast Meat Hill Road and Deep River Road, respectively. According to groundwater flow contour map the groundwater flow direction at the Site is generally towards the south-southeast, following the Site topography (Figure 2).

Investigation activities performed in June and July 2022 identified the presence of PFAS in soil and groundwater at several locations on the Site. Reported concentrations of several PFAS compounds exceeded their respective CTDEEP APS GAPMC for soil and APS GWPC for groundwater. The three highest concentrations of PFAS in soil were detected in soil samples collected from FD-SB08 (6- 18 inches), FD-SB12 (13-25 inches), and FTA-SB01 (3-5 feet), with 69.5, 29.3, and 33.2 ng/g respectively for the sum of five PFAS. One PFAS compound, PFOS, was the predominant compound in each of the soil samples. According to the Killingworth Fire Department, historical firefighter training activities were performed in the vicinity of FDSB-12 and FDSB-08. Exceedances were also found in FDSB-07 and FDSB-06 which are near to the former firefighter training area. Exceedances were also found in borings FDSB-03 which was in the immediate vicinity of the fire station floor drain discharge location and FDSB-01 which is downgradient of the FDSB-03 location. Exceedances were also found in soil samples at varying depths in borings FDSB-10 and PWSB-01 collected between the Fire Department and the Public Works building within apparent downgradient drainage areas.

Soil in the area of the 20,000-gallon underground water storage tank (cistern), which is in close proximity to the former fire training area, was disrupted during the installation of the tank. Regrading of the tank installation area occurred, and the asphalt paving and curbing was extended. Shallow soil that may have been impacted with PFAS containing AFFF during the firefighting training activities prior to this time could have been disrupted, removed, and dispersed.

The soil sample collected from FTASB-01 from 3 to 5 feet bgs was collected from moist soil. The PFOS concentration detected in the shallow soil sample collected from 1 to 2 feet bgs (4.04 ng/g) was approximately an order of magnitude less than the deeper soil (32.7 ng/g) sample in the FTASB- 01 location.

The highest concentration of PFAS in groundwater was detected in monitoring well MW-14, which is located immediately downgradient of the former fire training location. (Figure 1). Groundwater exceedances were detected in downgradient locations from the firefighting activities which include monitoring wells MW-11 and TW-1. Based on groundwater flow directions, the impacts of the firefighting training activities to these wells are consistent with the conceptual site model.

Groundwater samples collected from shallow and deep monitoring wells MW-1S and MW-1D and samples collected from the deep monitoring well MW-3D exceeded GWPC APS CT PFAS Sum of five. These wells are located along Route 81, in topographically upgradient and cross-gradient locations (respectively) from the Fire Department. The MW-1 series wells are located approximately 800 feet to the north of the former firefighting training area and MW-3 series wells are located approximately 300 feet to the west southwest. PFAS detections in these wells are anticipated to be from a source other than the former firefighting activities, based on topography and shallow groundwater flow direction.

In addition to the investigation activities performed above, Environmental Consulting Laboratories LLC conducted drinking water sampling at the Town Property in March and May of 2021. Drinking water samples were collected from the Fire Department/Town Hall and town garage buildings at the Site. Reported concentrations of PFAS compounds exceeded the CT DPH drinking water Action Levels. PFAS compounds (sum of five compounds) were reported at concentrations of 1,675 ng/L at the Fire Department, Town Hall and 2,474 ng/L at the Public Works Garage, exceeding the CT DPH drinking water action level of 70 ng/L. The water supply wells have remained in use for non-potable purposes, including bathrooms, garden hoses (vehicle washing), and other ancillary needs. These exceedances are consistent with the conceptual site model relative to the groundwater flow direction and location of firefighting training activities. Historical laboratory analytical results are included in Appendix F.



6.0 CONCLUSIONS

Analytical data for soil and groundwater samples collected in June and July, 2022 indicate that several PFAS compounds were detected at several sampling locations at concentrations exceeding applicable regulatory standards. The highest concentration of PFAS in soil and groundwater appears to be in the vicinity of the reported firefighting activities east of the Fire Department building.

7.0 REFERENCES

Environmental Consulting Laboratories, Inc. *Letter of Transmittal PFAS Testing Lab results.* 2021 May 27.

- *PFAS Testing Lab results.* 2021 April 22.

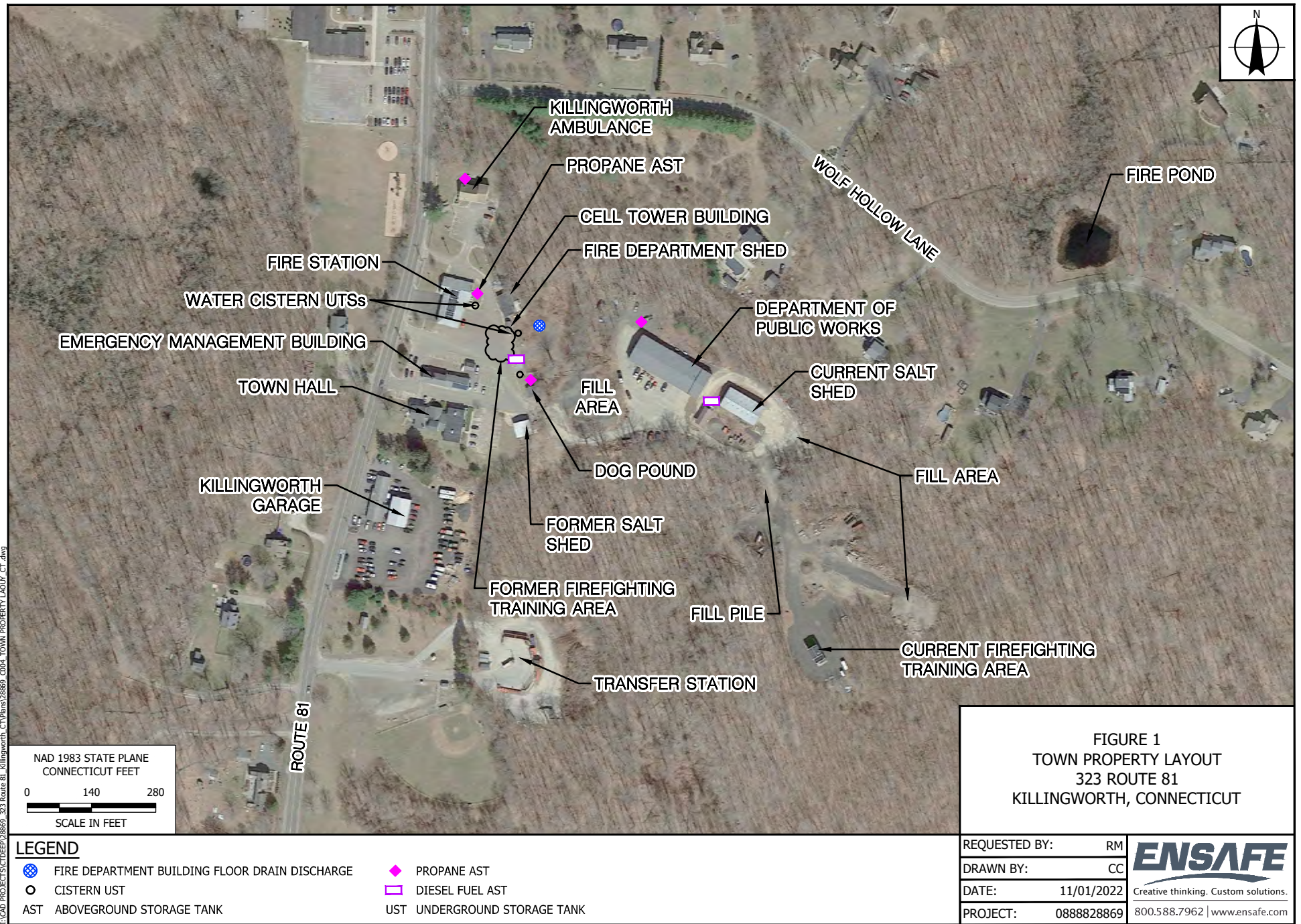
Environmental Risk Information Services, Order No. 22041800734 Elmwood Avenue, Box 930 Buffalo, New York. 866-517-5204. 2022, April 20.

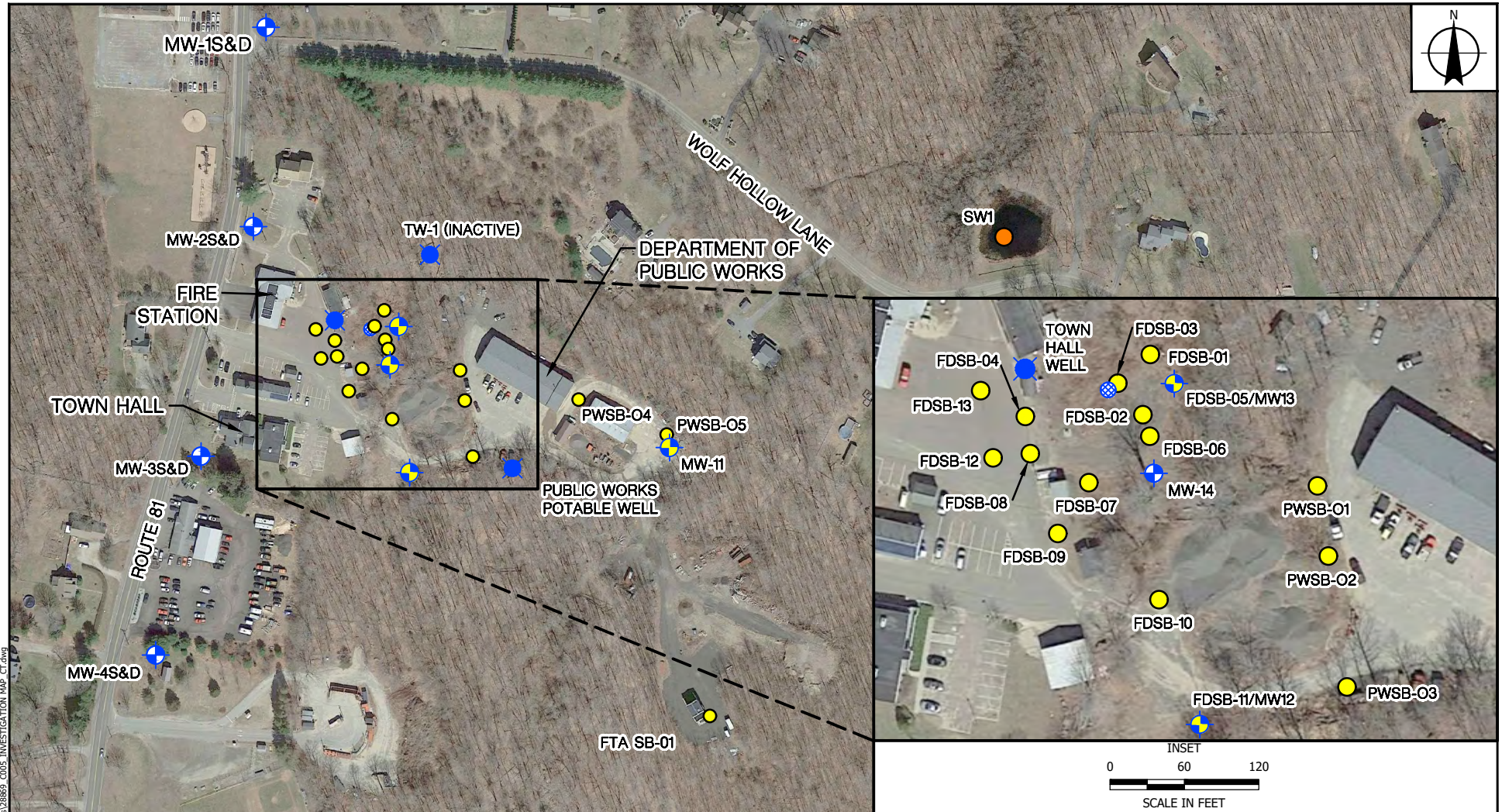
- *Historical Aerials Report.* Order No. 22041800734. 2022, April 20.
- *Database Report.* Order No. 22041800734. 2022, April 20.
- *Physical Setting Report.* Order No. 22030700419p. 2022, April 20.
- *Topographic Maps.* Order No. 22030700419. 2022, April 19
- *City Directory.* Order No. 22030700419. 2022, April 19.
- *Fire Insurance Maps.* Order No. 22030700419. 2022, April 20.

Marin Environmental, Phase I Environmental Site Assessment of Town of Killingworth Facilities. Killingworth, Connecticut. 1999 March.

- *Phase II Environmental Site Assessment,* Town of Killingworth, Killingworth Connecticut, 1999 May 26

Figures





LEGEND

- SOIL BORING LOCATION
- SURFACE WATER SAMPLE LOCATION
- MONITORING WELL/SOIL BORING LOCATION
- COUPLETS W/ SHALLOW & DEEP WELLS (MW-XS&D DESIGNATES SHALLOW WELL AND DEEP WELL)
- POTABLE WELL
- FLOOR DRAIN DISCHARGE

NOTE

BORING LOCATIONS ARE APPROXIMATE

NAD 1983 STATE PLANE
CONNECTICUT FEET

0 140 280

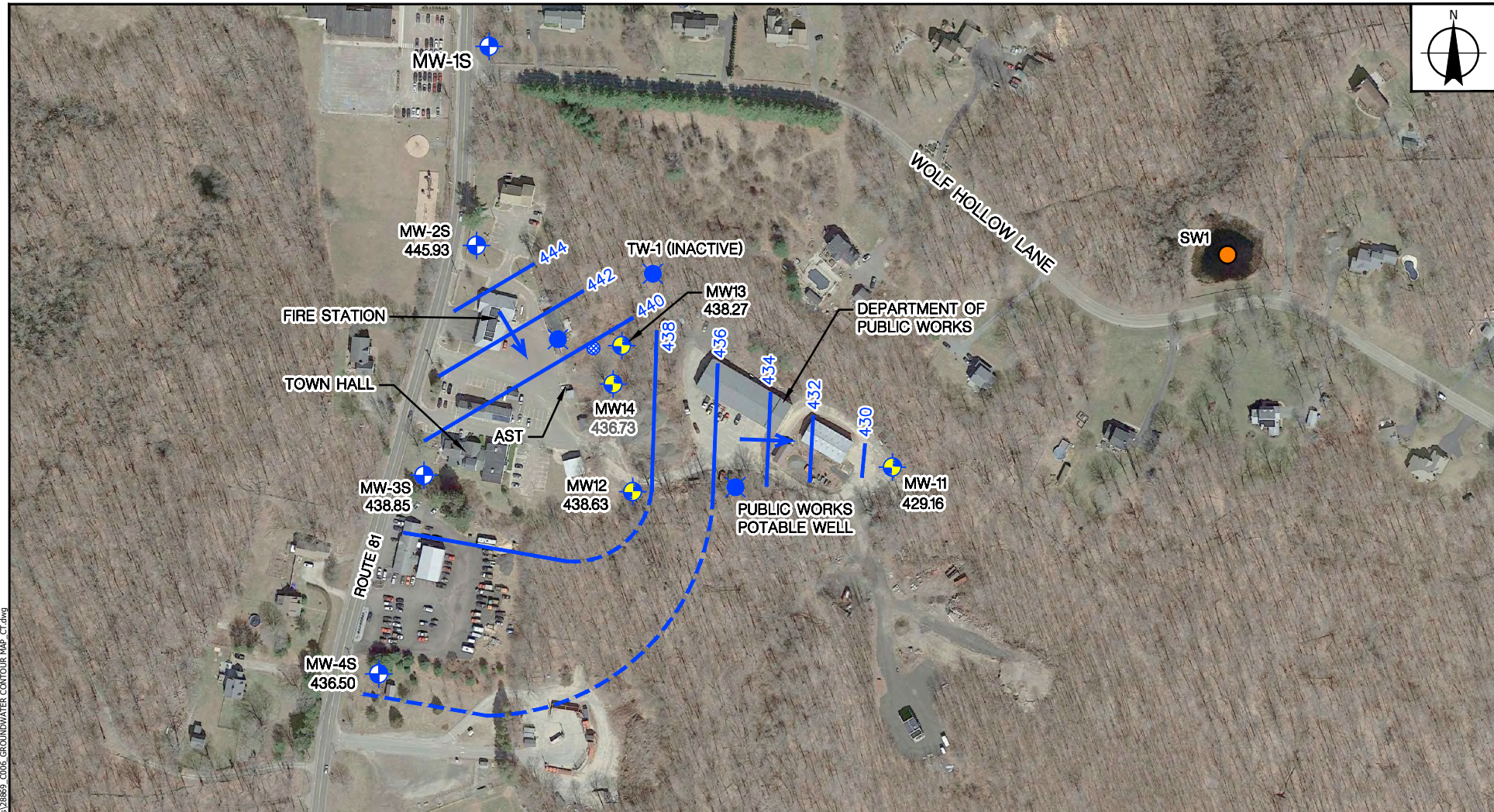
SCALE IN FEET

FIGURE 2
SUBSURFACE INVESTIGATION MAP
323 ROUTE 81
KILLINGWORTH, CONNECTICUT

REQUESTED BY: RM
DRAWN BY: CC
DATE: 11/02/2022
PROJECT: 0888828869

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Source: Google Earth Pro Imagery Date: 09/18/2019



LEGEND

- SURFACE WATER SAMPLE LOCATION
- MONITORING WELL/SOIL BORING LOCATION
- COUPLETS W/ SHALLOW & DEEP WELLS
- POTABLE WELL
- FLOOR DRAIN DISCHARGE
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER FLOW CONTOURS BASED ON JULY 12 AND JULY 13, 2022 DATA (DASHED WHERE INFERRED)

NOTE

GROUNDWATER FLOW CONTOURS AND DIRECTION WERE GENERATED USING SHALLOW OVERBURDENED WELL ELEVATIONS

NAD 1983 STATE PLANE
CONNECTICUT FEET

0 140 280

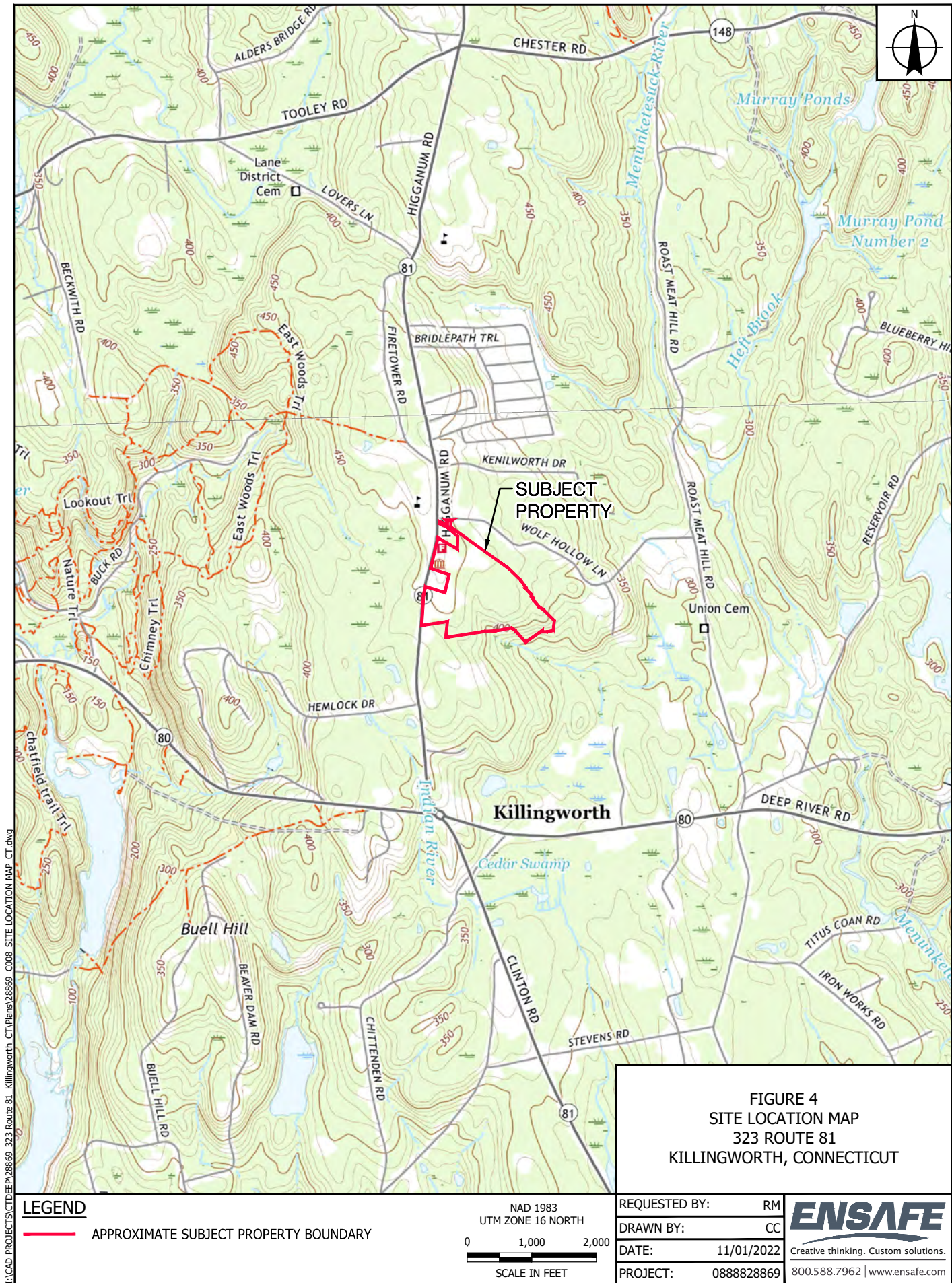
SCALE IN FEET

FIGURE 3
GROUNDWATER CONTOUR MAP
323 ROUTE 81
KILLINGWORTH, CONNECTICUT

REQUESTED BY:	PG
DRAWN BY:	CC
DATE:	10/31/2022
PROJECT:	0888828869

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Source: Google Earth Pro Imagery Date: 09/18/2019



I:\CAD PROJECTS\CT\DEEP\28869_323 Route 81_Killingworth CT\Plans\28869_C008 SITE LOCATION MAP CT.dwg

Tables

Table 1
Summary of Well Construction and Relative Groundwater Elevations
323 Route 81, Killingworth Connecticut

Well ID	Date ¹	Top-of-Casing (ft) ²	Depth to Water (ft)	Water Elevation (ft)	Depth to Bottom (ft)	Approx. Screen Interval (ft)
MW-1S	7/13/2022	N/A	15.29	-	24.29	14-24
	9/15/2022		17.74	-		
MW-1D	7/13/2022	N/A	15.18	-	42.21	32-42
	9/15/2022		17.64	-		
MW-2S	7/12/2022	465.74	19.81	445.93	30.06	20-30
	9/15/2022		23.55	442.19		
MW-2D	7/12/2022	465.64	20.66	444.98	51.73	41-51
	9/15/2022		24.26	441.38		
MW-3S	7/12/2022	463.71	24.86	438.85	33.45	21-31
	9/15/2022		27.75	435.96		
MW-3D	7/12/2022	463.65	25.80	437.85	67.85	55-65
	9/15/2022		28.34	435.31		
MW-4S	7/13/2022	451.79	15.29	436.50	22.27	12-22
	9/15/2022		14.20	437.59		
MW-4D	7/13/2022	451.52	14.85	436.67	58.39	48-58
	9/15/2022		16.26	435.26		
MW-11	7/12/2022	441.11	11.95	429.16	19.66	9-19
	9/15/2022		11.44	429.67		
MW-12	7/13/2022	457.72	19.09	438.63	23.70	13-23
	9/15/2022		19.97	437.75		
MW-13	7/13/2022	457.67	19.40	438.27	25.66	15-25
	9/15/2022		24.53	433.14		
MW-14	7/12/2022	458.34	21.61	436.73	23.91	14-24
	9/15/2022		22.22	436.12		
TW-1	7/13/2022	N/A	23.43	-	250	-

Notes:

1. Top-of-casing relative elevation data based on survey conducted on July 8, 2022. The relative elevation bench mark, assigned an elevation of 448.12 feet, spike in the tree.

Table 2
Summary of Soil Analytical Results
323 Route 81, Killingworth, Connecticut
Town Property

Sample Location:							FD-SB01 DUP-01-062722	FD-SB01 FD-SB01 (0-6)	FD-SB01 FD-SB01 (6-18)	FD-SB01 FD-SB01 (12.5-13.5)	FD-SB02 FD-SB02 (0-6)	FD-SB03 FD-SB03 (0-6)	FD-SB03 FD-SB03 (6-18)	FD-SB04 FD-SB04 (0-6)	FD-SB05 DUP-02-062822	FD-SB05 FD-SB05 (4-6)	FD-SB05 FD-SB05 (6-18)	FD-SB05 FD-SB05 (13-15)
Sample ID:							06/27/2022	06/27/2022	06/27/2022	06/27/2022	06/27/2022	06/27/2022	06/27/2022	06/27/2022	06/28/2022	06/28/2022	06/28/2022	06/28/2022
Sample Date:							Duplicate	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Duplicate	Soil	Soil	Soil
Sample Type:							0.0 in	0.0 in	6.0 in	12.5 ft	0.0 in	0.0 in	6.0 in	0.0 in	4.0 in	4.0 in	6.0 in	13.0 ft
Start Depth:							6.0 in	6.0 in	18.0 in	13.5 ft	6.0 in	6.0 in	18.0 in	6.0 in	6.0 in	6.0 in	18.0 in	15.0 ft
End Depth:																		
CAS No.	Analyte	Res DEC APS (a)	I/C DEC APS (b)	GA PMC APS (c)	GB PMC APS (d)	Units												
335-67-1	Perfluorooctanoic Acid (PFOA)	1350	41000	1.4	14	ng/g	0.25 U	0.257 U	0.294	0.245 U	0.259 U	0.374	0.258 U	0.244 U	0.249 UJ	0.25 UJ	0.258 UJ	0.265 U
1763-23-1	Perfluorooctane sulfonic acid (PFOS)	1350	41000	1.4	14	ng/g	1.69 c	1.55 c	3.85 c	0.245 U	0.88	5.67 c	4.04 c	0.664	0.249 UJ	0.25 UJ	0.936 J+	0.265 U
375-95-1	Perfluorononanoic Acid (PFNA)	1350	41000	1.4	14	ng/g	0.469 J	0.257 U	0.377	0.245 U	0.259 U	0.394	0.282	0.244 U	0.249 UJ	0.25 UJ	0.258 UJ	0.265 U
355-46-4	Perfluorohexanesulfonic acid (PFHXS)	1350	41000	1.4	14	ng/g	0.25 UJ	0.257 U	0.284 U	0.245 U	0.259 U	0.948	0.542	0.585 J	0.249 UJ	0.25 UJ	0.258 UJ	0.265 U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	1350	41000	1.4	14	ng/g	0.25 UJ	0.257 U	0.284 U	0.245 U	0.327	0.281	0.258 U	0.244 U	0.249 UJ	0.25 UJ	0.258 UJ	0.265 U
CT_PFAS5	CT PFAS Sum of Five	1350	41000	1.4	14	ng/g	2.16 J c	1.55 J c	4.52 c	0.245 U	1.21	7.667 c	4.86 c	1.253 J	0.249 UJ	0.25 UJ	0.936 J+	0.265 U
13252-13-6	HFPO-DA, GenX	NE	NE	NE	NE	ng/g	9.99 U	10.3 U	11.4 U	9.79 U	10.4 U	10.7 U	10.3 U	9.76 U	9.94 U	9.99 U	10.3 U	10.6 U
2991-50-6	NETFOSAA	NE	NE	NE	NE	ng/g	0.499 U	0.514 U	0.568 U	0.489 U	0.518 U	0.926	0.516 U	0.488 U	NA	NA	0.516 U	0.53 U
2355-31-9	NMeFOSAA	NE	NE	NE	NE	ng/g	0.499 U	0.514 U	0.568 U	0.489 U	0.518 U	0.533 U	0.516 U	0.488 U	NA	NA	0.516 U	0.53 U
375-73-5	Perfluorobutanesulfonic acid (PFBS)	NE	NE	NE	NE	ng/g	0.25 U	0.257 U	0.284 U	0.245 U	0.259 U	0.267 U	0.258 U	0.244 U	0.249 U	0.25 U	0.258 U	0.265 U
335-76-2	Perfluorodecanoic Acid (PFDA)	NE	NE	NE	NE	ng/g	0.25 U	0.257 U	0.284 U	0.245 U	0.259 U	0.464	0.505	0.244 U	0.249 U	0.25 U	0.258 U	0.265 U
307-55-1	Perfluorododecanoic Acid (PFDoA)	NE	NE	NE	NE	ng/g	0.499 U	0.514 U	0.568 U	0.489 U	0.518 U	0.848	0.516 U	0.488 U	0.497 U	0.5 U	0.516 U	0.53 U
307-24-4	Perfluorohexanoic Acid (PFHxA)	NE	NE	NE	NE	ng/g	0.499 U	0.514 U	0.568 U	0.489 U	0.518 U	0.533 U	0.516 U	0.488 U	0.497 U	0.5 U	0.516 U	0.53 U
376-06-7	Perfluorotetradecanoic acid (PFTEDA)	NE	NE	NE	NE	ng/g	0.499 U	0.514 U	0.568 U	0.489 U	0.518 U	0.533 U	0.516 U	0.488 U	NA	NA	0.516 U	0.53 U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	NE	NE	NE	NE	ng/g	0.499 U	0.514 U	0.568 U	0.489 U	0.518 U	0.865	0.516 U	1.89	NA	NA	0.516 U	0.53 U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	NE	NE	NE	NE	ng/g	0.499 U	0.514 U	0.568 U	0.489 U	0.518 U	3.69	3.54	0.488 U	0.497 U	0.5 U	0.516 U	0.53 U
763051-92-9	11CI-PF3OUdS	NE	NE	NE	NE	ng/g	0.999 U	1.03 U	1.14 U	0.979 U	1.04 U	1.07 U	1.03 U	0.976 U	0.994 U	0.999 U	1.03 U	1.06 U
919005-14-4	ADONA	NE	NE	NE	NE	ng/g	0.999 U	1.03 U	1.14 U	0.979 U	1.04 U	1.07 U	1.03 U	0.976 U	0.994 U	0.999 U	1.03 U	1.06 U
756426-58-1	9CI-PF3ONS	NE	NE	NE	NE	ng/g	0.999 U	1.03 U	1.14 U	0.979 U	1.04 U	1.07 U	1.03 U	0.976 U	0.994 U	0.999 U	1.03 U	1.06 U

Notes:

- RES DEC

= Residential Direct Exposure Criteria
- I/C DEC

= Industrial/Commercial Direct Exposure Criteria
- GA PMC

= GA Pollutant Mobility Criteria
- GB PMC

= GB Pollutant Mobility Criteria
- APS

= Additional Polluting Substances
- ng/g

= nanograms per gram
- U

= Undetected
- UJ

= Undetected and estimated
- J

= Estimated
- J+

= Estimated with potential high bias
- bold

= detected
- bold

= detected above action level (identified by a,b,c, and/or d notation)
- in

= inches
- ft

= feet
- CAS No.

= Chemical Abstract Service number
- NE

= not established
- NA

Not reported due to insufficient recovery of extracted internal standard
- HFPO-DA, GenX

Hexafluoropropylene oxide dimer acid
- NETFOSAA

N-ethyl perfluorooctanesulfonamidoacetic acid
- NMeFOSAA

N-methyl perfluorooctanesulfonamidoacetic acid
- 11CI-PF3OUdS

11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
- ADONA

4,8-Dioxa-3H-perfluorononanoic acid
- 9CI-PF3ONS

9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid

Table 2
Summary of Soil Analytical Results
323 Route 81, Killingworth, Connecticut
Town Property

Sample Location:							FD-SB06	FD-SB06	FD-SB06	FD-SB07	FD-SB07	FD-SB08	FD-SB08	FD-SB09	FD-SB09	FD-SB10	FD-SB10
Sample ID:							FD-SB06 (4-6)	FD-SB06 (6-18)	FD-SB06 (14.5-16.5)	FD-SB07 (0-6)	FD-SB07 (6-18)	FD-SB08 (0-6)	FD-SB08 (6-18)	FD-SB09 (0-6)	FD-SB09 (6-18)	FD-SB10 (0-6)	FD-SB10 (6-18)
Sample Date:							06/28/2022	06/28/2022	06/28/2022	06/28/2022	06/28/2022	06/28/2022	06/28/2022	06/28/2022	06/28/2022	06/28/2022	06/28/2022
Sample Type:							Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Start Depth:							4.0 in	6.0 in	14.5 ft	0.0 in	6.0 in	0.0 in	6.0 in	0.0 in	6.0 in	0.0 in	6.0 in
End Depth:							6.0 in	18.0 in	16.5 ft	6.0 in	18.0 in	6.0 in	18.0 in	6.0 in	18.0 in	6.0 in	18.0 in
CAS No.	Analyte	Res DEC APS (a)	I/C DEC APS (b)	GA PMC APS (c)	GB PMC APS (d)	Units											
335-67-1	Perfluorooctanoic Acid (PFOA)	1350	41000	1.4	14	ng/g	0.418	0.246 U	0.257 UJ	0.341 J+	0.299	0.244 U	0.273	0.246 U	0.244 U	0.259 U	0.244 U
1763-23-1	Perfluorooctane sulfonic acid (PFOS)	1350	41000	1.4	14	ng/g	2.76 c	0.304	0.64 J+	1.28 J+	4.14 c	0.427	65.2 cd	0.721	1.38	2.74 c	9.32 c
375-95-1	Perfluorononanoic Acid (PFNA)	1350	41000	1.4	14	ng/g	0.25 U	0.246 U	0.257 U	0.315 J+	0.29 U	0.244 U	0.397	0.246 U	0.244 U	0.259 U	0.244 U
355-46-4	Perfluorohexanesulfonic acid (PFHXS)	1350	41000	1.4	14	ng/g	0.252 J	0.246 U	0.257 UJ	0.524 J+	1.13 J+	0.244 U	3.43 c	0.246 U	0.244 U	0.498	0.463
375-85-9	Perfluoroheptanoic Acid (PFHpA)	1350	41000	1.4	14	ng/g	0.25 U	0.246 U	0.257 UJ	0.261 UJ	0.29 U	0.244 U	0.238	0.246 U	0.244 U	0.259 U	0.244 U
CT_PFAS5	CT PFAS Sum of Five	1350	41000	1.4	14	ng/g	3.43 J c	0.304	0.64 J+	2.46 J+ c	5.57 J+ c	0.427	69.5 cd	0.721	1.38	3.24 c	9.78 c
13252-13-6	HFPO-DA, GenX	NE	NE	NE	NE	ng/g	10 U	9.85 U	10.3 U	10.4 U	11.6 U	9.76 U	9.38 U	9.85 U	9.76 U	10.4 U	9.74 U
2991-50-6	NETFOSAA	NE	NE	NE	NE	ng/g	0.501 U	0.492 U	0.513 U	0.523 U	0.581 U	0.488 U	0.469 U	0.493 U	0.488 U	0.518 U	0.487 U
2355-31-9	NMeFOSAA	NE	NE	NE	NE	ng/g	0.501 U	0.492 U	0.513 U	0.523 U	0.581 U	0.488 U	0.469 U	0.493 U	0.488 U	0.518 U	0.487 U
375-73-5	Perfluorobutanesulfonic acid (PFBS)	NE	NE	NE	NE	ng/g	0.25 U	0.246 U	0.257 U	0.261 U	0.29 U	0.244 U	0.234 U	0.246 U	0.244 U	0.259 U	0.244 U
335-76-2	Perfluorodecanoic Acid (PFDA)	NE	NE	NE	NE	ng/g	0.25 U	0.246 U	0.257 U	0.497	0.29 U	0.244 U	4.28	0.246 U	0.244 U	0.434	3.63
307-55-1	Perfluorododecanoic Acid (PFDoA)	NE	NE	NE	NE	ng/g	0.501 U	0.492 U	0.513 U	0.523 U	0.581 U	0.488 U	0.686	0.493 U	0.488 U	1.97	0.487 U
307-24-4	Perfluorohexanoic Acid (PFHxA)	NE	NE	NE	NE	ng/g	0.501 U	0.492 U	0.513 U	0.523 U	0.581 U	0.488 U	0.469 U	0.493 U	0.488 U	0.518 U	0.487 U
376-06-7	Perfluorotetradecanoic acid (PFTEDA)	NE	NE	NE	NE	ng/g	0.501 U	0.492 U	0.513 U	0.523 U	0.581 U	0.488 U	0.469 U	0.493 U	0.488 U	0.707	0.487 U
72629-94-8	Perfluorotridecanoic acid (PFTTrDA)	NE	NE	NE	NE	ng/g	0.501 U	0.492 U	0.513 U	0.523 U	0.581 U	0.91	0.469 U	0.493 U	0.488 U	0.518 U	0.487 U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	NE	NE	NE	NE	ng/g	0.501 U	0.492 U	0.513 U	0.63	0.581 U	0.488 U	6.24	0.493 U	0.498	0.518 U	0.495
763051-92-9	11CI-PF3OUdS	NE	NE	NE	NE	ng/g	1 U	0.985 U	1.03 U	1.04 U	1.16 U	0.976 U	0.938 U	0.985 U	0.976 U	1.04 U	0.974 U
919005-14-4	ADONA	NE	NE	NE	NE	ng/g	1 U	0.985 U	1.03 U	1.04 U	1.16 U	0.976 U	0.938 U	0.985 U	0.976 U	1.04 U	0.974 U
756426-58-1	9CI-PF3ONS	NE	NE	NE	NE	ng/g	1 U	0.985 U	1.03 U	1.04 U	1.16 U	0.976 U	0.938 U	0.985 U	0.976 U	1.04 U	0.974 U

Notes:

- RES DEC = Residential Direct Exposure Criteria
- I/C DEC = Industrial/Commercial Direct Exposure Criteria
- GA PMC = GA Pollutant Mobility Criteria
- GB PMC = GB Pollutant Mobility Criteria
- APS = Additional Polluting Substances
- ng/g = nanograms per gram
- U = Undetected
- UJ = Undetected and estimated
- J = Estimated
- J+ = Estimated with potential high bias
- bold** = detected
- bold** = detected above action level (identified by a,b,c, and/or d notation)
- in = inches
- ft = feet
- CAS No. = Chemical Abstract Service number
- NE = not established
- NA = Not reported due to insufficient recovery of extracted internal standard
- HFPO-DA, GenX = Hexafluoropropylene oxide dimer acid
- NETFOSAA = N-ethyl perfluorooctanesulfonamidoacetic acid
- NMeFOSAA = N-methyl perfluorooctanesulfonamidoacetic acid
- 11CI-PF3OUdS = 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
- ADONA = 4,8-Dioxa-3H-perfluorononanoic acid
- 9CI-PF3ONS = 9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid

Table 2
Summary of Soil Analytical Results
323 Route 81, Killingworth, Connecticut
Town Property

Sample Location:							FD-SB11	FD-SB11	FD-SB11	FD-SB12	FD-SB13	FTA-SB01	FTA-SB01
Sample ID:							FD-SB11 (6-18)	FD-SB11 (5-7)	FD-SB11 (11-13)	FD-SB12 (13-24)	FD-SB13 (12-24)	FTA-SB01 (1-2)	FTA-SB01 (3-5)
Sample Date:							06/28/2022	06/28/2022	06/28/2022	06/28/2022	06/28/2022	06/27/2022	06/27/2022
Sample Type:							Soil	Soil	Soil	Soil	Soil	Soil	Soil
Start Depth:							6.0 in	5.0 ft	11.0 ft	13.0 in	12.0 in	1.0 ft	3.0 ft
End Depth:							18.0 in	7.0 ft	13.0 ft	25.0 in	24.0 in	2.0 ft	5.0 ft
CAS No.	Analyte	Res DEC APS (a)	I/C DEC APS (b)	GA PMC APS (c)	GB PMC APS (d)	Units							
335-67-1	Perfluorooctanoic Acid (PFOA)	1350	41000	1.4	14	ng/g	0.243 UJ	0.256 UJ	0.274 UJ	0.244 U	0.246 U	0.249 U	0.26 U
1763-23-1	Perfluorooctane sulfonic acid (PFOS)	1350	41000	1.4	14	ng/g	0.243 UJ	0.256 UJ	0.274 UJ	28.7 cd	0.246 U	4.04 c	32.7 cd
375-95-1	Perfluorononanoic Acid (PFNA)	1350	41000	1.4	14	ng/g	0.243 UJ	0.256 U	0.274 UJ	0.244 U	0.246 U	0.249 U	0.26 U
355-46-4	Perfluorohexanesulfonic acid (PFHXS)	1350	41000	1.4	14	ng/g	0.243 UJ	0.256 UJ	0.274 UJ	0.578	0.246 UJ	0.249 U	0.464 J
375-85-9	Perfluoroheptanoic Acid (PFHpA)	1350	41000	1.4	14	ng/g	0.243 UJ	0.256 UJ	0.274 UJ	0.244 U	0.246 U	0.249 U	0.26 U
CT_PFAS5	CT PFAS Sum of Five	1350	41000	1.4	14	ng/g	0.243 UJ	0.256 UJ	0.274 UJ	29.3 cd	0.246 UJ	4.04 c	33.2 J cd
13252-13-6	HFPO-DA, GenX	NE	NE	NE	NE	ng/g	9.71 U	10.2 U	10.9 U	9.76 U	9.86 U	9.98 U	10.4 U
2991-50-6	NETFOSAA	NE	NE	NE	NE	ng/g	0.485 U	0.512 U	1.92 U	0.488 U	0.493 U	0.499 U	0.521 U
2355-31-9	NMeFOSAA	NE	NE	NE	NE	ng/g	NA	0.512 U	0.547 U	0.488 U	0.493 U	0.499 U	0.521 U
375-73-5	Perfluorobutanesulfonic acid (PFBS)	NE	NE	NE	NE	ng/g	0.243 U	0.256 U	0.274 U	0.244 U	0.246 U	0.249 U	0.26 U
335-76-2	Perfluorodecanoic Acid (PFDA)	NE	NE	NE	NE	ng/g	0.243 U	0.256 U	0.274 U	0.244 U	0.246 U	0.249 U	0.26 U
307-55-1	Perfluorododecanoic Acid (PFDoA)	NE	NE	NE	NE	ng/g	0.485 U	0.512 U	0.547 U	0.488 U	0.493 U	0.499 U	0.521 U
307-24-4	Perfluorohexanoic Acid (PFHxA)	NE	NE	NE	NE	ng/g	0.485 U	0.512 U	0.547 U	0.488 U	0.493 U	0.499 U	0.521 U
376-06-7	Perfluorotetradecanoic acid (PFTEDA)	NE	NE	NE	NE	ng/g	0.485 U	0.512 U	0.547 U	0.488 U	0.493 U	0.499 U	0.521 U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	NE	NE	NE	NE	ng/g	0.485 U	0.512 U	0.547 U	0.488 U	0.493 U	0.499 U	0.521 U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	NE	NE	NE	NE	ng/g	0.485 U	0.512 U	0.547 U	0.488 U	0.493 U	0.499 U	0.521 U
763051-92-9	11CI-PF3OUdS	NE	NE	NE	NE	ng/g	0.971 U	1.02 U	1.09 U	0.976 U	0.986 U	0.998 U	1.04 U
919005-14-4	ADONA	NE	NE	NE	NE	ng/g	0.971 U	1.02 U	1.09 U	0.976 U	0.986 U	0.998 U	1.04 U
756426-58-1	9CI-PF3ONS	NE	NE	NE	NE	ng/g	0.971 U	1.02 U	1.09 U	0.976 U	0.986 U	0.998 U	1.04 U

Notes:

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- GB PMC = GB Pollutant Mobility Criteria
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- ng/g = nanograms per gram
- U = Undetected
- UJ = Undetected and estimated
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- J+ = Estimated with potential high bias
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- bold** = detected above action level (identified by a,b,c, and/or d notation)
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- NETFOSAA = N-ethyl perfluorooctanesulfonamidoacetic acid
- NMeFOSAA = N-methyl perfluorooctanesulfonamidoacetic acid
- 11CI-PF3OUdS = 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
- ADONA = 4,8-Dioxa-3H-perfluorononanoic acid
- 9CI-PF3ONS = 9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid

Table 2
Summary of Soil Analytical Results
323 Route 81, Killingworth, Connecticut
Town Property

Sample Location:							PW-SB01	PW-SB01	PW-SB02	PW-SB02	PW-SB03	PW-SB04	PW-SB04	PW-SB05	PW-SB05
Sample ID:							PW-SB01 (6-18)	PW-SB01 (4-4.5)	PW-SB02 (6-18)	PW-SB02 (4-4.5)	PW-SB03 (2-3)	PW-SB04 (6-18)	PW-SB04 (9.5-10)	PW-SB05 (6-18)	PW-SB05 (8-10)
Sample Date:							06/27/2022	06/27/2022	06/27/2022	06/27/2022	06/27/2022	06/27/2022	06/27/2022	06/27/2022	06/27/2022
Sample Type:							Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Start Depth:							6.0 in	4.0 ft	6.0 in	4.0 ft	2.0 ft	6.0 in	9.5 ft	6.0 in	8.0 ft
End Depth:							18.0 in	4.5 ft	18.0 in	4.5 ft	3.0 ft	18.0 in	10.0 ft	18.0 in	10.0 ft
CAS No.	Analyte	Res DEC APS (a)	I/C DEC APS (b)	GA PMC APS (c)	GB PMC APS (d)	Units									
335-67-1	Perfluorooctanoic Acid (PFOA)	1350	41000	1.4	14	ng/g	0.251 U	0.252 UJ	0.259 U	0.258 UJ	0.241 UJ	0.266 U	0.263 UJ	0.265 U	0.257 U
1763-23-1	Perfluorooctane sulfonic acid (PFOS)	1350	41000	1.4	14	ng/g	1.09	2.03 J+ c	0.388	0.531 J+	0.241 U	0.266 U	0.379	0.265 U	0.257 U
375-95-1	Perfluorononanoic Acid (PFNA)	1350	41000	1.4	14	ng/g	0.251 U	0.252 UJ	0.259 U	0.258 UJ	0.241 UJ	0.266 U	0.263 UJ	0.265 U	0.257 U
355-46-4	Perfluorohexanesulfonic acid (PFHXS)	1350	41000	1.4	14	ng/g	0.251 U	0.252 UJ	0.259 U	0.258 UJ	0.241 U	0.266 U	0.263 U	0.265 U	0.257 U
375-85-9	Perfluoroheptanoic Acid (PFHpA)	1350	41000	1.4	14	ng/g	0.251 U	0.252 UJ	0.259 U	0.258 UJ	0.241 UJ	0.266 U	0.263 UJ	0.265 U	0.257 U
CT_PFAS5	CT PFAS Sum of Five	1350	41000	1.4	14	ng/g	1.09	2.03 J+ c	0.388	0.531 J	0.241 UJ	0.266 U	0.379 J	0.265 U	0.257 U
13252-13-6	HFPO-DA, GenX	NE	NE	NE	NE	ng/g	10 U	10.1 U	10.4 U	10.3 U	9.63 U	10.6 U	10.5 U	10.6 U	10.3 U
2991-50-6	NETFOSAA	NE	NE	NE	NE	ng/g	0.501 U	0.505 U	0.518 U	0.515 U	0.481 U	0.533 U	0.526 U	0.53 U	0.514 U
2355-31-9	NMeFOSAA	NE	NE	NE	NE	ng/g	0.501 U	0.505 U	0.518 U	0.515 U	0.481 U	0.533 U	0.526 U	0.53 U	1.89 U
375-73-5	Perfluorobutanesulfonic acid (PFBS)	NE	NE	NE	NE	ng/g	0.251 U	0.252 U	0.259 U	0.258 U	0.241 U	0.266 U	0.263 U	0.265 U	0.257 U
335-76-2	Perfluorodecanoic Acid (PFDA)	NE	NE	NE	NE	ng/g	0.251 U	0.252 U	0.259 U	0.258 U	0.241 U	0.266 U	0.263 U	0.265 U	0.257 U
307-55-1	Perfluorododecanoic Acid (PFDoA)	NE	NE	NE	NE	ng/g	0.501 U	0.505 U	0.518 U	0.515 U	0.481 U	0.533 U	0.526 U	0.53 U	0.514 U
307-24-4	Perfluorohexanoic Acid (PFHxA)	NE	NE	NE	NE	ng/g	0.501 U	0.505 U	0.518 U	0.515 U	0.481 U	0.533 U	0.526 U	0.53 U	0.514 U
376-06-7	Perfluorotetradecanoic acid (PFTEDA)	NE	NE	NE	NE	ng/g	0.501 U	0.505 U	0.518 U	0.515 U	0.481 U	0.533 U	0.526 U	0.53 U	0.514 U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	NE	NE	NE	NE	ng/g	0.501 U	0.505 U	0.518 U	0.515 U	0.481 U	0.533 U	0.526 U	0.53 U	0.514 U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	NE	NE	NE	NE	ng/g	0.501 U	0.505 U	0.518 U	0.515 U	0.481 U	0.533 U	0.526 U	0.53 U	0.514 U
763051-92-9	11CI-PF3OUdS	NE	NE	NE	NE	ng/g	1 U	1.01 U	1.04 U	1.03 U	0.963 U	1.06 U	1.05 U	1.06 U	1.03 U
919005-14-4	ADONA	NE	NE	NE	NE	ng/g	1 U	1.01 U	1.04 U	1.03 U	0.963 U	1.06 U	1.05 U	1.06 U	1.03 U
756426-58-1	9CI-PF3ONS	NE	NE	NE	NE	ng/g	1 U	1.01 U	1.04 U	1.03 U	0.963 U	1.06 U	1.05 U	1.06 U	1.03 U

Notes:

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- U = Undetected
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- bold** = detected
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- HFPO-DA, GenX Hexafluoropropylene oxide dimer acid
- NETFOSAA N-ethyl perfluorooctanesulfonamidoacetic acid
- NMeFOSAA N-methyl perfluorooctanesulfonamidoacetic acid
- 11CI-PF3OUdS 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
- ADONA 4,8-Dioxa-3H-perfluorononanoic acid
- 9CI-PF3ONS 9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid

Table 3
Summary of Groundwater Analytical Data
323 Route 81, Killingworth Connecticut

Sample Location: Sample ID: Sample Date: Sample Type:				MW11 KLNG-MW11- 20220712 07/12/2022 Groundwater	MW12 KLNG-MW12- 20220713 07/13/2022 Groundwater	MW13 KLNG-MW13- 20220713 07/13/2022 Groundwater	MW13 KLNG-DUP02- 20220713 07/13/2022 Duplicate	MW14 KLNG-MW14- 20220712 07/12/2022 Groundwater	TW1 KLNG-TW1- 20220713 07/13/2022 Groundwater
CAS No.	Analyte	GWPC APS	Units						
335-67-1	Perfluorooctanoic Acid (PFOA)	70	ng/l	22	3.58 J	4.08	4.63	245	26.9
1763-23-1	Perfluorooctane sulfonic acid (PFOS)	70	ng/l	136	1.82	3.66	3.6	4,440	174
375-95-1	Perfluorononanoic Acid (PFNA)	70	ng/l	5.77	1.82 U	1.89 U	1.91 U	17.4	20
355-46-4	Perfluorohexanesulfonic acid (PFHXS)	70	ng/l	198	15.5	3.99	4.31	8,090	318
375-85-9	Perfluoroheptanoic Acid (PFHpA)	70	ng/l	18.7	2.29	3.18	3.13	120	42.7
CT_PFA55	CT PFAS Sum of Five	70	ng/l	380	21.4 J	18.83	15.7	12,912	582
13252-13-6	HFPO-DA, GenX	NE	ng/l	48 U	45.5 U	47.4 U	47.8 U	47.5 U	46.1 U
2991-50-6	NEtFOSAA	NE	ng/l	1.92 U	1.82 U	1.89 U	1.91 U	1.9 U	1.84 U
2355-31-9	NMeFOSAA	NE	ng/l	1.92 U	1.82 U	1.89 U	1.91 U	1.9 U	1.84 U
375-73-5	Perfluorobutanesulfonic acid (PFBS)	NE	ng/l	20.1	2.66	1.98	1.91	1530	49.4
335-76-2	Perfluorodecanoic Acid (PFDA)	NE	ng/l	1.92 U	1.82 U	1.89 U	1.91 U	1.9	1.84 U
307-55-1	Perfluorododecanoic Acid (PFDoA)	NE	ng/l	1.92 U	1.82 U	1.89 U	1.91 U	1.9 U	1.84 U
307-24-4	Perfluorohexanoic Acid (PFHxA)	NE	ng/l	38.9	3.5	3.92	3.99	825	138
376-06-7	Perfluorotetradecanoic acid (PFTEDA)	NE	ng/l	1.92 U	1.82 U	1.89 U	1.91 U	1.9 U	1.84 U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	NE	ng/l	1.92 U	1.82 U	1.89 U	1.91 U	1.9 U	1.84 U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	NE	ng/l	1.92 U	1.82 U	1.89 U	1.91 U	1.9 U	1.84 U
763051-92-9	11Cl-PF3OUdS	NE	ng/l	1.92 UJ	1.82 U	1.89 U	1.91 U	1.9 U	1.84 U
919005-14-4	ADONA	NE	ng/l	1.92 U	1.82 U	1.89 U	1.91 U	1.9 U	1.84 U
756426-58-1	9Cl-PF3ONS	NE	ng/l	1.92 UJ	1.82 U	1.89 U	1.91 U	1.9 U	1.84 U

Notes:

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- GWPC = Groundwater Protections Criteria
- APS = Additional Polluting Substances
- NE = not established
- ng/l = nanograms per liter
- U = Undetected
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- HFPO-DA, GenX Hexafluoropropylene oxide dimer acid
- NEtFOSAA N-ethyl perfluorooctanesulfonamidoacetic acid
- NMeFOSAA N-methyl perfluorooctanesulfonamidoacetic acid
- 11Cl-PF3OUdS 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
- ADONA 4,8-Dioxa-3H-perfluorononanoic acid
- 9Cl-PF3ONS 9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid

Table 3
Summary of Groundwater Analytical Data
323 Route 81, Killingworth Connecticut

Sample Location:				MW1S	MW1D	MW2S	MW2D	MW3S	MW3D	MW4S	MW4D
Sample ID:				KLNG-MW1S-20220713	KLNG-MW1D-20220713	KLNG-MW2S-20220712	KLNG-MW2D-20220712	KLNG-MW3S-20220712	KLNG-MW3D-20220712	KLNG-MW4S-20220713	KLNG-MW4D-20220713
Sample Date:				07/13/2022	07/13/2022	07/12/2022	07/12/2022	07/12/2022	07/12/2022	07/13/2022	07/13/2022
Sample Type:				Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
CAS No.	Analyte	GWPC APS	Units								
335-67-1	Perfluorooctanoic Acid (PFOA)	70	ng/l	77.1	56.7	1.81 U	1.82 UJ	4.7	4.71	1.84	2.34
1763-23-1	Perfluorooctane sulfonic acid (PFOS)	70	ng/l	133	50	1.81 U	1.82 U	7.49	91.1	10.2	8.42
375-95-1	Perfluorononanoic Acid (PFNA)	70	ng/l	1.88 UJ	1.89 UJ	1.81 U	1.82 U	1.83 U	1.82 U	1.84	1.79 UJ
355-46-4	Perfluorohexanesulfonic acid (PFHXS)	70	ng/l	31.9	38.2	1.81 U	1.82	40.2	51.9	1.84	1.79
375-85-9	Perfluoroheptanoic Acid (PFHpA)	70	ng/l	18.6	17.2	1.81 U	1.82	4.78	3.26	1.84	1.79
CT_PFAS5	CT PFAS Sum of Five	70	ng/l	261 J	162.1 J	1.81 U	1.82 UJ	57.2	151	10.2	10.76 J
13252-13-6	HFPO-DA, GenX	NE	ng/l	47.1 U	47.2 U	45.4 U	45.6 U	45.7 U	45.5 U	46 U	44.8 U
2991-50-6	NEtFOSAA	NE	ng/l	1.88 U	1.89 U	1.81 U	1.82 U	1.83 U	1.82 U	1.84 U	1.79 U
2355-31-9	NMeFOSAA	NE	ng/l	1.88 U	1.89 U	1.81 U	1.82 U	1.83 U	1.82 U	1.84 U	1.79 U
375-73-5	Perfluorobutanesulfonic acid (PFBS)	NE	ng/l	1.88	2.08	1.81 U	4.18	12.8	11.2	2.49	2.1
335-76-2	Perfluorodecanoic Acid (PFDA)	NE	ng/l	1.88	1.89 U	1.81 U	1.82 U	1.83 U	1.82 U	1.84 U	1.79 UJ
307-55-1	Perfluorododecanoic Acid (PFDoA)	NE	ng/l	1.88 U	1.89 U	1.81 U	1.82 U	1.83 U	1.82 U	1.84 U	1.79 U
307-24-4	Perfluorohexanoic Acid (PFHxA)	NE	ng/l	14.9	32.4	1.81 U	1.82 UJ	12.8	11	1.84	1.79
376-06-7	Perfluorotetradecanoic acid (PFTEDA)	NE	ng/l	1.88 U	1.89 U	1.81 U	1.82 U	1.83 U	1.82 U	1.84 U	1.79 U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	NE	ng/l	1.88 U	1.89 U	1.81 U	1.82 U	1.83 U	1.82 U	1.84 U	1.79 U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	NE	ng/l	1.88 U	1.89 U	1.81 U	1.82 U	1.83 U	1.82 U	1.84 U	1.79 U
763051-92-9	11CI-PF3OUdS	NE	ng/l	1.88 U	1.89 U	1.81 U	1.82 U	1.83 U	1.82 U	1.84 U	1.79 U
919005-14-4	ADONA	NE	ng/l	1.88 U	1.89 U	1.81 U	1.82 U	1.83 U	1.82 U	1.84 U	1.79 U
756426-58-1	9CI-PF3ONS	NE	ng/l	1.88 U	1.89 U	1.81 U	1.82 U	1.83 U	1.82 U	1.84 U	1.79 U

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- 11CI-PF3OUdS 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
- ADONA 4,8-Dioxa-3H-perfluorononanoic acid
- 9CI-PF3ONS 9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid

Table 4
Summary of Surface Water Analytical Results
Killingworth, Connecticut

Sample Location:			24-08FP
Sample ID:			KLNG-SW1-20220713
Sample Date:			07/13/2022
Sample Type:			Surface water
CAS No.	Analyte	Units	
335-67-1	Perfluorooctanoic Acid (PFOA)	ng/l	4.27
1763-23-1	Perfluorooctane sulfonic acid (PFOS)	ng/l	2.85
375-95-1	Perfluorononanoic Acid (PFNA)	ng/l	1.96 UJ
355-46-4	Perfluorohexanesulfonic acid (PFHXS)	ng/l	8.47
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ng/l	2.46
CT_PFA55	CT PFAS Sum of Five	ng/l	23.46 J
13252-13-6	HFPO-DA, GenX	ng/l	49.1 U
2991-50-6	NEtFOSAA	ng/l	1.96 U
2355-31-9	NMeFOSAA	ng/l	1.96 U
375-73-5	Perfluorobutanesulfonic acid (PFBS)	ng/l	2.88
335-76-2	Perfluorodecanoic Acid (PFDA)	ng/l	1.96 U
307-55-1	Perfluorododecanoic Acid (PFDoA)	ng/l	1.96 U
307-24-4	Perfluorohexanoic Acid (PFHxA)	ng/l	5.41
376-06-7	Perfluorotetradecanoic acid (PFTEDA)	ng/l	1.96 U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	ng/l	1.96 U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ng/l	1.96 U
763051-92-9	11Cl-PF3OUdS	ng/l	1.96 U
919005-14-4	ADONA	ng/l	1.96 U
756426-58-1	9Cl-PF3ONS	ng/l	1.96 U

Notes:

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 GWPC = Groundwater Protections Criteria
 APS = Additional Polluting Substances
 NE = not established
 ng/l = nanograms per liter
 U = Undetected
 UJ = Undetected and estimated
 J = Estimated
bold = detected

HFPO-DA, GenX Hexafluoropropylene oxide dimer acid

NEtFOSAA N-ethyl perfluorooctanesulfonamidoacetic acid

NMeFOSAA N-methyl perfluorooctanesulfonamidoacetic acid

11CI-PF3OUdS 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid

ADONA 4,8-Dioxa-3H-perfluorononanoic acid

9CI-PF3ONS 9-Chlorohexadecafluoro-3-oxanone-1-sulfonic acid

Appendix A

Photo Log



PHOTO NO. 1
DESCRIPTION:

View of the front of the Fire Station.



PHOTO NO. 2
DESCRIPTION:

View of the rear of the Fire Station.



PHOTO NO. 3	View of the cistern access/location, shed, rear of fire station. View of the former fire training area to the left of photo.
DESCRIPTION:	



PHOTO NO. 4	View of aboveground storage tank, sheds, and dog pound.
DESCRIPTION:	



PHOTO NO. 5 DESCRIPTION:	View of the drainage area from rear parking area; dog pound, rear of emergency management building.



PHOTO NO. 6 DESCRIPTION:	View of drainage area from rear parking area.



PHOTO NO. 7
DESCRIPTION:

View of floor drain inside fire station.



PHOTO NO. 8
DESCRIPTION:

View of floor drain discharge from fire station.



PHOTO NO. 9
DESCRIPTION:

View from rear of Emergency Management Building and Town Hall.



PHOTO NO. 10
DESCRIPTION:

View of former fire training area, sheds, aboveground storage tank, cellular tower, and buildings.



PHOTO NO. 11
DESCRIPTION:

View of stone piles and storage area behind dog pound.



PHOTO NO. 12
DESCRIPTION:

View of Public Works equipment outdoor storage.



PHOTO NO. 13
DESCRIPTION:

Fill area east of the sand and salt storage building.



PHOTO NO. 14
DESCRIPTION:

Driveway to current fire training building with Public Works equipment.



PHOTO NO. 15
DESCRIPTION:

Driveway to current fire training building with stone and other construction materials.



PHOTO NO. 16
DESCRIPTION:

View of current fire training building.



PHOTO NO. 17
DESCRIPTION:

Potable well for fire station and Town Hall.



PHOTO NO. 18
DESCRIPTION:

View of potable well for Public Works garage.

Appendix B

Questionnaire

To Whom It May Concern:

Please find this correspondence as my response to questions posed to you by an adjuster at FIS regarding the open PFAS claim. The responses to these questions are based on information and belief and based on the information available to the Killingworth Volunteer Fire Company ("KVFC"). We obviously reserve the rights to supplement these responses.

1. When was PFAS containing foam last used by the KVFC?

Prior to 1992 and after approximately 1996, KVFC exclusively used protein based foam associated with some, but not all, fire suppression activities. Upon information and belief, in 1992, Engine 855 was built which incorporated a 50-gallon foam system. Foam used in this system may have contained PFAS. Members may have trained on that system a few times over a four-year period. However, the system never worked correctly and after that short period, we discontinued use of the system.

2. Do we have any records that show the particular product(s) and manufacturer(s)?

After diligent search, KVFC has no records in its possession regarding foam products that may have contained PFAS or those entities that may have manufactured it. However, upon information and belief, on or about May 18, 2021, the state took back a quantity of five (5) 5-gallon buckets of "Universal Gold" AFFF during a take back program.

To the best of our recollection, Firematic Supply Company and Shipman's Fire Equipment were the only suppliers available to KVFC for this type of product. Based on conversations with them:

- Shipman's Fire Equipment Company has indicated that they are only able to search records back to 2019 and there are no records that KVFC purchased foam from them.
- Firematic Supply Company has indicated that they are able to review records back 21 years and there was no record found that KVFC purchased foam from them.

3. Do you have any idea how we could track down this info?

Please see response to request for information number 2.

From: [Pociu, Shannon](#)
To: [Patricia Graham](#)
Cc: [Fusaro, Carolyn](#)
Subject: RE: Killingworth CT AFFF / PFAS investigation
Date: Monday, May 2, 2022 4:06:06 PM
Attachments: [image002.png](#)

Hi Patricia,

As part of the state's AFFF Take-Back Program, the Killingworth Fire Department at 333 Route 81 identified 3 x 5 gallon containers of AFFF for disposal. According Clean Harbors, the removal and disposal contractor hired by the state, those containers were picked up on May 18, 2021.

That is all of the information I have regarding AFFF or PFAS removal for the area of the town hall.

Best regards,
Shannon

Shannon Pociu
Environmental Analyst 3
Remediation Division
Bureau of Water Protection and Land Reuse
Connecticut Department of Energy and Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
P: 860.424.3546 | E: Shannon.Pociu@ct.gov



www.ct.gov/deep

From: Patricia Graham <pgraham@ensafe.com>
Sent: Monday, May 2, 2022 2:56 PM
To: Pociu, Shannon <Shannon.Pociu@ct.gov>
Subject: Killingworth CT AFFF / PFAS investigation

EXTERNAL EMAIL: This email originated from outside of the organization. Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Hi Shannon,

I am working on a PFAS Phase I and limited investigation report for Town of Killingworth Town Hall property and wanted to reach out to see if you have any records of AFFF/PFAs removal from the fire department?

PATRICIA GRAHAM | [ENSAFE INC.](#)

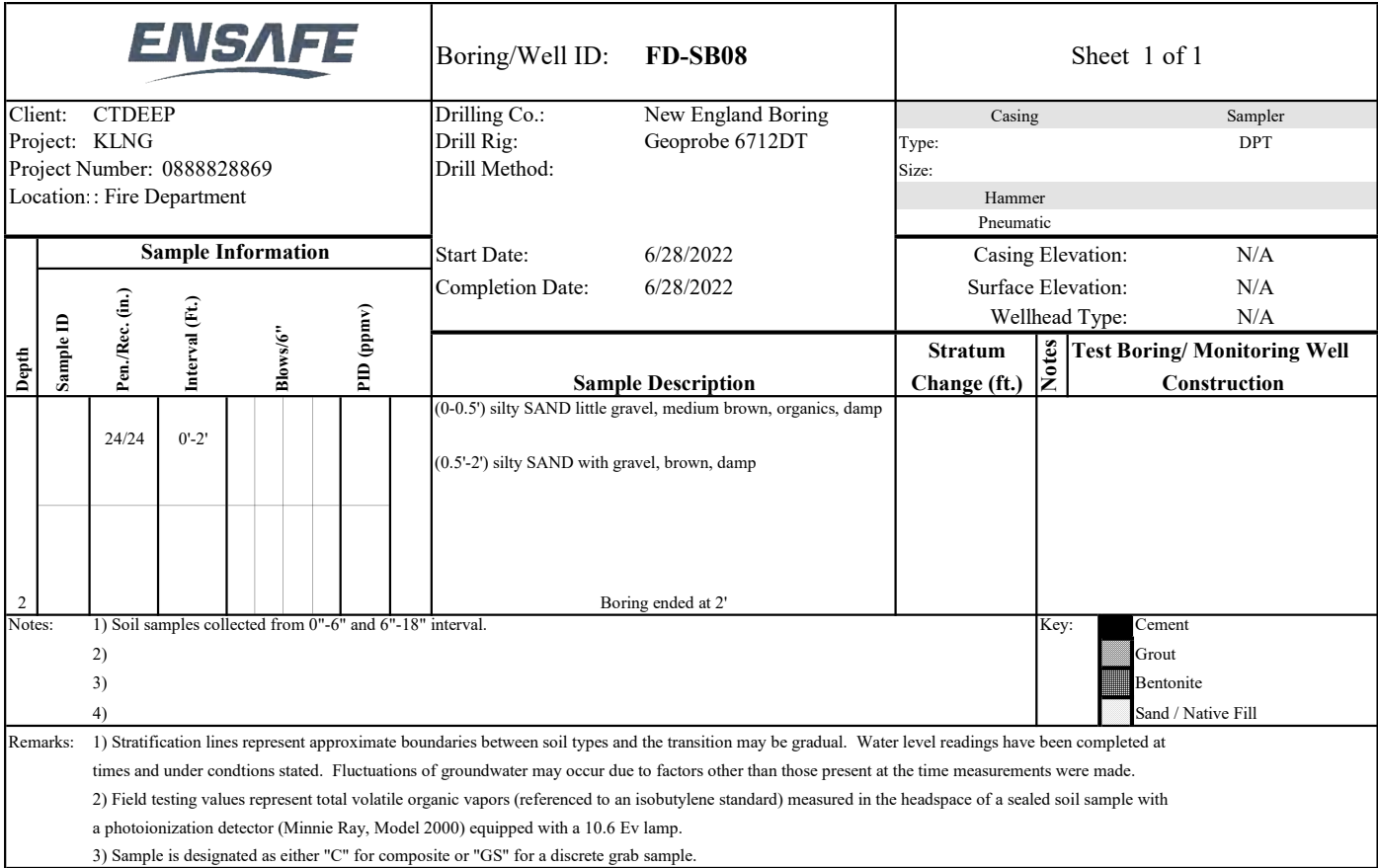
c 781.710.7071 | o 603.437.8227 | pgraham@ensafe.com

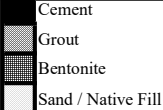
Appendix C

Soil Boring Logs

						Boring/Well ID: FD-SB01		Sheet 1 of 1													
Client: CTDEEP Project: KLNG Project Number: 0888828869 Location: : Fire Department						Drilling Co.: New England Boring Drill Rig: Geoprobe 6712DT Drill Method:		<table border="1"> <tr> <td>Casing</td> <td>Sampler</td> </tr> <tr> <td>Type:</td> <td>DPT</td> </tr> <tr> <td>Size:</td> <td></td> </tr> <tr> <td>Hammer</td> <td></td> </tr> <tr> <td>Pneumatic</td> <td></td> </tr> </table>				Casing	Sampler	Type:	DPT	Size:		Hammer		Pneumatic	
Casing	Sampler																				
Type:	DPT																				
Size:																					
Hammer																					
Pneumatic																					
Depth	Sample Information					Start Date: 6/27/2022 Completion Date: 6/27/2022		Casing Elevation: N/A Surface Elevation: N/A Wellhead Type: N/A													
	Sample ID	Pen./Rec. (in.)	Interval (Ft.)	Blows/6"	PID (ppmv)	Sample Description		Stratum Change (ft.)	Notes	Test Boring/ Monitoring Well Construction											
2		32/60	0-5'			(0'-2') medium to coarse SAND with gravel and silty sand, dark brown to gray, organics (leaves twigs, etc.), damp															
						(2'-5') silty SAND trace gravel, brown, organics (leaves, twigs, etc.), damp															
4																					
6		57/60	5-10'			(5'-7') silty SAND with gravel, brown, white, and gray, iron staining in patches, moist to damp															
8						(7'-9.5') sandy SILT, orange-brown, iron staining, organics at 8'-8.5', damp and stiff															
10						(9.5'-10') coarse SAND some gravel, brown, damp															
		12/42	10-13.5'			(10'-13.5') silty medium to coarse SAND little gravel, brown, mica flecks, damp															
12																					
14																					
						Boring Ended at 13.5'															
Notes: 1) Soil samples collected from intervals 0-6", 6-18", 12.5-13.5' 2) DUP collected at 12.5-13.5' 3) 4)								Key: <table border="1"> <tr> <td></td> <td>Cement</td> </tr> <tr> <td></td> <td>Grout</td> </tr> <tr> <td></td> <td>Bentonite</td> </tr> <tr> <td></td> <td>Sand / Native Fill</td> </tr> </table>					Cement		Grout		Bentonite		Sand / Native Fill		
	Cement																				
	Grout																				
	Bentonite																				
	Sand / Native Fill																				
Remarks: 1) Stratification lines represent approximate boundaries between soil types and the transition may be gradual. Water level readings have been completed at times and under condons stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made. 2) Field testing values represent total volatile organic vapors (referenced to an isobutylene standard) measured in the headspace of a sealed soil sample with a photoionization detector (Minnie Ray, Model 2000) equipped with a 10.6 Ev lamp. 3) Sample is designated as either "C" for composite or "GS" for a discrete grab sample.																					

ENSAFÉ							Boring/Well ID: FD-SB06					Sheet 1 of 1				
Client: CTDEEP Project: KLNG Project Number: 0888828869 Location : Fire Department							Drilling Co.: New England Boring Drill Rig: Geoprobe 6712DT Drill Method:					Casing				



								Boring/Well ID: FD-SB09		Sheet 1 of 1	
Client: CTDEEP Project: KLNG Project Number: 0888828869 Location: : Fire Department								Drilling Co.: New England Boring Drill Rig: Geoprobe 6712DT Drill Method:		Casing Sampler Type: DPT Size: Hammer Pneumatic	
Depth	Sample Information							Start Date: 6/28/2022		Casing Elevation: N/A	
	Sample ID	Pen./Rec. (in.)	Interval (Ft.)	Blows/6"	PID (ppmv)	Completion Date: 6/28/2022		Surface Elevation: N/A			
						Wellhead Type: N/A					
								Stratum Change (ft.)	Notes	Test Boring/ Monitoring Well Construction	
2		18/18	0'-1.5'					(0-1') silty SAND, dark brown, dry to moist			
								(1'-1.5') sandy SILT, dark brown to black, moist			
								Boring ended at 1.5'			
Notes: 1) Soil samples collected from 0"-6" and 6"-18" interval. 2) 3) 4)								Key:			
Remarks: 1) Stratification lines represent approximate boundaries between soil types and the transition may be gradual. Water level readings have been completed at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made. 2) Field testing values represent total volatile organic vapors (referenced to an isobutylene standard) measured in the headspace of a sealed soil sample with a photoionization detector (Minnie Ray, Model 2000) equipped with a 10.6 Ev lamp. 3) Sample is designated as either "C" for composite or "GS" for a discrete grab sample.											

ENSAFE										Boring/Well ID: FD-SB10					Sheet 1 of 1				
Client: CTDEEP Project: KLNG Project Number: 0888828869 Location: : Fire Department										Drilling Co.: New England Boring Drill Rig: Geoprobe 6712DT Drill Method:					Casing				

							Boring/Well ID: FD-SB11			Sheet 1 of 1		
Client: CTDEEP Project: KLNG Project Number: 0888828869 Location : Fire Department							Drilling Co.: New England Boring Drill Rig: Geoprobe 6712DT Drill Method:			Casing Sampler Type: DPT Size: Hammer Pneumatic		
Depth	Sample Information						Start Date: 6/28/2022 Completion Date: 6/28/2022			Casing Elevation: N/A Surface Elevation: N/A Wellhead Type: N/A		
	Sample ID	Pen./Rec. (in.)	Interval (Ft.)	Blows/6"		PTD (ppmv)	Sample Description			Stratum Change (ft.)	Notes	Test Boring/ Monitoring Well Construction
2		34/60	0-5'				(0'-0.25') Topsoil (0.25'-1.75') fine to coarse SAND some gravel, light brown, damp (1.75'-2') asphalt block (2'-4') silty SAND some gravel, dark brown, rock at tip					
4												
6		36/60	5-10'				(4'-8') silty SAND some coarse sand little gravel, light gray, damp at bottom					
8												
10							(8'-13') silty SAND some medium to coarse sand little gravel, light gray, interbedded layer of coarse sand and gravel at 13'					
12		36/36	10-15'									
13							Boring ended at 13'					
Notes: 1) Soil samples collected from intervals 6-18", 5'-7', and 11'-13' 2) 3) 4)							 Water Level			Key:		 Cement  Grout  Bentonite  Sand / Native Fill
Remarks: 1) Stratification lines represent approximate boundaries between soil types and the transition may be gradual. Water level readings have been completed at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made. 2) Field testing values represent total volatile organic vapors (referenced to an isobutylene standard) measured in the headspace of a sealed soil sample with a photoionization detector (Minnie Ray, Model 2000) equipped with a 10.6 Ev lamp. 3) Sample is designated as either "C" for composite or "GS" for a discrete grab sample.												

Boring/Well ID: **FD-SB12**

Sheet 1 of 1

Client: CTDEEP
Project: KLNG
Project Number: 0888828869
Location: Fire Department

Drilling Co.: New England Boring
Drill Rig: Geoprobe 6712DT
Drill Method:

Casing Sampler
Type: DPT

Size:
Hammer
Pneumatic

Start Date: 6/28/2022
Completion Date: 6/28/2022

Casing Elevation: N/A
Surface Elevation: N/A
Wellhead Type: N/A

Depth	Sample Information							Start Date: 6/28/2022	Completion Date: 6/28/2022	Casing Elevation: N/A		
	Sample ID	Pen./Rec. (in.)	Interval (Ft.)	Blows/6"			PID (ppmv)			Surface Elevation: N/A		
								Wellhead Type: N/A				
								Sample Description	Stratum Change (ft.)	Notes	Test Boring/ Monitoring Well Construction	
2		24/24	0-2'					(0'-0.5') asphalt				
							(0.5'-1') subgrade, white quartz at 12"					
							(1'-2') fine to medium SAND some coarse sand little gravel, brown, became darker near bottom, dry					
								Boring ended at 2'				

Notes: 1) Soil samples collected from interval 13"-24"
2)
3)
4)

Key:  Cement
 Grout
 Bentonite
 Sand / Native Fill

Remarks: 1) Stratification lines represent approximate boundaries between soil types and the transition may be gradual. Water level readings have been completed at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
2) Field testing values represent total volatile organic vapors (referenced to an isobutylene standard) measured in the headspace of a sealed soil sample with a photoionization detector (Minnie Ray, Model 2000) equipped with a 10.6 Ev lamp.
3) Sample is designated as either "C" for composite or "GS" for a discrete grab sample.

								Boring/Well ID: FD-SB13		Sheet 1 of 1											
Client: CTDEEP Project: KLNG Project Number: 0888828869 Location: : Fire Department								Drilling Co.: New England Boring Drill Rig: Geoprobe 6712DT Drill Method:		<table border="1"> <tr> <td>Casing</td> <td>Sampler</td> </tr> <tr> <td>Type:</td> <td>DPT</td> </tr> <tr> <td>Size:</td> <td></td> </tr> <tr> <td>Hammer</td> <td></td> </tr> <tr> <td>Pneumatic</td> <td></td> </tr> </table>		Casing	Sampler	Type:	DPT	Size:		Hammer		Pneumatic	
Casing	Sampler																				
Type:	DPT																				
Size:																					
Hammer																					
Pneumatic																					
Depth	Sample Information							Start Date: 6/28/2022 Completion Date: 6/28/2022		Casing Elevation: N/A Surface Elevation: N/A Wellhead Type: N/A											
	Sample ID	Pen./Rec. (in.)	Interval (ft.)	Blows/6"			PID (ppmv)	Sample Description		Stratum Change (ft.)	Notes	Test Boring/ Monitoring Well Construction									
2		24/24	0-2'						(0'-0.5') asphalt (0.5'-1') subgrade (1'-2') fine to medium SAND some coarse sand little gravel, brown, dry Boring ended at 2'												
Notes: 1) Soil samples collected from interval 12"-24" 2) Field Blank Collected 3) 4)										Key: <table border="1"> <tr> <td></td> <td>Cement</td> </tr> <tr> <td></td> <td>Grout</td> </tr> <tr> <td></td> <td>Bentonite</td> </tr> <tr> <td></td> <td>Sand / Native Fill</td> </tr> </table>			Cement		Grout		Bentonite		Sand / Native Fill		
	Cement																				
	Grout																				
	Bentonite																				
	Sand / Native Fill																				
Remarks: 1) Stratification lines represent approximate boundaries between soil types and the transition may be gradual. Water level readings have been completed at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made. 2) Field testing values represent total volatile organic vapors (referenced to an isobutylene standard) measured in the headspace of a sealed soil sample with a photoionization detector (Minnie Ray, Model 2000) equipped with a 10.6 Ev lamp. 3) Sample is designated as either "C" for composite or "GS" for a discrete grab sample.																					

Boring/Well ID: **FD-SB07**

Sheet 1 of 1

Client: CTDEEP
Project: KLNG
Project Number: 0888828869
Location: Public Works

Drilling Co.: New England Boring
Drill Rig: Geoprobe 6712DT
Drill Method:

Casing Sampler
Type: DPT
Size:
Hammer
Pneumatic

Start Date: 6/27/2022
Completion Date: 6/27/2022

Casing Elevation: N/A
Surface Elevation: N/A
Wellhead Type: N/A

Depth	Sample Information					Stratum Change (ft.)	Notes	Test Boring/ Monitoring Well Construction
	Sample ID	Pen./Rec. (in.)	Interval (Ft.)	Blows/6"	PID (ppmv)			
2		50/54	0'-4.5'			(0-0.5') silty SAND little gravel, dark brown, very moist to wet (0.5'-3') silty fine to coarse SAND little gravel, brown, dry (3'-4.5') SAA more silt Boring ended at 4.5'		
4								
4.5								

Notes: 1) Soil samples collected from 6"-18" and 4'-4.5' interval.
2)
3)
4)

Key: Cement
Grout
Bentonite
Sand / Native Fill

Remarks: 1) Stratification lines represent approximate boundaries between soil types and the transition may be gradual. Water level readings have been completed at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
2) Field testing values represent total volatile organic vapors (referenced to an isobutylene standard) measured in the headspace of a sealed soil sample with a photoionization detector (Minnie Ray, Model 2000) equipped with a 10.6 Ev lamp.
3) Sample is designated as either "C" for composite or "GS" for a discrete grab sample.

Boring/Well ID: **PW-SB02**

Sheet 1 of 1

Client: CTDEEP
Project: KLNG
Project Number: 0888828869
Location: Public Works

Drilling Co.: New England Boring
Drill Rig: Geoprobe 6712DT
Drill Method:

Casing Sampler
Type: DPT
Size:
Hammer
Pneumatic

Start Date: 6/27/2022
Completion Date: 6/27/2022

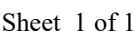
Casing Elevation: N/A
Surface Elevation: N/A
Wellhead Type: N/A

Depth	Sample Information					Stratum Change (ft.)	Notes	Test Boring/ Monitoring Well Construction
	Sample ID	Pen./Rec. (in.)	Interval (Ft.)	Blows/6"	PID (ppmv)			
2		50/54	0'-4.5'			(0-0.5') silty SAND little gravel, dark brown, well sorted, dry (0.5'-3') silty fine to coarse SAND little gravel, orange-brown, well sorted, dry (3'-4.5') SAND little silt, gray, poorly sorted, dry Boring ended at 4.5'		
4								
4.5								

Notes: 1) Soil samples collected from 6"-18" and 4'-4.5' interval.
2)
3)
4)

Key: Cement
Grout
Bentonite
Sand / Native Fill

Remarks: 1) Stratification lines represent approximate boundaries between soil types and the transition may be gradual. Water level readings have been completed at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
2) Field testing values represent total volatile organic vapors (referenced to an isobutylene standard) measured in the headspace of a sealed soil sample with a photoionization detector (Minnie Ray, Model 2000) equipped with a 10.6 Ev lamp.
3) Sample is designated as either "C" for composite or "GS" for a discrete grab sample.



Casing	Sampler
Type:	DPT
Size:	
Hammer	
Pneumatic	

Casing Elevation:	N/A
Surface Elevation:	N/A
Wellhead Type:	N/A

Notes:	1) Soil samples collected from 2'-3' interval.	Key:	 Cement  Grout  Bentonite  Sand / Native Fill
	2)		
	3)		
	4)		

Remarks:

- 1) Stratification lines represent approximate boundaries between soil types and the transition may be gradual. Water level readings have been completed at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
- 2) Field testing values represent total volatile organic vapors (referenced to an isobutylene standard) measured in the headspace of a sealed soil sample with a photoionization detector (Minnie Ray, Model 2000) equipped with a 10.6 Ev lamp.
- 3) Sample is designated as either "C" for composite or "GS" for a discrete grab sample.

							Boring/Well ID: PW-SB04			Sheet 1 of 1		
Client: CTDEEP Project: KLNG Project Number: 0888828869 Location: Public Works							Drilling Co.: New England Boring Drill Rig: Geoprobe 6712DT Drill Method:			Casing Sampler Type: DPT Size: Hammer Pneumatic		
Depth	Sample Information						Start Date: 6/27/2022 Completion Date: 6/27/2022			Casing Elevation: N/A Surface Elevation: N/A Wellhead Type: N/A		
	Sample ID	Pen./Rec. (in.)	Interval (ft.)	Blows/6"		PID (ppmv)	Sample Description			Stratum Change (ft.)	Notes	Test Boring/ Monitoring Well Construction
2		48/60	0'-5'				(0'-2.5') silty SAND little gravel, dark brown, organics, moist to damp					
							(2.5'-4') silty SAND little gravel, brown, iron staining in patches, moist to damp					
4							(4'-5') silty SAND more gravel, dark brown to brown, damp					
							(5'-8') gravelly SAND some silt, gray to brown, well graded, damp					
6		40/60	5-10'				(8'-10') sandy SILT little gravel, red-brown, tight material at 10', damp					
							Boring ended at 10'					
8												
10												
Notes: 1) Soil samples collected from 2'-3' interval. 2) 3) 4)										Key:  Cement  Grout  Bentonite  Sand / Native Fill		
Remarks: 1) Stratification lines represent approximate boundaries between soil types and the transition may be gradual. Water level readings have been completed at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made. 2) Field testing values represent total volatile organic vapors (referenced to an isobutylene standard) measured in the headspace of a sealed soil sample with a photoionization detector (Minnie Ray, Model 2000) equipped with a 10.6 Ev lamp. 3) Sample is designated as either "C" for composite or "GS" for a discrete grab sample.												

ENSAFE										Boring/Well ID: PW-SB05										Sheet 1 of 1																																																																																																																																																																																																																																																			
Client: CTDEEP Project: KLNG Project Number: 0888828869 Location: Public Works										Drilling Co.: New England Boring Drill Rig: Geoprobe 6712DT Drill Method:										Casing Sampler Type: DPT Size: Hammer Pneumatic Casing Elevation: N/A Surface Elevation: N/A Wellhead Type: N/A																																																																																																																																																																																																																																																			
<table><tr><th colspan="7">Sample Information</th></tr><tr><th>Depth</th><th>Sample ID</th><th>Pen./Rec. (in.)</th><th>Interval (Ft.)</th><th>Blows/6"</th><th colspan="2">PID (ppmv)</th></tr></table>										Sample Information							Depth	Sample ID	Pen./Rec. (in.)	Interval (Ft.)	Blows/6"	PID (ppmv)		Start Date: 6/27/2022 Completion Date: 6/27/2022										<table><tr><th>Stratum</th><th>Notes</th><th>Test Boring/ Monitoring Well Construction</th></tr><tr><th>Change (ft.)</th><th>N</th><th></th></tr></table>										Stratum	Notes	Test Boring/ Monitoring Well Construction	Change (ft.)	N																																																																																																																																																																																																																							
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										Boring/Well ID: FTA-SB01										Sheet 1 of 1										
Client: CTDEEP Project: KLNG Project Number: 0888828869 Location: Public Works										Drilling Co.: New England Boring Drill Rig: Geoprobe 6712DT Drill Method:										Casing Sampler Type: DPT Size: Hammer Pneumatic										
Depth	Sample Information										Start Date: 6/27/2022 Completion Date: 6/27/2022										Casing Elevation: N/A Surface Elevation: N/A Wellhead Type: N/A									
	Sample ID	Pen./Rec. (in.)	Interval (ft.)	Blows/6"				PID (ppmv)	Sample Description										Stratum Change (ft.)	Notes	Test Boring/ Monitoring Well Construction									
2		50/60	0'-5'							(0'-4') ASPHALT some gravel, dark brown to black, dead leaves, dry																				
4										(4'-5.3') silty SAND, dark brown, dead leaves, asphalt piece at 4', moist																				
6										Boring ended at 5'3"																				
Notes:										1) Soil samples collected from 1'-2' and 3'-5' intervals. 2) 3) 4)										Key:  Cement  Grout  Bentonite  Sand / Native Fill										
Remarks:										1) Stratification lines represent approximate boundaries between soil types and the transition may be gradual. Water level readings have been completed at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made. 2) Field testing values represent total volatile organic vapors (referenced to an isobutylene standard) measured in the headspace of a sealed soil sample with a photoionization detector (Minnie Ray, Model 2000) equipped with a 10.6 Ev lamp. 3) Sample is designated as either "C" for composite or "GS" for a discrete grab sample.																				

Appendix D
Field Water Quality
Measurement Forms

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-11 Date: 7/13/2022

Field Personnel: Michele Berisford

Sampling Organization: EnSafe

Identify MP: Top of Casing

Depth to 9 19 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 18.5

Purging Device (pump type): peristaltic

Time 24 hr.	Water Depth ft.	Pump Dial ¹ 4 cy/min	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C ± 3%	Spec. Cond. ² µS/cm ± 3%	pH ± 0.1	OPH / Eh ³ mV ± 10	DO mg/L ± 10%	Turbidity NTU ± 10%	Comments:
11:39	11.95	-	97	0.0	21.3	7001	5.88	29.7	0.87	599.71	Sample collected @12:40 MS/MSD Sample collected @12:45
11:43	12.38	-	97	0.4	19.4	6334	5.75	24.8	0.56	462.63	
11:47	12.07	-	97	0.8	19.8	5943	5.75	16.2	0.48	181.60	
11:51	12.07	-	97	1.2	20.2	5489	5.83	5.7	0.38	173.47	
11:57	12.07	-	97	1.8	19.8	5185	5.86	-1.3	0.3	43.45	
12:01	12.07	-	99	1.8	19.7	5075	5.89	-4.0	0.29	34.39	
12:05	12.07	-	97	2.1	19.7	48743	5.90	-7.1	0.27	24.16	
12:09	12.07	-	97	2.3	19.9	4787	5.90	-7.6	0.27	23.99	
12:12	12.07	-	97	2.6	20.0	4756	5.90	-9.3	0.26	20.74	
12:15	12.07	-	97	2.9	19.6	4629	5.91	-11.1	0.25	16.58	
12:18	12.07	-	97	3.2	19.7	4568	5.92	-13.0	0.24	12.68	
12:21	12.07	-	97	3.5	19.5	4506	5.92	-13.7	0.24	12.59	
12:25	12.07	-	97	3.9	19.4	4453	5.92	-14.2	0.23	11.34	
12:29	12.07	-	97	4.3	19.5	4409	5.93	-15.8	0.23	10.47	
12:34	12.07	-	97	4.8	19.7	4398	5.93	-16.4	0.22	8.91	
12:38	12.08	-	97	5.2	19.4	4386	5.93	-16.9	0.22	8.99	

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-12 Date: 7/13/2022

Field Personnel : Alison Piscopo

Sampling Organization: EnSafe

Identify MP: Top of Casing

Depth to 13 23 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 21.5

Purging Device (pump type): peristaltic

Time	Water Depth	Pump Dial ¹	Purge Rate	Cum. Volume Purged	Temp	Spec. Cond. ²	pH	OPH / Eh ³	DO	Turbidity	Comments:
24 hr.	ft.	4 cy/min	ml/min	liters	°C ± 3%	µS/cm ± 3%	± 0.1	mV ± 10	mg/L ± 10%	NTU ± 10%	
9:51	19.38	-	90	0.0	17.0	470.9	6.21	-46.7	1.61	20.31	Collected sample @ 11:05
9:56	19.43	-	90	0.3	16.4	472.6	6.15	-74.1	1.17	15.13	
10:01	19.47	-	90	0.6	16.5	473.7	6.11	-88.7	1.05	9.00	
10:06	19.51	-	90	0.9	16.3	466.2	6.10	-108.8	0.91	6.70	
10:11	19.52	-	90	1.3	16.5	453.5	6.09	-122.4	0.85	9.02	
10:16	19.52	-	90	1.6	16.6	445.7	6.09	-137.7	0.79	8.57	
10:21	19.52	-	90	1.9	16.7	422.3	6.04	-148.6	0.74	9.27	
10:26	19.52	-	90	2.2	16.7	396.9	6.02	-154.8	0.75	9.51	
10:36	19.55	-	90	2.8	16.5	331.3	5.95	-235.3	0.72	7.54	
10:51	19.55	-	90	3.8	16.8	293.5	5.96	-360.8	0.80	4.32	
10:56	19.55	-	90	4.1	16.9	289.2	5.92	-371.1	0.81	5.92	
11:01	19.55	-	90	4.4	17.0	279.6	5.90	-362.2	0.88	3.50	

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-13 Date: 7/13/2022

Field Personnel: Michele Berisford

Sampling Organization: EnSafe

Identify MP: Top of Casing

Depth to 15 25 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 24.5

Purging Device (pump type): peristaltic

Time 24 hr.	Water Depth ft.	Pump Dial ¹ 4 cy/min	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C ± 3%	Spec. Cond. ² µS/cm ± 3%	pH ± 0.1	OPH / Eh ³ mV ± 10	DO mg/L ± 10%	Turbidity NTU ± 10%	Comments:
11:31	19.40	-	98	0.0	16.1	1017	6.90	-49.8	0.78	3273.06	Collected sample @ 12:32 Collected Dup01 sample @ 12:45
11:34	20.20	-	98	0.3	15.9	1028	6.65	-59.4	0.65	1523.77	
11:37	20.20	-	98	0.6	15.8	1027	6.54	-62.9	0.63	857.34	
11:40	20.23	-	98	0.9	17.1	1024	6.36	-67.1	0.70	433.27	
11:43	20.20	-	98	1.2	17.9	974	6.30	-71.9	0.73	1013.37	
11:46	20.20	-	98	1.5	17.5	993	6.27	-74.5	0.70	2583.37	
11:49	20.20	-	98	1.8	17.2	1005	6.23	-73.7	0.84	4654.72	
11:53	20.00	-	98	2.2	17.1	1007	6.16	-64.5	1.37	2296.87	
11:57	20.20	-	98	2.6	16.4	1005	6.12	-58.8	1.53	656.23	
12:00	20.32	-	98	2.9	16.1	997	6.09	-56.8	1.72	170.06	
12:03	20.32	-	98	3.2	16.0	1002	6.09	-57.6	1.77	70.36	
12:08	20.32	-	98	3.7	16.2	1003	6.07	-55.9	2.04	56.04	
12:13	20.31	-	98	4.1	16.2	999	6.00	-45.5	2.88	25.77	
12:18	20.29	-	98	4.6	16.2	996	5.97	-44.3	2.84	24.82	
12:23	20.27	-	98	5.1	15.8	1000	5.96	-44.8	2.96	30.17	
12:28	20.27	-	98	5.6	16.0	991	5.93	-39.7	3.27	23.77	

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-14 Date: 7/13/2022

Field Personnel : Michele Berisford

Sampling Organization: EnSafe

Identify MP: Top of Casing

Depth to 14 24 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 23.5

Purging Device (pump type): peristaltic

Time 24 hr.	Water Depth ft.	Pump Dial ¹ 4 cy/min	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C ± 3%	Spec. Cond. ² µS/cm ± 3%	pH ± 0.1	OPH / Eh ³ mV ± 10	DO mg/L ± 10%	Turbidity NTU ± 10%	Comments:
13:32	21.61	-	155	0.0	17.3	497.1	7.02	-106.3	2.11	12.65	Sample collected @14:10
13:35	22.25	-	155	0.5	16.2	485.3	6.93	-145.1	1.35	111.16	
13:38	22.71	-	155	0.9	17.8	433.9	6.72	-175.5	1.05	36.72	
13:41	22.86	-	155	1.4	18.8	412.5	6.62	-181.3	0.98	28.12	
13:44	23.04	-	155	1.9	19.0	398.1	6.58	-186.0	0.81	16.45	
13:48	23.20	-	155	2.5	18.7	389.7	6.58	-189.2	0.80	12.86	
13:53	23.42	-	155	3.2	18.8	376.8	6.58	-196.5	0.70	13.88	
13:56	23.65	-	155	3.7	18.8	373.4	6.59	-200.1	0.67	14.32	
14:00	23.73	-	155	4.3	18.9	370.0	6.60	-204.3	0.65	15.81	
14:04	23.98	-	155	5.0	18.8	360.9	6.62	-209.4	0.61	15.73	
14:08	24.13	-	155	5.6	18.8	360.2	6.62	-210.9	0.60	15.46	

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-1S Date: 7/13/2022

Field Personnel : Michele Berisford

Sampling Organization: EnSafe

Identify MP: Top of Casing

Depth to 14 24 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 23.5'

Purging Device (pump type): peristaltic

Time 24 hr.	Water Depth ft.	Pump Dial ¹ 4 cy/min	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C ± 3%	Spec. Cond. ² µS/cm ± 3%	pH ± 0.1	OPH / Eh ³ mV ± 10	DO mg/L ± 10%	Turbidity NTU ± 10%	Comments:
15:10	15.29	-	160	0.0	15.0	657	5.94	289.3	7.69	5.31	
15:15	15.33	-	160	0.8	15.1	656	5.79	293.7	7.51	5.05	
15:20	15.51	-	160	1.6	15.1	678	5.67	299.3	7.48	6.85	
15:25	15.54	-	160	2.4	15.3	690	5.63	308.8	7.46	12.63	
15:30	15.52	-	160	3.2	15.5	697	5.58	316.0	7.46	14.22	
15:35	15.52	-	160	4.0	15.3	701	5.57	320.0	7.41	17.72	
15:40	15.52	-	160	4.8	15.4	724	5.55	328.1	7.35	16.72	
15:45	15.52	-	160	5.6	15.1	722	5.55	333.3	7.34	26.75	
15:50	15.52	-	160	6.4	15.3	717	5.56	337.0	7.32	15.48	
15:55	15.52	-	160	7.2	14.7	723	5.56	340.7	7.35	9.10	
16:00	15.52	-	160	8.0	15.0	735	5.56	343.2	7.33	13.16	
16:05	15.52	-	160	8.8	14.2	735	5.57	344.8	7.42	16.88	
16:10	15.52	-	160	9.6	14.5	727	5.57	348.6	7.37	66.78	
											Sample collected @ 16:15

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-1D Date: 7/13/2022

Field Personnel : Michele Berisford

Sampling Organization: EnSafe

Identify MP: Top of Casing

Depth to 32 42 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 41.5

Purging Device (pump type): peristaltic

Time 24 hr.	Water Depth ft.	Pump Dial ¹ 4 cy/min	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C ± 3%	Spec. Cond. ² µS/cm ± 3%	pH ± 0.1	OPH / Eh ³ mV ± 10	DO mg/L ± 10%	Turbidity NTU ± 10%	Comments:
14:10	15.18	-	120	0.0	-	-	-	-	-	-	Collected sample @ 15:07
14:17	15.79	-	120	0.8	14.6	970	6.53	117.4	8.46	62.09	
14:22	15.19	-	120	1.4	14.9	973	6.22	123.2	8.35	33.97	
14:27	15.59	-	120	2.0	14.6	973	6.01	134.3	8.52	12.31	
14:32	15.47	-	120	2.6	14.9	974	5.91	142.2	8.40	13.83	
14:36	15.47	-	120	3.1	14.4	974	5.88	145.8	8.39	18.30	
14:41	15.47	-	120	3.7	14.5	976	5.86	152.4	8.27	10.02	
14:46	15.47	-	120	4.3	14.6	975	5.85	156.4	8.19	16.03	
14:51	15.47	-	120	4.9	14.5	979	5.83	159.9	8.38	12.03	
14:58	15.47	-	120	5.8	14.8	977	5.84	162.0	8.21	11.73	
15:04	15.47	-	120	6.6	14.4	979	5.84	164.3	8.24	11.72	

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-2S Date: 7/12/2022

Field Personnel : Alison Piscopo

Sampling Organization: EnSafe

Identify MP: Top of Casing

Depth to 20 30 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 25'

Purging Device (pump type): peristaltic

Time	Water Depth	Pump Dial ¹	Purge Rate	Cum. Volume Purged	Temp	Spec. Cond. ²	pH	OPH / Eh ³	DO	Turbidity	Comments:
24 hr.	ft.	4 cy/min	ml/min	liters	°C ± 3%	µS/cm ± 3%	± 0.1	mV ± 10	mg/L ± 10%	NTU ± 10%	
9:21	20.03	-	80	0.0	17.5	282.0	5.73	233.0	6.95	7.18	Sample collected @9:50 250 ml unpreserved HDPE bottles
9:26	20.07	-	90	0.3	17.0	281.6	5.71	226.7	6.94	9.24	
9:31	20.10	-	90	0.6	16.8	279.1	5.69	229.7	7.03	8.53	
9:36	20.12	-	90	0.9	17.0	279.6	5.69	231.4	6.90	10.21	
9:41	20.17	-	90	1.2	17.0	278.2	5.68	232.7	6.76	10.09	
9:46	20.18	-	90	1.5	17.0	278.1	5.68	232.3	6.83	10.00	

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-2D Date: 7/12/2022

Field Personnel : Alison Piscopo

Sampling Organization EnSafe

Identify MP: Top of Casing

Depth to 41 51 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 46'

Purging Device (pump type): peristaltic

Time	Water Depth	Pump Dial ¹	Purge Rate	Cum. Volume Purged	Temp	Spec. Cond. ²	pH	OPH / Eh ³	DO	Turbidity	Comments:
24 hr.	ft.	4 cy/min	ml/min	liters	°C ± 3%	µS/cm ± 3%	± 0.1	mV ± 10	mg/L ± 10%	NTU ± 10%	
10:05	21.33	-	120	0.0	18.5	565	6.75	161.6	6.18	8.84	Sample collected @11:00
10:10	21.39	-	120	0.4	18.3	564	6.76	180.8	6.14	13.21	
10:15	21.40	-	120	0.8	18.6	565	6.76	194.4	6.13	19.42	
10:20	21.37	-	100	1.2	19.0	564	6.76	198.5	5.99	25.30	
10:25	21.28	-	100	1.5	19.9	565	6.76	201.3	6.02	30.01	
10:30	21.30	-	100	1.9	19.6	567	6.77	202.7	5.98	32.63	
10:35	21.24	-	100	2.2	20.7	567	6.77	204.2	5.62	32.86	
10:40	21.21	-	100	2.6	21.5	569	6.78	204.4	5.32	29.23	
10:45	21.21	-	100	2.9	21.6	568	6.78	204.6	5.81	26.85	
10:50	21.20	-	100	3.3	21.6	569	6.79	204.6	5.54	27.35	
10:55	21.21	-	100	3.6	21.1	571	6.79	204.5	5.74	26.12	

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-3S Date: 7/12/2022

Field Personnel : Alison Piscopo

Sampling Organization EnSafe

Identify MP: Top of Casing

Depth to 21 31 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 28'

Purging Device (pump type): peristaltic

Time 24 hr.	Water Depth ft.	Pump Dial ¹ 4 cy/min	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C ± 3%	Spec. Cond. ² µS/cm ± 3%	pH ± 0.1	OPH / Eh ³ mV ± 10	DO mg/L ± 10%	Turbidity NTU ± 10%	Comments:
13:20	24.86	-	110	0.0	16.50	173.1	6.77	180.1	7.57	3.35	Sample collected @ 13:40
13:25	24.87	-	110	0.4	16.20	172.8	6.73	185.0	7.72	3.07	
13:30	24.87	-	110	0.8	16.20	171.8	6.70	187.8	7.59	3.09	
13:35	24.85	-	110	1.1	15.90	171.6	6.69	190.9	7.64	2.44	

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-3D Date: 7/13/2022

Field Personnel : Alison Piscopo

Sampling Organization EnSafe

Identify MP: Top of Casing

Depth to 55 65 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 60'

Purging Device (pump type): peristaltic

Time	Water Depth	Pump Dial ¹	Purge Rate	Cum. Volume Purged	Temp	Spec. Cond. ²	pH	OPH / Eh ³	DO	Turbidity	Comments:
24 hr.	ft.	4 cy/min	ml/min	liters	°C ± 3%	µS/cm ± 3%	± 0.1	mV ± 10	mg/L ± 10%	NTU ± 10%	
12:37	27.71	-	90	0.0	19.5	258.6	7.02	122.1	4.78	9.78	Collected sample at 13:05
12:42	27.73	-	90	0.3	19.4	257.2	6.96	139.8	4.58	9.65	
12:47	27.73	-	90	0.6	19.4	256.5	6.94	148.5	4.51	9.16	
12:52	27.74	-	90	0.9	19.3	256.1	6.94	154.3	4.50	9.23	
12:57	27.73	-	90	1.3	19.2	257.0	6.93	157.8	4.53	8.70	

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-4S Date: 7/13/2022

Field Personnel : Alison Piscopo

Sampling Organization EnSafe

Identify MP: Top of Casing

Depth to 12 22 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 18.6'

Purging Device (pump type): peristaltic

Time 24 hr.	Water Depth ft.	Pump Dial ¹ 4 cy/min	Purge Rate ml/min	Cum. Volume Purged liters	Temp °C ± 3%	Spec. Cond. ² µS/cm ± 3%	pH ± 0.1	OPH / Eh ³ mV ± 10	DO mg/L ± 10%	Turbidity NTU ± 10%	Comments:
13:48	15.29	-	100	0.0	17.9	94.3	5.99	243.1	7.65	13.46	
13:53	15.31	-	100	0.3	17.8	91.7	5.96	257.7	7.58	9.81	
13:58	15.34	-	100	0.7	18.1	91.0	5.95	269.9	7.45	5.63	
14:03	15.35	-	100	1.0	17.8	91.2	5.96	282.7	7.57	3.23	
14:08	15.35	-	100	1.4	17.6	91.2	5.95	291.3	7.67	2.79	
14:13	15.39	-	100	1.7	17.8	90.4	5.95	298.0	7.71	2.86	
14:18	15.39	-	100	2.1	18.1	90.0	5.94	304.7	7.65	3.06	
14:21	15.40	-	100	2.3	18.5	89.8	5.94	308.5	7.68	3.17	
14:24	15.42	-	100	2.5	18.5	90.3	5.95	312.5	7.58	3.50	
14:27	15.43	-	100	2.7	18.2	90.7	5.95	316.5	7.72	3.70	
											Sample collected @14:35 2X250 ml unpreserved HDPE bottles

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: MW-4D Date: 7/13/2022

Field Personnel : Alison Piscopo

Sampling Organization: EnSafe

Identify MP: Top of Casing

Depth to 48 58 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 36'

Purging Device (pump type): peristaltic

Time	Water Depth	Pump Dial ¹	Purge Rate	Cum. Volume Purged	Temp	Spec. Cond. ²	pH	OPH / Eh ³	DO	Turbidity	Comments:
24 hr.	ft.	4 cy/min	ml/min	liters	°C ± 3%	µS/cm ± 3%	± 0.1	mV ± 10	mg/L ± 10%	NTU ± 10%	
12:39	20.59	-	90	0.0	20.7	272.3	7.17	160.2	6.98	3.57	
12:44	21.03	-	90	0.3	19.7	263.6	7.10	168.8	6.94	6.00	
12:49	21.21	-	90	0.6	19.7	253.8	7.03	173.5	6.97	8.50	
12:54	21.48	-	90	0.9	19.6	251.1	7.02	179.3	6.85	13.57	
12:59	21.79	-	90	1.3	20.1	241.2	6.95	186.5	6.81	23.25	
13:04	22.00	-	90	1.6	20.1	242.7	6.95	190.2	6.89	32.20	
13:09	22.22	-	90	1.9	20.4	230.7	6.86	195.9	6.82	41.53	
13:14	22.66	-	90	2.2	20.3	224.2	6.82	203.3	6.70	56.05	
13:19	22.98	-	90	2.5	20.2	221.1	6.79	209.1	6.69	69.78	
13:24	23.24	-	90	2.8	20.4	219.9	6.78	212.7	6.69	71.76	
13:29	23.25	-	90	3.1	20.2	215.5	6.75	215.0	6.70	77.62	
13:34	23.40	-	90	3.4	20.8	214.5	6.8	167.3	6.82	92.79	
13:39	23.54	-	90	3.8	21.1	210.4	6.71	196.8	6.67	102.06	
											Sample collected @13:45

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Well Purging - Field Water Quality Measurements Form

Page 1 of 1

Location (Site/Facility Name): KLNG-Town Hall

Well Number: TW-1 Date: 7/13/2022

Field Personnel : Rob McCarthy

Sampling Organization: EnSafe

Identify MP: Top of Casing

Depth to - 250 of screen
(Below MP) Top Bottom

Pump Intake at (ft. below MP): 60'

Purging Device (pump type): Badder Pump QED Micro purge

Time	Water Depth	Pump Dial ¹	Purge Rate	Cum. Volume Purged	Temp	Spec. Cond. ²	pH	OPH / Eh ³	DO	Turbidity	Comments:
24 hr.	ft.	4 cy/min	ml/min	liters	°C ± 3%	µS/cm ± 3%	± 0.1	mV ± 10	mg/L ± 10%	NTU ± 10%	
8:28	-	-	140	0.0	14.3	255.6	8.12	141.8	2.85	60.44	Collected Sample @ 9:40
8:31	-	-	140	0.4	14.0	259.3	8.17	113.2	1.03	52.22	
8:35	-	-	140	0.9	14.7	261.3	8.21	91.3	0.78	48.13	
8:40	-	-	140	1.6	15.4	262.2	8.17	74.3	0.71	43.50	
8:45	-	-	140	2.3	15.9	263.8	8.12	58.4	0.71	39.60	
8:50	-	-	140	3.0	12.0	268.0	8.22	41.0	0.45	56.50	
9:00	-	-	140	4.4	11.8	274.4	8.04	-46.5	0.35	50.50	
9:05	-	-	140	5.1	11.8	277.0	7.92	-67.7	0.36	50.40	
9:15	23.83	-	140	6.5	11.8	283.5	7.72	-77.9	0.38	48.20	
9:20	-	-	140	7.3	11.8	282.3	7.66	-80.4	0.36	46.00	
9:30	23.83	-	140	8.7	11.8	289.1	7.52	-79.9	0.40	42.90	
9:35	-	-	140	9.5	11.8	289.3	7.45	-78.1	0.38	43.20	

1. Pump dial setting (for example: hertz, cycles/min, etc.).

2. MicroSiemens per cm (µS/cm; same as µmhos/cm) at 25°.

3. Oxidation reduction potential (stand in for Eh).

Stabilization criteria is three consecutive readings 3 to 5 minutes apart where: Temperature varies < +/- 3%; Specific Conductance varies < +/- 3%;

pH varies < +/- 0.1; ORP varies < +/- 10mV; DO varies < +/- 10%; and NTU varies < +/- 10%.

Appendix E

Laboratory Reports

Quality Assurance/Quality Control

Forty-six soil samples including 3 duplicates, 14 groundwater samples including 2 duplicates, one surface water sample, and two aqueous field blanks discussed in this report were collected between June 27 and July 13, 2022. All samples were submitted to Phoenix Environmental Laboratories, Inc., a Connecticut Department of Administrative Services contract laboratory (Connecticut lab registration #PH-0618) located in Manchester, Connecticut. Phoenix subcontracted all samples to Alpha Analytical (Connecticut lab registration #PH-0141) located in Mansfield, Massachusetts for the analysis of PFAS by U.S. EPA modified method 537. Samples were reported in four sample delivery groups (SDG) Phoenix SDG#/Alpha: GCL67435/L2235342, GCL67445/L2235349, GCL77449/L2237800, and GCL77477/L2237818. Data were reviewed in general accordance with the quality assurance/quality control procedure and laboratory deliverables outlined in the CT DEEP Reasonable Confidence Protocols (RCP) and a data quality assessment (DQA) and data usability evaluation (DUE) was performed.

Since a CT RCP method is not available for modified method 537 at this time, the quality assurance criteria used to assess the data were established by the analytical methods and statistically derived quality control limits established by the laboratory. The laboratory's standard operating procedure Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (LC/MS/MS), Alpha Analytical, Inc., Published 6/9/2022, Revision 17 (ID No. 23528) and the National Functional Guidelines for Superfund Organic Methods Data Review, EPA 542-R-20-006, November 2020 was used to evaluate the data. Where guidance was lacking in the U.S. EPA functional guidelines, the U.S. Department of Defense Data Validation Guidelines Module 3: Data Validation Procedure for Per- and Polyfluoroalkyl Substances by Quality Systems Manual Table B-15 was used.

The following is a DQA summary of the quality assurance/quality control parameters that were reviewed:

- All holding times were met.
- All laboratory method blanks were free from contamination.
- All field blanks were free from contamination.
- All laboratory control samples were within statistically-derived control limits.
- Field duplicate precision was met for all duplicate sample pairs.
- A low matrix spike %R for 9-chlorohexadecafluoro-3-oxanone-1-sulfonic Acid (54%), a low matrix spike duplicate %R for 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (42%),

and a high matrix spike %R for perfluorohexanesulfonic acid (198%) were reported for KLNG- MW11-20220712.

- The PFAS extracted internal standard (EIS) analyte perfluoro[1,2,3,4-13C4]heptanoic acid (M4PFHpA), perfluoro[13C8]octanoic acid (M8PFOA), perfluoro[13C9]nonanoic acid (M9PFNA), perfluoro[1,2,3-13C3]hexanesulfonic acid (M3PFHxS), and perfluoro[13C8]octanesulfonic acid (M8PFOS) were below the percent recovery (%R) acceptable limit for the several samples. The table below summarizes samples with one or more EIS outlier. All associated results were undetected for the parent analyte.

Table 1 Samples with EIS Low %R Results – Not Detected			
BW-SB01 (0-6")	BW-SB01 (5.5-6")	BW-SB04 (6-18")	DUP01-062822 (Duplicate of: BW-SB04 (6-18"))
PW-SB01 (6-18")	PW-SB01 (4-4.5")	PW-SB02 (4-4.5")	PW-SB03 (2-3")
PW-SB04 (9.5-10")	DUP-01-062722 (Duplicate of FD-SB01 (0-6"))	FD-SB06 (14.5-16.5")	FD-SB05 (6-18")
FD-SB05 (4-6")	DUP-02-062822 (Duplicate of FD-SB05 (4-6"))	FD-SB07 (0-6")	FD-SB07 (6-18")
FD-SB11 (6-18")	FD-SB11 (5-7")	FD-SB11 (11-13")	FD-SB13 (12-24")

- The EIS analytes perfluoro[13C8]octanesulfonic acid (M8PFOS), perfluoro[1,2,3-13C3]hexanesulfonic acid ((M3PFHxS), perfluoro[13C8]octanoic acid (M8PFOA), and perfluoro[13C9]nonanoic acid (M9PFNA) were reported with a low %R for the following samples. The table below summarizes samples with one or more of the listed EIS outliers. All associated results were detected.

Table 2 Samples with EIS Low %R Results – Detected			
PW-SB01 (4-4.5")	PW-SB02 (4-4.5")	FD-SB06 (14.5-16.5")	FD-SB05 (6-18")
FD-SB07 (0-6")	KLNG-MW2D-20220712	—	—

- One or more of the following ion ratios were outside acceptable limits for perfluorohexanesulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluorohexanoic acid (PFHxA), perfluorodecanoic acid (PFDA), and perfluorooctanoic acid (PFOA) for the following samples. The table below summarizes samples with one or more of the listed ion ratio outliers.

Table 3 Samples with Ion Ratio Outliers			
FTA-SB01 (3-5')	FD-SB04 (0-6")	FD-SB06 (4-6")	KLNG-MW1S-20220713
KLNG-MW1D-20220713	KLNG-MW2D-20220712	KLNG-MW4D-20220713	KLNG-MW12-20220713
KLNG-SW1-20220713	—	—	—

The following is a DUE summary of the QA/QC outliers described above.

- A low matrix spike %R for 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) (54%), a low matrix spike duplicate %R for 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS) (42%), and a high matrix spike %R for perfluorohexanesulfonic acid (PFHxS) (198%) were reported for KLNG-MW11-20220712. The results for 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS) and 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid may be biased low but they were not detected and there are currently no screening levels for these PFAS analytes; therefore, this issue did not impact data usability. The positive result for perfluorohexanesulfonic acid (PFHxS) of 198 nanograms per liter (ng/L) may be biased high; however, the result for PFHxS and the Total PFAS sum of 5 result of 380 ng/L are significantly greater than the GWPC of 70 ng/L; therefore, this issue does not impact data usability.
- One or more EIS analyte M4PFHpA, M8PFOA, M9PFNA, M3PFHxS, and M8PFOS were outside acceptable limits for samples listed in Table 1. A low %R for EIS results in a high bias (inversely proportional). All results were undetected; therefore, the sensitivity is increased and the reporting limits for the undetected results are acceptable. This issue did not impact data usability.
- One or more EIS analytes M8PFOS, M3PFHxS, M8PFOA, and M9PFNA were outside the acceptance limits in Table 2. All results were detected and may be biased high. The reported results are conservative values; therefore, decision making was not impacted.
- One or more ion ratios were outside acceptable limits for perfluorohexanesulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluorohexanoic acid (PFHxA), perfluorodecanoic acid (PFDA), and perfluorooctanoic acid (PFOA) for several samples. All positive and undetected results are considered estimated with no directional bias. Screening levels are not available for PFNA, PFDA, and PFHxA. Detections for PFHxA and PFOA were well below applicable screening levels; therefore, this issue did not impact decision making.



Tuesday, August 09, 2022

Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
SDG ID: GCL67445
Sample ID#s: CL67445 - CL67485

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

Phyllis Shiller

Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

August 09, 2022

SDG I.D.: GCL67445

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL

Client Id	Lab Id	Matrix
PW-SB01 (6-18``)	CL67445	SOIL
PW-SB01 (4-4.5``)	CL67446	SOIL
PW-SB02 (6-18``)	CL67447	SOIL
PW-SB02 (4-4.5``)	CL67448	SOIL
PW-SB03 (2-3``)	CL67449	SOIL
PW-SB04 (6-18``)	CL67450	SOIL
PW-SB04 (9.5-10``)	CL67451	SOIL
PW-SB05 (6-18``)	CL67452	SOIL
PW-SB05 (8-10``)	CL67453	SOIL
FTA-SB01 (1-2``)	CL67454	SOIL
FTA-SB01)3-5``)	CL67455	SOIL
FD-SB01 (0-6``)	CL67456	SOIL
FD-SB01 (6-18``)	CL67457	SOIL
DUP-01	CL67458	SOIL
FD-SB01 (12.5-13.5)	CL67459	SOIL
FD-SB02 (0-6``)	CL67460	SOIL
FD-SB03 (0-6``)	CL67461	SOIL
FD-SB03 (6-18``)	CL67462	SOIL
FD-SB04 (0-6``)	CL67463	SOIL
FIELD BLANK	CL67464	WATER
FD-SB06 (6-18``)	CL67465	SOIL
FD-SB06 (14.5-16.5)	CL67466	SOIL
FD-SB06 (4-6``)	CL67467	SOIL
FD-SB05 (6-18``)	CL67468	SOIL
FD-SB05 (13-15``)	CL67469	SOIL
FD-SB05 (4-6``)	CL67470	SOIL
DUP-02	CL67471	SOIL
FD-SB07 (0-6``)	CL67472	SOIL
FD-SB07 (6-18``)	CL67473	SOIL
FD-SB08 (0-6``)	CL67474	SOIL



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

August 09, 2022

SDG I.D.: GCL67445

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL

Client Id	Lab Id	Matrix
FD-SB08 (6-18``)	CL67475	SOIL
FD-SB09 (0-6``)	CL67476	SOIL
FD-SB09 (6-18``)	CL67477	SOIL
FD-SB10 (0-6``)	CL67478	SOIL
FD-SB10 (6-18``)	CL67479	SOIL
FD-SB11 (6-18``)	CL67480	SOIL
FD-SB11 (5-7`)	CL67481	SOIL
FD-SB11 (11-13`)	CL67482	SOIL
FD-SB12 (13-24``)	CL67483	SOIL
FD-SB13 (12-24``)	CL67484	SOIL
FIELD BLANK	CL67485	WATER



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

11:15
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67445

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB01 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.00	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.00	0.038	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.00	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.0	3.82	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.501	0.085	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.501	0.202	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.251	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.251	0.067	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.501	0.070	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.251	0.045	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.251	0.061	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.501	0.053	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.251	0.075	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	1.09	0.251	0.130	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.251	0.042	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.501	0.054	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.501	0.205	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.501	0.047	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	7.00	Q		%	1	07/22/22	***	34 - 137 %	C,3
% M3HFPO-DA	43.0			%	1	07/22/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

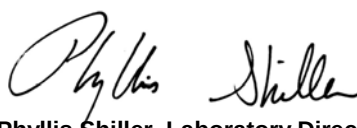
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

11:20
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67446

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB01 (4-4.5')

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.01	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.01	0.038	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.01	0.042	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.1	3.85	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.505	0.085	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.505	0.204	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.252	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.252	0.068	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.505	0.071	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.252	0.046	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.252	0.061	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.505	0.053	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.252	0.076	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	2.03	0.252	0.131	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.252	0.042	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.505	0.055	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.505	0.206	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.505	0.047	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	8.00	Q		%	1	07/22/22	***	34 - 137 %	C,3
% M3HFPO-DA	71.0			%	1	07/22/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

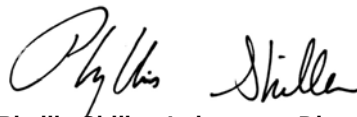
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

11:30
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67447

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB02 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.04	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.04	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.04	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.4	3.94	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.518	0.088	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.518	0.209	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.259	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.259	0.069	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.518	0.073	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.259	0.047	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.259	0.063	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.518	0.054	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.259	0.078	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	0.388	0.259	0.135	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.259	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.518	0.056	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.518	0.212	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.518	0.048	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	45.0			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	101			%	1	07/22/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB02 (6-18``)

Phoenix I.D.: CL67447

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

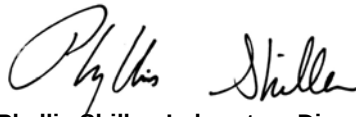
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

11:35
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67448

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB02 (4-4.5')

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.03	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.03	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.03	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.3	3.93	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.515	0.087	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.515	0.208	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.258	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.258	0.069	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.515	0.072	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.258	0.047	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.258	0.062	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.515	0.054	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.258	0.077	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	0.531	0.258	0.134	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.258	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.515	0.056	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.515	0.211	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.515	0.048	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	6.00	Q		%	1	07/22/22	***	34 - 137 %	C,3
% M3HFPO-DA	42.0			%	1	07/22/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

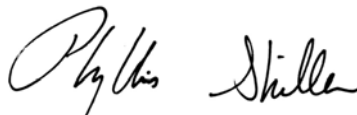
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

11:45
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67449

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB03 (2-3`)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.963	0.037	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.963	0.036	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	0.963	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.63	3.67	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.481	0.081	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.481	0.194	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.241	0.038	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.241	0.065	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.481	0.067	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.241	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.241	0.058	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.481	0.051	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.241	0.072	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.241	0.125	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.241	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.481	0.052	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.481	0.197	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.481	0.045	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	11.0	Q		%	1	07/22/22	***	34 - 137 %	C,3
% M3HFPO-DA	28.0			%	1	07/22/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

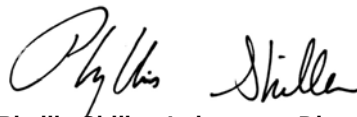
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

12:05
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67450

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB04 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.06	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.06	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.06	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.6	4.06	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.533	0.090	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.533	0.215	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.266	0.042	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.266	0.071	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.533	0.075	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.266	0.048	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.266	0.064	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.533	0.056	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.266	0.080	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.266	0.138	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.266	0.045	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.533	0.058	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.533	0.218	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.533	0.050	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	92.0			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	110			%	1	07/22/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB04 (6-18``)

Phoenix I.D.: CL67450

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

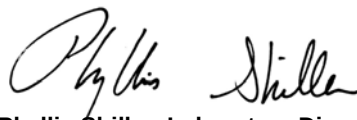
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

12:10
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67451

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB04 (9.5-10')

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.05	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.05	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.05	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.5	4.01	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.526	0.089	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.526	0.212	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.263	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.263	0.071	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.526	0.074	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.263	0.048	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.263	0.064	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.526	0.055	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.263	0.079	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	0.379	0.263	0.137	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.263	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.526	0.057	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.526	0.215	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.526	0.049	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	8.00	Q		%	1	07/22/22	***	34 - 137 %	C,3
% M3HFPO-DA	33.0			%	1	07/22/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB04 (9.5-10`)

Phoenix I.D.: CL67451

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

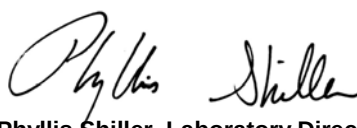
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

12:30
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67452

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB05 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.06	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.06	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.06	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.6	4.04	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.530	0.090	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.530	0.214	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.265	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.265	0.071	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.530	0.074	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.265	0.048	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.265	0.064	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.530	0.056	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.265	0.080	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.265	0.138	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.265	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.530	0.057	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.530	0.217	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.530	0.050	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	75.0			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	112			%	1	07/22/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB05 (6-18``)

Phoenix I.D.: CL67452

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

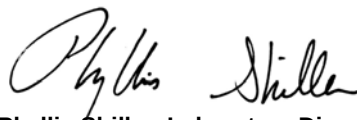
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

12:35
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67453

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB05 (8-10`)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.03	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.03	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.03	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.3	3.92	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.514	0.087	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.514	0.207	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.257	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.257	0.069	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.514	0.072	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.257	0.046	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.257	0.062	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.514	0.054	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.257	0.077	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.257	0.134	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.257	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.514	0.056	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.514	0.210	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.514	0.048	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	5.00	Q		%	1	07/22/22	***	34 - 137 %	C,3
% M3HFPO-DA	114			%	1	07/22/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: PW-SB05 (8-10')

Phoenix I.D.: CL67453

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

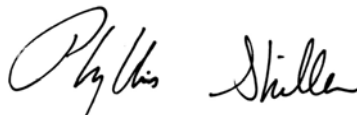
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

13:00
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67454

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FTA-SB01 (1-2`)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.998	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.998	0.037	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	0.998	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.98	3.80	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.499	0.084	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.499	0.201	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.249	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.249	0.067	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.499	0.070	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.249	0.045	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.249	0.060	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.499	0.052	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.249	0.075	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	4.04	0.249	0.130	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.249	0.042	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.499	0.054	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.499	0.204	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.499	0.047	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	72.0			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	115			%	1	07/22/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

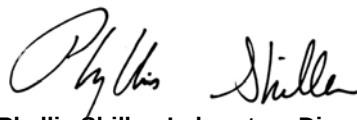
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

13:05
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67455

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FTA-SB01)3-5`)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.04	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.04	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.04	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.4	3.97	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.521	0.088	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.521	0.210	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.260	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.260	0.070	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.521	0.073	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.260	0.047	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	0.464	F 0.260	0.063	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.521	0.055	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.260	0.078	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	32.7	0.260	0.135	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.260	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.521	0.056	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.521	0.213	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.521	0.049	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	52.0			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	109			%	1	07/22/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

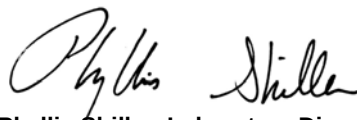
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

14:05
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67456

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB01 (0-6``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.03	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.03	0.038	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.03	0.042	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.3	3.92	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.514	0.087	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.514	0.207	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.257	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.257	0.069	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.514	0.072	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.257	0.046	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.257	0.062	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.514	0.054	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.257	0.077	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	1.55	0.257	0.134	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.257	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.514	0.056	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.514	0.210	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.514	0.048	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	54.0			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	95.0			%	1	07/22/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB01 (0-6``)

Phoenix I.D.: CL67456

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

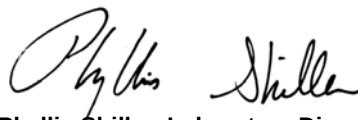
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

14:10
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67457

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB01 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.14	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.14	0.042	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.14	0.047	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	11.4	4.32	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.568	0.096	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.568	0.229	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.284	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.284	0.076	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.568	0.079	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.284	0.051	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.284	0.069	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.568	0.060	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	0.377	0.284	0.085	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	3.85	0.284	0.148	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	0.294	0.284	0.048	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.568	0.061	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.568	0.232	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.568	0.053	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	42.0			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	118			%	1	07/22/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB01 (6-18``)

Phoenix I.D.: CL67457

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

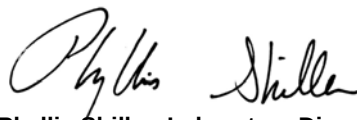
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

14:20
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67458

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: DUP-01

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.999	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.999	0.037	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	0.999	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.99	3.80	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.499	0.084	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.499	0.201	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.250	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.250	0.067	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.499	0.070	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.250	0.045	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.250	0.060	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.499	0.052	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	0.469	0.250	0.075	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	1.69	0.250	0.130	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.250	0.042	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.499	0.054	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.499	0.204	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.499	0.047	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	23.0	Q		%	1	07/22/22	***	34 - 137 %	C,3
% M3HFPO-DA	92.0			%	1	07/22/22	***	10 - 203 %	C

Client ID: DUP-01

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection

MDL=Method Detection Limit1

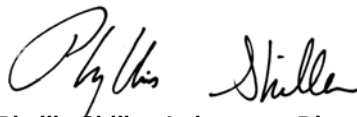
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

14:15
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67459

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB01 (12.5-13.5)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.979	0.038	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.979	0.037	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	0.979	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.79	3.73	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.489	0.083	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.489	0.197	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.245	0.038	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.245	0.066	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.489	0.069	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.245	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.245	0.059	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.489	0.051	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.245	0.073	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.245	0.127	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.245	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.489	0.053	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.489	0.200	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.489	0.046	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	28.0	Q		%	1	07/22/22	***	34 - 137 %	C,3
% M3HFPO-DA	119			%	1	07/22/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB01 (12.5-13.5)

Phoenix I.D.: CL67459

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

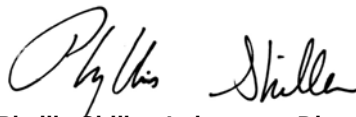
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

15:00
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67460

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB02 (0-6``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.04	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.04	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.04	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.4	3.95	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.518	0.088	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.518	0.209	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.259	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.259	0.070	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.518	0.073	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	0.327	0.259	0.047	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.259	0.063	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.518	0.054	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.259	0.078	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	0.880	0.259	0.135	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.259	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.518	0.056	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.518	0.212	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.518	0.049	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	69.0			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	112			%	1	07/22/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

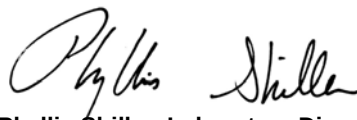
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

15:30
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67461

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB03 (0-6``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.07	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.07	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.07	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.7	4.06	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	0.926	0.533	0.090	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.533	0.215	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.267	0.042	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	0.464	0.267	0.072	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	0.848	0.533	0.075	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	0.281	0.267	0.048	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	0.948	0.267	0.065	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.533	0.056	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	0.394	0.267	0.080	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	5.67	0.267	0.139	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	0.374	0.267	0.045	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.533	0.058	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	0.865	0.533	0.218	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	3.69	0.533	0.050	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	77.0			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	102			%	1	07/22/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB03 (0-6``)

Phoenix I.D.: CL67461

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

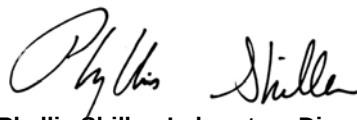
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

15:42
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67462

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB03 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.03	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.03	0.039	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	1.03	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.3	3.93	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.516	0.087	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.516	0.208	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.258	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	0.505	0.258	0.069	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.516	0.072	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.258	0.047	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	0.542	0.258	0.062	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.516	0.054	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	0.282	0.258	0.077	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	4.04	0.258	0.134	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.258	0.043	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.516	0.056	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.516	0.211	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	3.54	0.516	0.048	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	59.0			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	111			%	1	07/22/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

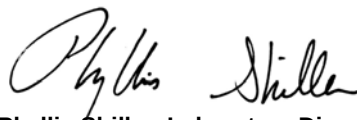
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

16:00
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67463

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB04 (0-6``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
Client MS/MSD	Completed					06/30/22			
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.976	0.038	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.976	0.037	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	0.976	0.040	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.76	3.72	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.488	0.083	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.488	0.197	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.244	0.038	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.244	0.065	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.488	0.068	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.244	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	0.585	F 0.244	0.059	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.488	0.051	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.244	0.073	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	0.664	0.244	0.127	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.244	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.488	0.053	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTrDA)	1.89	0.488	0.200	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.488	0.046	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	75.0			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	118			%	1	07/22/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

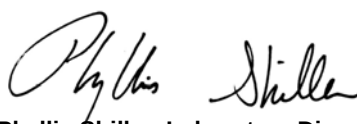
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/27/22
06/30/22

Time

16:40
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67464

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FIELD BLANK

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.94	0.285	ng/L	1	07/14/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.94	0.269	ng/L	1	07/14/22	***	LCMSMS-ID	C
ADONA	ND	1.94	0.327	ng/L	1	07/14/22	***	LCMSMS-ID	C
HFPO-DA	ND	48.6	22.1	ng/L	1	07/14/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.94	0.782	ng/L	1	07/14/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.94	0.630	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	1.94	0.231	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.94	0.296	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.94	0.362	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	1.94	0.219	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	1.94	0.366	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	1.94	0.319	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	1.94	0.303	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	1.94	0.490	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	1.94	0.229	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.94	0.241	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.94	0.318	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.94	0.253	ng/L	1	07/14/22	***	LCMSMS-ID	C
Total PFAS (5)	ND	1.94	1.94	ng/L	1	07/14/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	78.0			%	1	07/14/22	***	24 - 116 %	C
% d5-NEtFOSA	74.0			%	1	07/14/22	***	27 - 126 %	C
% M2-6:2FTS	118			%	1	07/14/22	***	14 - 147 %	C
% M2PFHxDA	94.0			%	1	07/14/22	***	55 - 137 %	C
% M2PFTeDA	72.0			%	1	07/14/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	113			%	1	07/14/22	***	10 - 165 %	C
% M3PFBS	100			%	1	07/14/22	***	70 - 131 %	C
% M3PFHxS	96.0			%	1	07/14/22	***	71 - 134 %	C
% M4PFHpA	100			%	1	07/14/22	***	60 - 129 %	C
% M5PFHxA	100			%	1	07/14/22	***	57 - 129 %	C
% M6PFDA	100			%	1	07/14/22	***	62 - 124 %	C
% M7-PFUDA	94.0			%	1	07/14/22	***	55 - 137 %	C
% M8PFOA	99.0			%	1	07/14/22	***	62 - 129 %	C
% M8PFOS	105			%	1	07/14/22	***	69 - 131 %	C
% M9PFNA	107			%	1	07/14/22	***	59 - 139 %	C
% MPFDoA	81.0			%	1	07/14/22	***	48 - 131 %	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

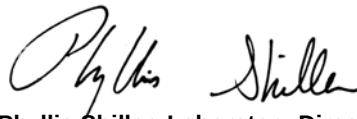
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

10:20
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67465

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB06 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.985	0.038	ng/g	1	07/22/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.985	0.037	ng/g	1	07/22/22	***	LCMSMS-ID	C
ADONA	ND	0.985	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.85	3.75	ng/g	1	07/22/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.492	0.083	ng/g	1	07/22/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.492	0.198	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.246	0.038	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.246	0.066	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.492	0.069	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.246	0.044	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.246	0.060	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.492	0.052	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.246	0.074	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	0.304	0.246	0.128	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.246	0.041	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.492	0.053	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.492	0.201	ng/g	1	07/22/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.492	0.046	ng/g	1	07/22/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	105			%	1	07/22/22	***	34 - 137 %	C
% M3HFPO-DA	117			%	1	07/22/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB06 (6-18``)

Phoenix I.D.: CL67465

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

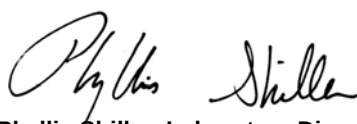
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

10:25
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67466

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB06 (14.5-16.5)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.03	0.040	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.03	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	1.03	0.042	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.3	3.91	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.513	0.087	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.513	0.207	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.257	0.040	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.257	0.069	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.513	0.072	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.257	0.046	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.257	0.062	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.513	0.054	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.257	0.077	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	0.640	0.257	0.133	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.257	0.043	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.513	0.055	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.513	0.210	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.513	0.048	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	8.00	Q		%	1	07/23/22	***	34 - 137 %	C,3
% M3HFPO-DA	100			%	1	07/23/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB06 (14.5-16.5)

Phoenix I.D.: CL67466

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

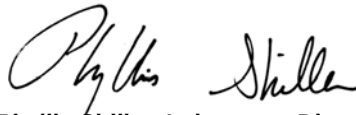
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

10:30
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67467

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB06 (4-6``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.00	0.039	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.00	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	1.00	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.0	3.82	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.501	0.085	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.501	0.202	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.250	0.039	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.250	0.067	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.501	0.070	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.250	0.045	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	0.252	F 0.250	0.061	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.501	0.053	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.250	0.075	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	2.76	0.250	0.130	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	0.418	0.250	0.042	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.501	0.054	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.501	0.205	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.501	0.047	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	59.0			%	1	07/23/22	***	34 - 137 %	C
% M3HFPO-DA	109			%	1	07/23/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB06 (4-6``)

Phoenix I.D.: CL67467

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

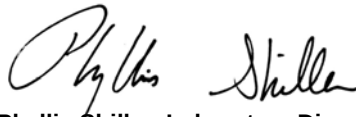
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

11:12
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67468

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB05 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.03	0.040	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.03	0.039	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	1.03	0.043	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.3	3.94	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.516	0.087	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.516	0.208	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.258	0.040	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.258	0.069	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.516	0.072	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.258	0.047	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.258	0.063	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.516	0.054	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.258	0.078	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	0.936	0.258	0.134	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.258	0.043	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.516	0.056	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.516	0.211	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.516	0.048	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	15.0	Q		%	1	07/23/22	***	34 - 137 %	C,3
% M3HFPO-DA	84.0			%	1	07/23/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB05 (6-18``)

Phoenix I.D.: CL67468

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

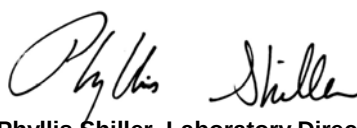
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

11:18
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67469

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB05 (13-15')

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.06	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.06	0.040	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	1.06	0.044	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.6	4.04	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.530	0.090	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.530	0.213	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.265	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.265	0.071	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.530	0.074	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.265	0.048	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.265	0.064	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.530	0.056	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.265	0.079	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.265	0.138	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.265	0.044	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.530	0.057	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.530	0.217	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.530	0.050	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	25.0	Q		%	1	07/23/22	***	34 - 137 %	C,3
% M3HFPO-DA	96.0			%	1	07/23/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

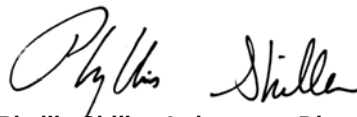
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

15:35
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67470

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB05 (4-6``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.999	0.039	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.999	0.037	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	0.999	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.99	3.81	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.25	0.039	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.25	0.067	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.5	0.07	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.25	0.045	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.25	0.061	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.5	0.053	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.25	0.075	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.25	0.13	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.25	0.042	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.5	0.047	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	0	Q		%	1	07/23/22	***	34 - 137 %	C,3
% M3HFPO-DA	18			%	1	07/23/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

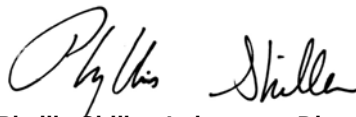
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

15:40
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67471

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: DUP-02

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.994	0.039	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.994	0.037	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	0.994	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.94	3.79	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.249	0.039	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.249	0.067	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.497	0.07	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.249	0.045	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.249	0.06	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.497	0.052	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.249	0.075	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.249	0.129	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.249	0.042	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.497	0.047	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	0	Q		%	1	07/23/22	***	34 - 137 %	C,3
% M3HFPO-DA	13			%	1	07/23/22	***	10 - 203 %	C

Client ID: DUP-02

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection

MDL=Method Detection Limit1

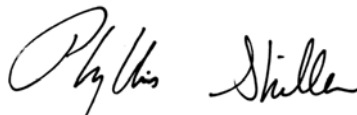
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

11:50
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67472

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB07 (0-6``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.04	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.04	0.039	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	1.04	0.043	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.4	3.98	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.523	0.088	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.523	0.211	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.261	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	0.497	0.261	0.070	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.523	0.073	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.261	0.047	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	0.524	F 0.261	0.063	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.523	0.055	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	0.315	0.261	0.078	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	1.28	0.261	0.136	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	0.341	0.261	0.044	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.523	0.057	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.523	0.214	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	0.630	0.523	0.049	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	28.0	Q		%	1	07/23/22	***	34 - 137 %	C,3
% M3HFPO-DA	88.0			%	1	07/23/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB07 (0-6``)

Phoenix I.D.: CL67472

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

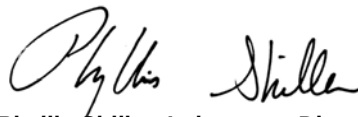
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

11:52
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67473

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB07 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.16	0.045	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.16	0.043	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	1.16	0.048	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	11.6	4.43	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.581	0.098	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.581	0.234	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.290	0.045	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.290	0.078	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.581	0.081	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.290	0.052	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	1.13	0.290	0.070	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.581	0.061	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.290	0.087	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	4.14	0.290	0.151	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	0.299	0.290	0.049	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.581	0.063	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.581	0.238	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.581	0.054	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	63.0			%	1	07/23/22	***	34 - 137 %	C
% M3HFPO-DA	97.0			%	1	07/23/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB07 (6-18``)

Phoenix I.D.: CL67473

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

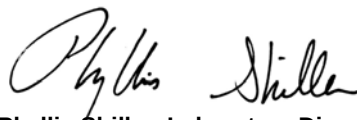
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

12:05
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67474

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB08 (0-6`)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.976	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.976	0.037	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	0.976	0.040	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.76	3.72	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.488	0.083	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.488	0.197	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.244	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.244	0.065	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.488	0.068	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.244	0.044	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.244	0.059	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.488	0.051	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.244	0.073	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	0.427	0.244	0.127	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.244	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.488	0.053	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	0.910	0.488	0.200	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.488	0.046	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	66.0			%	1	07/23/22	***	34 - 137 %	C
% M3HFPO-DA	110			%	1	07/23/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

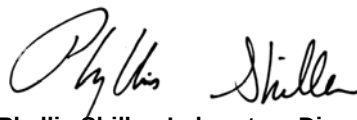
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

12:10
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67475

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB08 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.938	0.036	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.938	0.035	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	0.938	0.039	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.38	3.57	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.469	0.079	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.469	0.189	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.234	0.037	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	4.28	0.234	0.063	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	0.686	0.469	0.066	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	0.238	0.234	0.042	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	3.43	0.234	0.057	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.469	0.049	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	0.397	0.234	0.070	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	65.2	0.234	0.122	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	0.273	0.234	0.039	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.469	0.051	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.469	0.192	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	6.24	0.469	0.044	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	45.0			%	1	07/23/22	***	34 - 137 %	C
% M3HFPO-DA	115			%	1	07/23/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

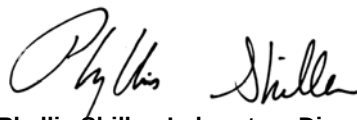
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

12:15
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67476

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB09 (0-6`)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.985	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.985	0.037	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	0.985	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.85	3.75	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.493	0.083	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.493	0.198	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.246	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.246	0.066	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.493	0.069	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.246	0.044	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.246	0.060	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.493	0.052	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.246	0.074	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	0.721	0.246	0.128	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.246	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.493	0.053	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.493	0.201	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.493	0.046	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	67.0			%	1	07/23/22	***	34 - 137 %	C
% M3HFPO-DA	127			%	1	07/23/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

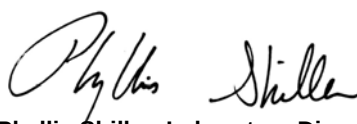
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

12:20
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67477

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB09 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.976	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.976	0.037	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	0.976	0.040	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.76	3.72	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.488	0.082	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.488	0.196	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.244	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.244	0.065	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.488	0.068	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.244	0.044	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.244	0.059	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.488	0.051	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.244	0.073	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	1.38	0.244	0.127	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.244	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.488	0.053	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.488	0.200	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	0.498	0.488	0.046	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	49.0			%	1	07/23/22	***	34 - 137 %	C
% M3HFPO-DA	115			%	1	07/23/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB09 (6-18``)

Phoenix I.D.: CL67477

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

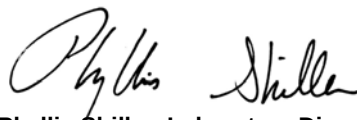
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

12:30
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67478

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB10 (0-6``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.04	0.040	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.04	0.039	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	1.04	0.043	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.4	3.95	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.518	0.088	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.518	0.209	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.259	0.040	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	0.434	0.259	0.069	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	1.97	0.518	0.073	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.259	0.047	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	0.498	0.259	0.063	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.518	0.054	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.259	0.078	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	2.74	0.259	0.135	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.259	0.043	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	0.707	0.518	0.056	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.518	0.212	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.518	0.049	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	77.0			%	1	07/23/22	***	34 - 137 %	C
% M3HFPO-DA	118			%	1	07/23/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB10 (0-6``)

Phoenix I.D.: CL67478

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

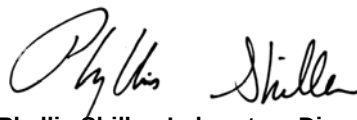
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

12:35
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67479

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB10 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.974	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.974	0.036	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	0.974	0.040	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.74	3.71	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.487	0.082	ng/g	1	07/23/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.487	0.196	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.244	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	3.63	0.244	0.065	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.487	0.068	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.244	0.044	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	0.463	0.244	0.059	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.487	0.051	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.244	0.073	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	9.32	0.244	0.127	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.244	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.487	0.053	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.487	0.199	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	0.495	0.487	0.046	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	88.0			%	1	07/23/22	***	34 - 137 %	C
% M3HFPO-DA	117			%	1	07/23/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB10 (6-18``)

Phoenix I.D.: CL67479

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

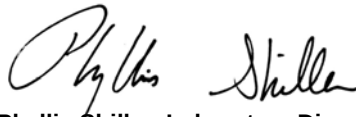
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

15:15
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67480

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB11 (6-18``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.971	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.971	0.036	ng/g	1	07/23/22	***	LCMSMS-ID	C
ADONA	ND	0.971	0.04	ng/g	1	07/23/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.71	3.7	ng/g	1	07/23/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.485	0.082	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.243	0.038	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.243	0.065	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.485	0.068	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.243	0.044	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.243	0.059	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.485	0.051	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.243	0.073	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.243	0.126	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.243	0.041	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.485	0.052	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTrDA)	ND	0.485	0.198	ng/g	1	07/23/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.485	0.045	ng/g	1	07/23/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	3	Q		%	1	07/23/22	***	34 - 137 %	C,3
% M3HFPO-DA	78			%	1	07/23/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB11 (6-18``)

Phoenix I.D.: CL67480

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

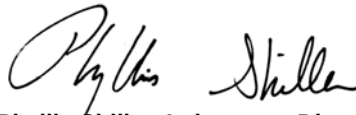
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

15:20
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67481

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB11 (5-7')

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.02	0.040	ng/g	1	07/24/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.02	0.038	ng/g	1	07/24/22	***	LCMSMS-ID	C
ADONA	ND	1.02	0.042	ng/g	1	07/24/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.2	3.90	ng/g	1	07/24/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.512	0.087	ng/g	1	07/24/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.512	0.206	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.256	0.040	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.256	0.069	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.512	0.072	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.256	0.046	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.256	0.062	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.512	0.054	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.256	0.077	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.256	0.133	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.256	0.043	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.512	0.055	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.512	0.210	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.512	0.048	ng/g	1	07/24/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	11.0	Q		%	1	07/24/22	***	34 - 137 %	C,3
% M3HFPO-DA	79.0			%	1	07/24/22	***	10 - 203 %	C

Client ID: FD-SB11 (5-7`)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection

MDL=Method Detection Limit1

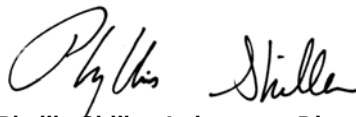
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

15:25
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67482

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB11 (11-13')

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.09	0.043	ng/g	1	07/24/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.09	0.041	ng/g	1	07/24/22	***	LCMSMS-ID	C
ADONA	ND	1.09	0.045	ng/g	1	07/24/22	***	LCMSMS-ID	C
HFPO-DA	ND	10.9	4.17	ng/g	1	07/24/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.547	0.093	ng/g	1	07/24/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.547	0.220	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.274	0.043	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.274	0.073	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.547	0.077	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.274	0.049	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.274	0.066	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.547	0.058	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.274	0.082	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.274	0.142	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.274	0.046	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.547	0.059	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.547	0.224	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.547	0.051	ng/g	1	07/24/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	3.00	Q		%	1	07/24/22	***	34 - 137 %	C,3
% M3HFPO-DA	62.0			%	1	07/24/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB11 (11-13`)

Phoenix I.D.: CL67482

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

3 = This parameter exceeds laboratory specified limits.
C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

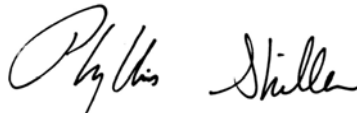
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

16:00
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67483

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB12 (13-24``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.976	0.038	ng/g	1	07/24/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.976	0.037	ng/g	1	07/24/22	***	LCMSMS-ID	C
ADONA	ND	0.976	0.040	ng/g	1	07/24/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.76	3.72	ng/g	1	07/24/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.488	0.082	ng/g	1	07/24/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.488	0.197	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.244	0.038	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.244	0.065	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.488	0.068	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.244	0.044	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	0.578	0.244	0.059	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.488	0.051	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.244	0.073	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	28.7	0.244	0.127	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.244	0.041	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.488	0.053	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.488	0.200	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.488	0.046	ng/g	1	07/24/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	56.0			%	1	07/24/22	***	34 - 137 %	C
% M3HFPO-DA	121			%	1	07/24/22	***	10 - 203 %	C

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB12 (13-24``)

Phoenix I.D.: CL67483

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

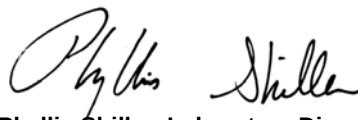
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: SOIL
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

16:10
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67484

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FD-SB13 (12-24``)

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/11/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	0.986	0.038	ng/g	1	07/24/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	0.986	0.037	ng/g	1	07/24/22	***	LCMSMS-ID	C
ADONA	ND	0.986	0.041	ng/g	1	07/24/22	***	LCMSMS-ID	C
HFPO-DA	ND	9.86	3.76	ng/g	1	07/24/22	***	LCMSMS-ID	C
NEtFOSAA	ND	0.493	0.083	ng/g	1	07/24/22	***	LCMSMS-ID	C
NMeFOSAA	ND	0.493	0.199	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	0.246	0.038	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	0.246	0.066	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	0.493	0.069	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	0.246	0.045	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.246	0.060	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	0.493	0.052	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	0.246	0.074	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	0.246	0.128	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	0.246	0.041	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	0.493	0.053	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	0.493	0.202	ng/g	1	07/24/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	0.493	0.046	ng/g	1	07/24/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d5-NEtFOSA	34.0			%	1	07/24/22	***	34 - 137 %	C
% M3HFPO-DA	98.0			%	1	07/24/22	***	10 - 203 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

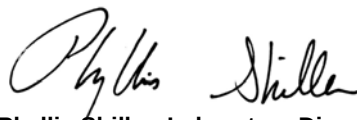
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Soil Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by: MB,PG
Received by: CP
Analyzed by: see "By" below

Date

06/28/22
06/30/22

Time

16:15
12:20

Laboratory Data

SDG ID: GCL67445
Phoenix ID: CL67485

Project ID: 323 RT 81 KILLINGWORTH CT TOWN HALL
Client ID: FIELD BLANK

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/08/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.84	0.270	ng/L	1	07/14/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.84	0.255	ng/L	1	07/14/22	***	LCMSMS-ID	C
ADONA	ND	1.84	0.310	ng/L	1	07/14/22	***	LCMSMS-ID	C
HFPO-DA	ND	46.1	20.9	ng/L	1	07/14/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.84	0.741	ng/L	1	07/14/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.84	0.597	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	1.84	0.219	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.84	0.280	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.84	0.343	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	1.84	0.208	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	1.84	0.346	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	1.84	0.302	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	1.84	0.288	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	1.84	0.464	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	1.84	0.218	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.84	0.228	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.84	0.302	ng/L	1	07/14/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.84	0.240	ng/L	1	07/14/22	***	LCMSMS-ID	C
Total PFAS (5)	ND	1.84	1.84	ng/L	1	07/14/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	79.0			%	1	07/14/22	***	24 - 116 %	C
% d5-NEtFOSA	77.0			%	1	07/14/22	***	27 - 126 %	C
% M2-6:2FTS	108			%	1	07/14/22	***	14 - 147 %	C
% M2PFHxDA	98.0			%	1	07/14/22	***	55 - 137 %	C
% M2PFTeDA	76.0			%	1	07/14/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	109			%	1	07/14/22	***	10 - 165 %	C
% M3PFBS	94.0			%	1	07/14/22	***	70 - 131 %	C
% M3PFHxS	90.0			%	1	07/14/22	***	71 - 134 %	C
% M4PFHpA	98.0			%	1	07/14/22	***	60 - 129 %	C
% M5PFHxA	98.0			%	1	07/14/22	***	57 - 129 %	C
% M6PFDA	100			%	1	07/14/22	***	62 - 124 %	C
% M7-PFUDA	98.0			%	1	07/14/22	***	55 - 137 %	C
% M8PFOA	96.0			%	1	07/14/22	***	62 - 129 %	C
% M8PFOS	100			%	1	07/14/22	***	69 - 131 %	C
% M9PFNA	104			%	1	07/14/22	***	59 - 139 %	C
% MPFDoA	84.0			%	1	07/14/22	***	48 - 131 %	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

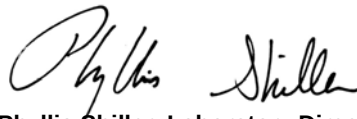
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

August 09, 2022

QA/QC Data

SDG I.D.: GCL67445

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 635163 (ng/L), QC Sample No: CL67453 (CL67453)													
PFAS (21) (ReExtraction 1)													
NMeFOSAA - Soil	ND	0.5				121						63 - 144	
% d3-NMeFOSAA - Soil	57					51						31 - 134	
QA/QC Batch 635157 (ng/L), QC Sample No: CL67463 (CL67445, CL67446, CL67447, CL67448, CL67449, CL67450, CL67451, CL67452, CL67453, CL67454, CL67455, CL67456, CL67457, CL67458, CL67459, CL67460, CL67461, CL67462, CL67463, CL67465)													
PFOA & PFOS													
11CI-PF3OUdS	ND	1				78			81.7			51 - 155	
9CI-PF3ONS	ND	1				82			86.6			69 - 139	
ADONA	ND	1				88			88.4			61 - 135	
HFPO-DA	ND	10				104			84.1			41 - 165	
NEtFOSAA	ND	0.5				99			100			61 - 139	
NMeFOSAA	ND	0.5				98			104			63 - 144	
Perfluorobutanesulfonic Acid (PFB)	ND	0.25				96			95.7			72 - 128	
Perfluorodecanoic Acid (PFDA)	ND	0.25				89			87.9			69 - 133	
Perfluorododecanoic Acid (PFDoA)	ND	0.5				100			89.1			69 - 135	
Perfluoroheptanoic Acid (PFHpA)	ND	0.25				95			94.1			71 - 131	
Perfluorohexanesulfonic Acid (PFHxS)	ND	0.25				113			112			67 - 130	
Perfluorohexanoic Acid (PFHxA)	ND	0.5				93			93			70 - 132	
Perfluorononanoic Acid (PFNA)	ND	0.25				83			83			72 - 129	
Perfluorooctanesulfonic Acid (PFO)	ND	0.25				97			101			68 - 136	
Perfluorooctanoic Acid (PFOA)	ND	0.25				93			94			69 - 133	
Perfluorotetradecanoic Acid (PFTA)	ND	0.5				79			79.7			69 - 133	
Perfluorotridecanoic Acid (PFTrDA)	ND	0.5				89			94.4			66 - 139	
Perfluoroundecanoic Acid (PFUnA)	ND	0.5				116			108			64 - 136	
% d3-NMeFOSAA	42					62			70			31 - 134	
% d5-NEtFOSA	49					60			79			34 - 137	
% M2-4:2FTS	64					73			98			14 - 167	
% M2-6:2FTS	60					72			107			20 - 154	
% M2PFHxDA	81					88			104			61 - 155	
% M2PFTEDA	75					91			107			24 - 159	
% M3HFPO-DA	88					112			113			10 - 203	
% M3PFBS	87					93			95			74 - 139	
% M3PFHxS	83					89			93			78 - 139	
% M4PFHpA	74					88			93			71 - 129	
% M5PFHxA	72					91			92			66 - 128	
% M6PFDA	87					99			105			75 - 130	
% M7-PFUDA	81					88			104			61 - 155	
% M8PFOA	82					94			99			75 - 130	
% M8PFOS	100					105			107			79 - 136	
% M9PFNA	95					107			115			72 - 140	
% MPFDOA	71					80			93			54 - 150	

QA/QC Data

SDG I.D.: GCL67445

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

QA/QC Batch 635160 (ng/L), QC Sample No: CL67464 (CL67464, CL67485)

PFOA & PFOS

11CI-PF3OUdS	ND	2				72						52 - 156	
9CI-PF3ONS	ND	2				78						55 - 158	
ADONA	ND	2				85						69 - 143	
HFPO-DA	ND	50				88						57 - 162	
NEtFOSAA	ND	2				84						45 - 170	
NMeFOSAA	ND	2				105						60 - 166	
Perfluorobutanesulfonic Acid (PFB	ND	2				98						65 - 157	
Perfluorodecanoic Acid (PFDA)	ND	2				85						63 - 171	
Perfluorododecanoic Acid (PFDoA)	ND	2				99						67 - 153	
Perfluoroheptanoic Acid (PFHpA)	ND	2				93						58 - 159	
Perfluorohexanesulfonic Acid (PFH	ND	2				111						69 - 177	
Perfluorohexanoic Acid (PFHxA)	ND	2				93						69 - 168	
Perfluorononanoic Acid (PFNA)	ND	2				82						68 - 171	
Perfluorooctanesulfonic Acid (PFO	ND	2				93						52 - 151	
Perfluorooctanoic Acid (PFOA)	ND	2				88						63 - 159	
Perfluorotetradecanoic Acid (PFTA	ND	2				85						59 - 182	
Perfluorotridecanoic Acid (PFTrDA)	ND	2				99						48 - 158	
Perfluoroundecanoic Acid (PFUnA)	ND	2				106						60 - 153	
% d5-NEtFOSA	59					59						27 - 126	
% M2-4:2FTS	63					72						12 - 142	
% M2-6:2FTS	75					88						14 - 147	
% M2PFTEDA	72					77						22 - 136	
% M3HFPO-DA	100					102						10 - 165	
% M3PFBS	79					83						70 - 131	
% M3PFHxS	74					78						71 - 134	
% M4PFHpA	82					84						60 - 129	
% M5PFHxA	83					85						57 - 129	
% M6PFDA	92					95						62 - 124	
% M8PFOA	88					93						62 - 129	
% M8PFOS	100					100						69 - 131	
% M9PFNA	98					103						59 - 139	
% MPFDOA	68					76						48 - 131	

QA/QC Batch 635159 (ng/L), QC Sample No: CL67467 (CL67466, CL67467, CL67468, CL67469, CL67470, CL67471, CL67472, CL67473, CL67474, CL67475, CL67476, CL67477, CL67478, CL67479, CL67480, CL67481, CL67482, CL67483, CL67484)

PFOA & PFOS

11CI-PF3OUdS	ND	1	ND	ND	NC				74.7			51 - 155	30
9CI-PF3ONS	ND	1	ND	ND	NC	85			84.5			69 - 139	30
ADONA	ND	1	ND	ND	NC	94			91.2			61 - 135	30
HFPO-DA	ND	10	ND	ND	NC	102			90			41 - 165	30
NEtFOSAA	ND	0.5	ND	ND	NC	101			87.4			61 - 139	30
NMeFOSAA	ND	0.5	ND	ND	NC	120			83.4			63 - 144	30
Perfluorobutanesulfonic Acid (PFB	ND	0.25	ND	ND	NC	104			98			72 - 128	30
Perfluorodecanoic Acid (PFDA)	ND	0.25	ND	ND	NC	93			92.2			69 - 133	30
Perfluorododecanoic Acid (PFDoA)	ND	0.5	ND	ND	NC	101			102			69 - 135	30
Perfluoroheptanoic Acid (PFHpA)	ND	0.25	ND	ND	NC	100			98.7			71 - 131	30
Perfluorohexanesulfonic Acid (PFH	ND	0.25	ND	ND	NC	119			115			67 - 130	30
Perfluorohexanoic Acid (PFHxA)	ND	0.5	ND	ND	NC	98			97			70 - 132	30
Perfluorononanoic Acid (PFNA)	ND	0.25	ND	ND	NC	87			87.2			72 - 129	30
Perfluorooctanesulfonic Acid (PFO	ND	0.25	ND	1.74	45	102			95			68 - 136	30
Perfluorooctanoic Acid (PFOA)	ND	0.25	ND	0.425	2	96			94.1			69 - 133	30

QA/QC Data

SDG I.D.: GCL67445

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Perfluorotetradecanoic Acid (PFTA)	ND	0.5	ND	ND	NC	89			83			69 - 133	30
Perfluorotridecanoic Acid (PFTrDA)	ND	0.5	ND	ND	NC	105			105			66 - 139	30
Perfluoroundecanoic Acid (PFUnA)	ND	0.5	ND	ND	NC	118			122			64 - 136	30
% d3-NMeFOSAA	27			39		31			9			31 - 134	m,s
% d5-NEtFOSA	30			52		32			9			34 - 137	l,m,s
% M2-4:2FTS	57			82		63			62			14 - 167	
% M2-6:2FTS	54			88		60			68			20 - 154	
% M2PFHxDA	50			82		53			62			61 - 155	l,s
% M2PFTEDA	22			77		27			36			24 - 159	s
% M3HFPO-DA	77			100		83			89			10 - 203	
% M3PFBS	60			83		61			69			74 - 139	l,m,s
% M3PFHxS	57			81		59			67			78 - 139	l,m,s
% M4PFHpA	58			73		63			64			71 - 129	l,m,s
% M5PFHxA	58			71		63			65			66 - 128	l,m,s
% M6PFDA	58			83		63			69			75 - 130	l,m,s
% M7-PFUDA	50			82		53			62			61 - 155	l,s
% M8PFOA	61			80		67			71			75 - 130	l,m,s
% M8PFOS	63			99		68			77			79 - 136	l,m,s
% M9PFNA	67			90		75			76			72 - 140	s
% MPFDOA	40			73		47			54			54 - 150	l,s

QA/QC Batch 635164 (ng/L), QC Sample No: CL67471 (CL67471, CL67482)

PFAS (21) (ReExtraction 1)

NEtFOSAA - Soil	ND	0.5				102						61 - 139	
NMeFOSAA - Soil	ND	0.5				108						63 - 144	
% d3-NMeFOSAA - Soil	29					29						31 - 134	l,s
% d5-NEtFOSA - Soil	27					33						34 - 137	l,s

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.

m = This parameter is outside laboratory MS/MSD specified recovery limits.

r = This parameter is outside laboratory RPD specified recovery limits.

s = This parameter is outside laboratory Blank Surrogate specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference

LCS - Laboratory Control Sample

LCSD - Laboratory Control Sample Duplicate

MS - Matrix Spike

MS Dup - Matrix Spike Duplicate

NC - No Criteria

Intf - Interference



Phyllis Shiller, Laboratory Director

August 09, 2022

Tuesday, August 09, 2022

Criteria: None
State: CT

Sample Criteria Exceedances Report
GCL67445 - ENSAFE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Comments

August 09, 2022

SDG I.D.: GCL67445

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD										COC No.		Page 1 of 4			
Project Name: Killingworth - Town Hall										PO No. CTDEEP CTDAS		Project 0888828867		Phase: 007.003 Task:	
Site Location: 323 Rt 81 Killingworth CT										Sample Analysis Requested (Enter number of containers for each test)					
Send Results To: rmccarthy@ensafe.com pgraham@ensafe.com										(3)→					
Sampler: Michele Berisford and Patricia Graham										Phone: (860) 665-1140					
Lab Name: Phoenix Environmental Laboratories										Turnaround Time(specify):					
Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hh:mm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	Field	Extra Volume for MS/MSD	HOLD				
07445	PW-SB01 (6-18")	PW-SB01	6/27/22	11:15	SO	G	N	2	X						
07446	PW-SB01 (4-4.5')	PW-SB01	6/27/22	11:20	SO	G	N	2	X						
07447	PW-SB02 (6-18")	PW-SB02	6/27/22	11:30	SO	G	N	2	X						
07448	PW-SB02 (4-4.5')	PW-SB02	6/27/22	11:35	SO	G	N	2	X						
07449	PW-SB03 (2-3')	PW-SB03	6/27/22	11:45	SO	G	N	2	X						
07450	PW-SB04 (6-18")	PW-SB04	6/27/22	12:05	SO	G	N	2	X						
07451	PW-SB04 (9.5-10')	PW-SB04	6/27/22	12:10	SO	G	N	2	X						
07452	PW-SB05 (6-18")	PW-SB05	6/27/22	12:30	SO	G	N	2	X						
07453	PW-SB05 (8-10')	PW-SB05	6/27/22	12:35	SO	G	N	2	X						
07454	FTA-SB01 (1-2')	FTA	6/27/22	13:00	SO	G	N	2	X						
07455	FTA-SB01 (3-5')	FTA	6/27/22	13:05	SO	G	N	2	X						
07456	FD-SB01 (0-6")	FD-SB01	6/27/22	14:05	SO	G	N	2	X						
07457	FD-SB01 (6-18")	FD-SB01	6/27/22	14:10	SO	G	N	2	X						

Field Comments:

Lab Comments:

Sample Shipment and Delivery Details

Number of coolers in shipment:

Samples Used? (check) Yes No

Method of Shipment: 2.OWW

Date Shipped:

(1) Matrix Code: AA=Air, AQ=Air QC Matrix, CK=Caulk, GS=Soil Gas, LP=Free Product, LH=Liquid Waste, MS=Mastic, OI=Oil, PT=Paint, SC=Concrete/Concrete, SE=Sediment, SF=Filter Sandpack, SL=Sludge, SM=Miscellaneous Solid/Building Materials, SO=Soil, SQ=Soil/Solid QC Matrix, ST=Solid Waste, SW=Swab/Wipe, TA=Animal Tissue, TP=Plant Tissue, WG=Ground Water, WL=Liquid Waste, WO=Ocean Water, WP=Drinking Water, WQ=Water QC Matrix, WS=Surface Water, SU=Storm Water, WW=Waste Water

(2) Sample Type: AB=Ambient Blank, EB=Equipment Blank, FB=Field Duplicate Sample, FR=Field Replicate, MB=Material Blank, N=Normal Environmental Sample, RB=Material Blank, TB=Trip Blank

(3) Preservative added: HA=Hydrochloric Acid, ME=Nitric Acid, SN=Sodium Hydroxide, SA=Sulfuric Acid, AA=Ascorbic Acid, MX=Hexane, ME=Methanol, SB=sodium bisulfate, ST=Sodium Thiosulfate, if NO preservative added leave blank

Rev 06/18

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD										COC No.		Page 2 of 2	
Project Name: Killingworth - Town Hall										PO No. CTDEEP CTDAS		Project 0888828807 Phase: 007.003 Task:	
Site Location: 323 Rt 81 Killingworth CT										Sample Analysis Requested (Enter number of containers for each test)			
Send Results To: rmccarthy@ensafe.com pgraham@ensafe.com										(3)→			
Sampler: Michele Berisford and Patricia Graham										Phone: (860) 665-1140			
Lab Name: Phoenix Environmental Laboratories										Turnaround Time(specify):			
Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	Extra Volume for MS/MSD	HOLD			
07458	DUP-01	FD-SB01	6/27/22	14:20	SO	G	N	2	X				
07459	FD-SB01 (12.5-13.5)	FD-SB01	6/27/22	14:15	SO	G	N	2	X				
07460	FD-SB02 (0-6")	FD-SB02	6/27/22	15:00	SO	G	N	2	X				
07461	FD-SB03 (0-6")	FD-SB03	6/27/22	15:30	SO	G	N	2	X				
07462	FD-SB03 (6-18")	FD-SB03	6/27/22	15:42	SO	G	N	2	X				
07463	FD-SB04 (0-6")	FD-SB04	6/27/22	16:00	SO	G	N	4	X				
07464	Field Blank	FB	6/27/22	16:40	W	G	N	2	X				
07465	FD-SB06 (6-18")	FD-SB06	6/28/22	10:20	SO	G	N	2	X				
07466	FD-SB06 (14.5-16.5)	FD-SB06	6/28/22	10:25	SO	G	N	2	X				
07467	FD-SB06 (4-6")	FD-SB06	6/28/22	10:30	SO	G	N	2	X				
07468	FD-SB05 (6-18")	FD-SB05	6/28/22	11:12	SO	G	N	2	X				
07469	FD-SB05 (13-15")	FD-SB05	6/28/22	11:18	SO	G	N	2	X				
07470	FD-SB05 (4-6")	FD-SB05	6/28/22	15:35	SO	G	N	2	X				

Field Comments:

PFAS by MDA

Lab Comments:

Sample Shipment and Delivery Details

Number of coolers in shipment:

Received by (signature)	Date	Time	Samples Iced?(check) Yes	No
1. <i>[Signature]</i>	6/30/22	11:43		
2. <i>[Signature]</i>	6/30/22	12:20		
3. <i>[Signature]</i>				

Method of Shipment: 2.OWWUP

Date Shipped:

(1) Matrix Code: AA=Air, AQ=Air QC Matrix, CA=Caulk, GS=Soil Gas, LF=Free Product, LH=Liquid Waste, MS=Matrix, OH=Oil, PF=Paint, SC=Concrete/Concrete, SE=Sediment, SF=Filter Sandpack, SL=Sludge, SM=Miscellaneous Solid/Building Materials, SO=Soil, SQ=Soil/Solid QC Matrix, ST=Solid Waste, SW=Swab/Wipe, TA=Animal Tissue, TP=Plant Tissue, WG=Ground Water, WL=Lachar, WO=Ocean Water, WQ=Drinking Water, WS=Surface Water, SU=Storm Water, WW=Waste Water

(2) Sample Type: AB=Ambient Blank, EB=Equipment Blank, FB=Field Duplicate Sample, FR=Field Replicate, MB=Material Blank, N=Normal Environmental Sample, RB=Material Blank, TB=Trip Blank

(3) Preservative added: HA=Hydrochloric Acid, NI=Nitric Acid, SH=Sodium Hydroxide, SA=Sulfuric Acid, AA=Ascorbic Acid, HX=Hexane, ME=Methanol, SB=sodium bisulfite, ST=sodium thiosulfate, if NO preservative added leave blank

Rev. 06/18

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD										COC No.		Page 3 of 4			
Project Name: Killingworth - Town Hall										PO No. CTDEEP CTDAS		Project 0888828869		Phase: 007.003 Task:	
Site Location: 323 Rt 81 Killingworth CT										Sample Analysis Requested (Enter number of containers for each test)					
Send Results To: rmccarthy@ensafe.com pgraham@ensafe.com															
Sampler: Michele Berisford and Patricia Graham															
Lab Name: Phoenix Environmental Laboratories															
Turnaround Time(specify):															
Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	(3)→	Extra Volume for MS/MSD					
074711	DUP-02	FD-SB05	6/28/22	15:40	SO	G	N	2	X						
074712	FD-SB07 (0-6")	FD-SB07	6/28/22	11:50	SO	G	N	2	X						
074713	FD-SB07 (6-18")	FD-SB07	6/28/22	11:52	SO	G	N	2	X						
074714	FD-SB08 (0-6")	FD-SB08	6/28/22	12:05	SO	G	N	2	X						
074715	FD-SB08 (6-18")	FD-SB08	6/28/22	12:10	SO	G	N	2	X						
074716	FD-SB09 (0-6")	FD-SB09	6/28/22	12:15	SO	G	N	4	X						
074717	FD-SB09 (6-18")	FD-SB09	6/28/22	12:20	SO	G	N	2	X						
074718	FD-SB10 (0-6")	FD-SB10	6/28/22	12:30	SO	G	N	2	X						
074719	FD-SB10 (6-18")	FD-SB10	6/28/22	12:35	SO	G	N	2	X						
07480	FD-SB11 (6-18")	FD-SB11	6/28/22	15:15	SO	G	N	2	X						
07481	FD-SB11 (5-7")	FD-SB11	6/28/22	15:20	SO	G	N	2	X						
07482	FD-SB11 (11-13")	FD-SB11	6/28/22	15:25	SO	G	N	2	X						
07483	FD-SB12 (13-24")	FD-SB12	6/28/22	16:00	SO	G	N	4	X					X	

Lab Comments:

*TIME ON JWS 13:40
 **ONLY REQUIRED 2 JWS - NO CXTAS
 FOR MS/MSD

Field Comments:

Relinquished by (signature)	Date	Time
<i>[Signature]</i>	6/28/23	20:00
Received by (signature)	Date	Time
<i>[Signature]</i>	6/30/22	11:43
	6/30	1720

Number of coolers in shipment:

Samples Iced?(check) Yes No

Method of Shipment: 2.0WCLP

Date Shipped:

(1) Matrix Code: AA=Air, AQ=Air, QC=Matrix, GS=Soil Gas, LF=Free Product, LH=Liquid Waste, MS=Matrix, OIL=Oil, PF=Paint, SC=Cement/Concrete, SE=Sediment, SF=Filter Sandback, SL=Sludge, SW=Surface Water, SU=Storm Water, WW=Waste Water, ST=Solid Waste, SW=Swab/Wipe, TA=Animal Tissue, TP=Plant Tissue, WL=Lachate, WO=Ground Water, WT=Lachate, WQ=Drinking Water, WU=Water OC Matrix, WS=Surface Water, SU=Storm Water, WW=Waste Water
 (2) Sample Type: AB=Ambient Blank, EB=Equipment Blank, FB=Field Duplicate Sample, FR=Field Replicate, MB=Material Blank, N=Normal Environmental Sample, RB=Material Blank, TB=Trip Blank
 (3) Preservative added: HA=Hydrochloric Acid, NI=Nitric Acid, SH=Sulfuric Acid, SA=Sulfuric Acid, AA=Ascorbic Acid, IX=Iodate, ST=Sodium Thiosulfate, IF NO preservative added leave blank



ANALYTICAL REPORT

Lab Number:	L2235349
Client:	Phoenix Environmental Labs 587 East Middle Turnpike P.O. Box 370 Manchester, CT 06040
ATTN:	Helen Geoghegan
Phone:	(860) 645-8726
Project Name:	GCL67445
Project Number:	GCL67445
Report Date:	07/28/22

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2235349-01	CL67445	SOIL	CT	06/27/22 11:15	07/01/22
L2235349-02	CL67446	SOIL	CT	06/27/22 11:20	07/01/22
L2235349-03	CL67447	SOIL	CT	06/27/22 11:30	07/01/22
L2235349-04	CL67448	SOIL	CT	06/27/22 11:35	07/01/22
L2235349-05	CL67449	SOIL	CT	06/27/22 11:45	07/01/22
L2235349-06	CL67450	SOIL	CT	06/27/22 12:05	07/01/22
L2235349-07	CL67451	SOIL	CT	06/27/22 12:10	07/01/22
L2235349-08	CL67452	SOIL	CT	06/27/22 12:30	07/01/22
L2235349-09	CL67453	SOIL	CT	06/27/22 12:35	07/01/22
L2235349-10	CL67454	SOIL	CT	06/27/22 13:00	07/01/22
L2235349-11	CL67455	SOIL	CT	06/27/22 13:05	07/01/22
L2235349-12	CL67456	SOIL	CT	06/27/22 14:05	07/01/22
L2235349-13	CL67457	SOIL	CT	06/27/22 14:10	07/01/22
L2235349-14	CL67458	SOIL	CT	06/27/22 14:20	07/01/22
L2235349-15	CL67459	SOIL	CT	06/27/22 14:15	07/01/22
L2235349-16	CL67460	SOIL	CT	06/27/22 15:00	07/01/22
L2235349-17	CL67461	SOIL	CT	06/27/22 15:30	07/01/22
L2235349-18	CL67462	SOIL	CT	06/27/22 15:42	07/01/22
L2235349-19	CL67463	SOIL	CT	06/27/22 16:00	07/01/22
L2235349-20	CL67464	WATER	CT	06/27/22 16:40	07/01/22
L2235349-21	CL67465	SOIL	CT	06/28/22 10:20	07/01/22
L2235349-22	CL67466	SOIL	CT	06/28/22 10:25	07/01/22
L2235349-23	CL67467	SOIL	CT	06/28/22 10:30	07/01/22
L2235349-24	CL67468	SOIL	CT	06/28/22 11:12	07/01/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2235349-25	CL67469	SOIL	CT	06/28/22 11:18	07/01/22
L2235349-26	CL67470	SOIL	CT	06/28/22 15:35	07/01/22
L2235349-27	CL67471	SOIL	CT	06/28/22 15:40	07/01/22
L2235349-28	CL67472	SOIL	CT	06/28/22 11:50	07/01/22
L2235349-29	CL67473	SOIL	CT	06/28/22 11:52	07/01/22
L2235349-30	CL67474	SOIL	CT	06/28/22 12:05	07/01/22
L2235349-31	CL67475	SOIL	CT	06/28/22 12:10	07/01/22
L2235349-32	CL67476	SOIL	CT	06/28/22 12:15	07/01/22
L2235349-33	CL67477	SOIL	CT	06/28/22 12:20	07/01/22
L2235349-34	CL67478	SOIL	CT	06/28/22 12:30	07/01/22
L2235349-35	CL67479	SOIL	CT	06/28/22 12:35	07/01/22
L2235349-36	CL67480	SOIL	CT	06/28/22 15:15	07/01/22
L2235349-37	CL67481	SOIL	CT	06/28/22 15:20	07/01/22
L2235349-38	CL67482	SOIL	CT	06/28/22 15:25	07/01/22
L2235349-39	CL67483	SOIL	CT	06/28/22 16:00	07/01/22
L2235349-40	CL67484	SOIL	CT	06/28/22 16:10	07/01/22
L2235349-41	CL67485	WATER	CT	06/28/22 16:15	07/01/22

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Case Narrative (continued)

Perfluorinated Alkyl Acids by Isotope Dilution

L2235349-01, -02, -04, -05, -07, -09, -09RE, -14, -15, -22, -24, -25, -26, -27, -27RE, -28, -29, -36, -37, -38, -38RE, and -40: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

L2235349-09: The Extracted Internal Standard recoveries are less than 5% for n-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-nmefosaa) (3%); however, the extraction efficiency was improved upon re-extraction at a lower volume with the method required holding time exceeded. The results of both extractions are reported for the associated target compounds.

L2235349-09RE, -27, and -38RE: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

L2235349-26: The Extracted Internal Surrogate Standard recoveries are below the acceptance criteria for n-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-nmefosaa) (1%), n-deuterioethylperfluoro-1-octanesulfonamidoacetic acid (d5-netfosaa) (0%) and perfluoro[1,2-13c2]tetradecanoic acid (m2pfteda) (1%), in both the original and re-extraction with lesser volume. The associated target compounds are not reported due to the insufficient recovery of this surrogate.

L2235349-27: The Extracted Internal Standard recoveries were outside the acceptance criteria (less than 5%) for 1h,1h,2h,2h-perfluoro[1,2-13c2]hexanesulfonic acid (m2-4:2fts) (4%) and 1h,1h,2h,2h-perfluoro[1,2-13c2]octanesulfonic acid (m2-6:2fts) (4%); however, these recoveries do not apply to the abbreviated list of target analytes reported.

L2235349-27: The Extracted Internal Standard recoveries are less than 5% for perfluoro[1,2-13c2]dodecanoic acid (mpfdoa) (3%); however, the extraction efficiency was improved upon re-extraction at a lower volume with the method required holding time exceeded. The results of both extractions are reported for the associated target compounds.

L2235349-27: The Extracted Internal Surrogate Standard recoveries are below the acceptance criteria for n-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-nmefosaa) (1%), n-deuterioethylperfluoro-1-octanesulfonamidoacetic acid (d5-netfosaa) (0%) and perfluoro[1,2-13c2]tetradecanoic acid (m2pfteda) (1%), in both the original and re-extraction with lesser volume. The associated target compounds are not reported

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Case Narrative (continued)

due to the insufficient recovery of this surrogate.

L2235349-36: The Extracted Internal Surrogate Standard recoveries are below the acceptance criteria for n-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-nmefosaa) (1%) in both the original and re-extraction with lesser volume. The associated target compounds are not reported due to the insufficient recovery of this surrogate.

L2235349-36: The Extracted Internal Standard recoveries are less than 5% for n-deuterioethylperfluoro-1-octanesulfonamidoacetic acid (d5-netfosaa) (3%); however, re-extraction at a lower volume with the method required holding time exceeded confirmed the original results. The results of the original analysis are reported.

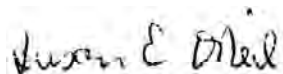
L2235349-38: The Extracted Internal Standard recoveries are less than 5% for n-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-nmefosaa) (3%) and n-deuterioethylperfluoro-1-octanesulfonamidoacetic acid (d5-netfosaa) (3%); however, the extraction efficiency was improved upon re-extraction at a lower volume with the method required holding time exceeded. The results of both extractions are reported for the associated target compounds.

WG1661335-1, WG1661335-2, WG1661335-3, WG1666620-1, WG1666620-2, WG1666961-1, and WG1666961-2: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

The WG1661335-4 Laboratory Duplicate RPD for perfluorooctanesulfonic acid (pfos) (45%), performed on L2235349-23, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Susan O'Neil

Title: Technical Director/Representative

Date: 07/28/22

ORGANICS

SEMIVOLATILES

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-01

Date Collected: 06/27/22 11:15

Client ID: CL67445

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 15:01

Analyst: MP

Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.251	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.501	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.251	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.251	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.251	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.251	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.09		ng/g	0.251	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.251	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.501	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.501	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.501	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.501	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.501	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.501	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.0	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.00	--	1
PFAS, Total (6)	1.09		ng/g	0.251	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-01

Date Collected: 06/27/22 11:15

Client ID: CL67445

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	30	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	16		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	24	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	24	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	30	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	26	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	16	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	29	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	35	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	27	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	6	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	25	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	7	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	23	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	26		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	43		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-02

Date Collected: 06/27/22 11:20

Client ID: CL67446

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 15:18

Analyst: MP

Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.252	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.505	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.252	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.252	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.252	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.252	--	1
Perfluorooctanesulfonic Acid (PFOS)	2.03		ng/g	0.252	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.252	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.505	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.505	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.505	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.505	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.505	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.505	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.1	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.01	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.01	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.01	--	1
PFAS, Total (6)	2.03		ng/g	0.252	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-02

Date Collected: 06/27/22 11:20

Client ID: CL67446

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	56	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	36		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	46	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	46	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	55	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	50	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	33		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	54	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	66	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	48	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	7	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	45	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	8	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	40	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	46		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	71		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-03

Date Collected: 06/27/22 11:30

Client ID: CL67447

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 15:34

Analyst: MP

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.259	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.518	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.259	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.259	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.259	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.259	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.388		ng/g	0.259	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.259	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.518	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.518	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.518	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.518	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.518	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.518	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.4	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.04	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.04	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.04	--	1
PFAS, Total (6)	0.388		ng/g	0.259	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-03

Date Collected: 06/27/22 11:30

Client ID: CL67447

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	76		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	60		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	71		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	71		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	78		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	78		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	69		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	91		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	90		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	82		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	31		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	75		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	45		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	67		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	80		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	101		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-04

Date Collected: 06/27/22 11:35

Client ID: CL67448

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 15:51

Analyst: MP

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.258	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.515	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.258	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.258	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.258	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.258	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.531		ng/g	0.258	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.258	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.515	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.515	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.515	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.515	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.515	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.515	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.3	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.03	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.03	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.03	--	1
PFAS, Total (6)	0.531		ng/g	0.258	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-04

Date Collected: 06/27/22 11:35

Client ID: CL67448

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	32	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	16		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	26	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	26	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	34	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	28	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	15	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	31	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	38	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	29	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	6	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	28	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	6	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	25	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	26		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	42		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-05

Date Collected: 06/27/22 11:45

Client ID: CL67449

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 16:08

Analyst: MP

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.241	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.481	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.241	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.241	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.241	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.241	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.241	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.241	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.481	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.481	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.481	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.481	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.481	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.481	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.63	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.963	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.963	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.963	--	1
PFAS, Total (6)	ND		ng/g	0.241	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-05

Date Collected: 06/27/22 11:45

Client ID: CL67449

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	85		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	74		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	24	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	29	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	88		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	39	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	70		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	52	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	102		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	52	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	8	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	52	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	11	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	51	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	68		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	28		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-06

Date Collected: 06/27/22 12:05

Client ID: CL67450

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 16:24

Analyst: MP

Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.266	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.533	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.266	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.266	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.266	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.266	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.266	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.266	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.533	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.533	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.533	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.533	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.533	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.533	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.6	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.06	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.06	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.06	--	1
PFAS, Total (6)	ND		ng/g	0.266	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-06

Date Collected: 06/27/22 12:05

Client ID: CL67450

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	92		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	92		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	94		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	101		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	105		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	119		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	108		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	108		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	76		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	104		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	92		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	91		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	112		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	110		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-07

Date Collected: 06/27/22 12:10

Client ID: CL67451

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 16:41

Analyst: MP

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.263	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.526	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.263	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.263	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.263	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.263	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.379		ng/g	0.263	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.263	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.526	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.526	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.526	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.526	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.526	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.526	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.5	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.05	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.05	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.05	--	1
PFAS, Total (6)	0.379		ng/g	0.263	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-07

Date Collected: 06/27/22 12:10

Client ID: CL67451

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	83		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	61		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	28	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	32	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	81		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	41	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	66		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	52	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	96		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	52	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	5	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	52	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	8	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	47	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	63		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	33		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-08

Date Collected: 06/27/22 12:30

Client ID: CL67452

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 17:14

Analyst: MP

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.265	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.530	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.265	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.265	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.265	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.265	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.265	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.265	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.530	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.530	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.530	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.530	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.530	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.530	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.6	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.06	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.06	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.06	--	1
PFAS, Total (6)	ND		ng/g	0.265	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-08

Date Collected: 06/27/22 12:30

Client ID: CL67452

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	92		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	77		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	90		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	89		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	89		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	97		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	78		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	107		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	99		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	66		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	75		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	84		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	98		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	112		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-09

Date Collected: 06/27/22 12:35

Client ID: CL67453

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 17:30

Analyst: MP

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.257	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.514	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.257	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.257	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.257	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.257	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.257	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.257	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.514	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.514	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.514	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.514	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.514	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.514	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.3	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.03	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.03	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.03	--	1
PFAS, Total (6)	ND		ng/g	0.257	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-09

Date Collected: 06/27/22 12:35

Client ID: CL67453

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	70		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	84		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	82		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	89		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	78		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	102		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	3	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	84		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	5	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	77		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	87		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	114		10-203

Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-09 RE

Date Collected: 06/27/22 12:35

Client ID: CL67453

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/24/22 08:40

Analytical Date: 07/25/22 03:11

Analyst: SG

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	1.89	--	1

Surrogate (Extracted Internal Standard)**% Recovery****Qualifier****Acceptance
Criteria**

N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)

6**Q****31-134**

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-10

Date Collected: 06/27/22 13:00

Client ID: CL67454

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 17:47

Analyst: MP

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.249	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.499	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.249	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.249	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.249	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.249	--	1
Perfluorooctanesulfonic Acid (PFOS)	4.04		ng/g	0.249	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.249	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.499	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.499	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.499	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.499	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.499	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.499	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.98	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.998	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.998	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.998	--	1
PFAS, Total (6)	4.04		ng/g	0.249	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-10

Date Collected: 06/27/22 13:00

Client ID: CL67454

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	92		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	85		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	84		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	84		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	89		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	93		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	92		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	106		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	101		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	59		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	72		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	77		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	95		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	115		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-11

Date Collected: 06/27/22 13:05

Client ID: CL67455

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 18:04

Analyst: MP

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.260	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.521	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.260	--	1
Perfluorohexanesulfonic Acid (PFHxS)	0.464	F	ng/g	0.260	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.260	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.260	--	1
Perfluorooctanesulfonic Acid (PFOS)	32.7		ng/g	0.260	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.260	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.521	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.521	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.521	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.521	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.521	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.521	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.4	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.04	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.04	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.04	--	1
PFAS, Total (6)	33.2		ng/g	0.260	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-11

Date Collected: 06/27/22 13:05

Client ID: CL67455

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	80		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	81		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	88		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	80		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	96		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	90		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	41		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	83		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	52		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	72		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	83		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	109		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-12

Date Collected: 06/27/22 14:05

Client ID: CL67456

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 18:20

Analyst: MP

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.257	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.514	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.257	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.257	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.257	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.257	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.55		ng/g	0.257	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.257	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.514	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.514	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.514	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.514	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.514	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.514	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.3	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.03	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.03	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.03	--	1
PFAS, Total (6)	1.55		ng/g	0.257	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-12

Date Collected: 06/27/22 14:05

Client ID: CL67456

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	94		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	79		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	77		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	87		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	90		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	105		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	108		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	96		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	43		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	54		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	82		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	102		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	95		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-13

Date Collected: 06/27/22 14:10

Client ID: CL67457

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 18:37

Analyst: MP

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.284	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.568	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.284	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.284	--	1
Perfluorooctanoic Acid (PFOA)	0.294		ng/g	0.284	--	1
Perfluorononanoic Acid (PFNA)	0.377		ng/g	0.284	--	1
Perfluorooctanesulfonic Acid (PFOS)	3.85		ng/g	0.284	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.284	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.568	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.568	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.568	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.568	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.568	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.568	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	11.4	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.14	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.14	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.14	--	1
PFAS, Total (6)	4.52		ng/g	0.284	--	1



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-13

Date Collected: 06/27/22 14:10

Client ID: CL67457

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	93		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	84		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	88		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	87		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	108		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	98		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	37		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	88		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	42		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	78		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	86		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	118		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-14

Date Collected: 06/27/22 14:20

Client ID: CL67458

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 18:53

Analyst: MP

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.499	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	--	1
Perfluorononanoic Acid (PFNA)	0.469		ng/g	0.250	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.69		ng/g	0.250	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.499	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.499	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.499	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.499	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.499	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.499	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.99	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.999	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.999	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.999	--	1
PFAS, Total (6)	2.16		ng/g	0.250	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-14

Date Collected: 06/27/22 14:20

Client ID: CL67458

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	72	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	59		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	70		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	69	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	70	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	75		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	61		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	86		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	78		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	24	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	69		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	23	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	61		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	69		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	92		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-15

Date Collected: 06/27/22 14:15

Client ID: CL67459

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 19:10

Analyst: MP

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.245	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.489	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.245	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.245	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.245	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.245	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.245	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.245	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.489	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.489	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.489	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.489	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.489	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.489	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.79	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.979	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.979	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.979	--	1
PFAS, Total (6)	ND		ng/g	0.245	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-15

Date Collected: 06/27/22 14:15

Client ID: CL67459

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	96		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	79		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	95		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	92		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	99		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	82		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	109		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	111		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	104		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	21	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	28	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	84		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	93		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	119		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-16

Date Collected: 06/27/22 15:00

Client ID: CL67460

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 19:26

Analyst: MP

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.259	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.518	--	1
Perfluoroheptanoic Acid (PFHpA)	0.327		ng/g	0.259	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.259	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.259	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.259	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.880		ng/g	0.259	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.259	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.518	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.518	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.518	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.518	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.518	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.518	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.4	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.04	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.04	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.04	--	1
PFAS, Total (6)	1.21		ng/g	0.259	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-16

Date Collected: 06/27/22 15:00

Client ID: CL67460

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	85		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	82		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	83		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	81		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	86		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	88		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	92		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	102		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	98		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	64		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	85		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	69		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	78		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	91		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	112		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-17

Date Collected: 06/27/22 15:30

Client ID: CL67461

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 19:43

Analyst: MP

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.267	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.533	--	1
Perfluoroheptanoic Acid (PFHpA)	0.281		ng/g	0.267	--	1
Perfluorohexanesulfonic Acid (PFHxS)	0.948		ng/g	0.267	--	1
Perfluorooctanoic Acid (PFOA)	0.374		ng/g	0.267	--	1
Perfluorononanoic Acid (PFNA)	0.394		ng/g	0.267	--	1
Perfluorooctanesulfonic Acid (PFOS)	5.67		ng/g	0.267	--	1
Perfluorodecanoic Acid (PFDA)	0.464		ng/g	0.267	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.533	--	1
Perfluoroundecanoic Acid (PFUnA)	3.69		ng/g	0.533	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.926		ng/g	0.533	--	1
Perfluorododecanoic Acid (PFDoA)	0.848		ng/g	0.533	--	1
Perfluorotridecanoic Acid (PFTrDA)	0.865		ng/g	0.533	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.533	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.7	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.07	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.07	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.07	--	1
PFAS, Total (6)	8.13		ng/g	0.267	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-17

Date Collected: 06/27/22 15:30

Client ID: CL67461

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	86		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	76		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	79		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	90		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	88		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	91		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	108		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	93		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	56		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	77		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	81		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	92		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	102		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-18

Date Collected: 06/27/22 15:42

Client ID: CL67462

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 20:16

Analyst: MP

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.258	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.516	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.258	--	1
Perfluorohexanesulfonic Acid (PFHxS)	0.542		ng/g	0.258	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.258	--	1
Perfluorononanoic Acid (PFNA)	0.282		ng/g	0.258	--	1
Perfluorooctanesulfonic Acid (PFOS)	4.04		ng/g	0.258	--	1
Perfluorodecanoic Acid (PFDA)	0.505		ng/g	0.258	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.516	--	1
Perfluoroundecanoic Acid (PFUnA)	3.54		ng/g	0.516	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.516	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.516	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.516	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.516	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.3	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.03	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.03	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.03	--	1
PFAS, Total (6)	5.37		ng/g	0.258	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-18

Date Collected: 06/27/22 15:42

Client ID: CL67462

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	91		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	83		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	86		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	85		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	88		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	107		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	106		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	96		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	55		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	89		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	59		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	83		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	96		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	111		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-19

Date Collected: 06/27/22 16:00

Client ID: CL67463

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 20:33

Analyst: MP

Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.244	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.488	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.244	--	1
Perfluorohexanesulfonic Acid (PFHxS)	0.585	F	ng/g	0.244	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.244	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.244	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.664		ng/g	0.244	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.244	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.488	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.488	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.488	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.488	--	1
Perfluorotridecanoic Acid (PFTrDA)	1.89		ng/g	0.488	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.488	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.76	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.976	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.976	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.976	--	1
PFAS, Total (6)	1.25		ng/g	0.244	--	1



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-19

Date Collected: 06/27/22 16:00

Client ID: CL67463

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	98		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	94		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	94		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	95		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	96		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	103		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	109		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	119		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	114		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	98		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	71		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	96		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	75		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	85		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	95		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	118		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-20

Date Collected: 06/27/22 16:40

Client ID: CL67464

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 14:45

Analytical Date: 07/14/22 11:11

Analyst: MP

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.94	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.94	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.94	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.94	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.94	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.94	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.94	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.94	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.94	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.94	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.94	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.94	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.94	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.94	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	48.6	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.94	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.94	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.94	--	1
PFAS, Total (6)	ND		ng/l	1.94	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-20

Date Collected: 06/27/22 16:40

Client ID: CL67464

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	100		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	105		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	100		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	100		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	96		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	99		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	118		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	107		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	100		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	78		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	74		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	81		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	72		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	113		10-165



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-21

Date Collected: 06/28/22 10:20

Client ID: CL67465

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 10:40

Analytical Date: 07/22/22 21:22

Analyst: MP

Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.246	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.492	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.246	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.246	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.246	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.246	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.304		ng/g	0.246	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.246	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.492	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.492	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.492	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.492	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.492	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.492	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.85	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.985	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.985	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.985	--	1
PFAS, Total (6)	0.304		ng/g	0.246	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-21

Date Collected: 06/28/22 10:20

Client ID: CL67465

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	93		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	90		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	92		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	96		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	104		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	101		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	106		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	90		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	114		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	105		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	105		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	112		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	117		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-22

Date Collected: 06/28/22 10:25

Client ID: CL67466

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 19:11

Analyst: MP

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.257	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.513	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.257	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.257	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.257	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.257	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.640		ng/g	0.257	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.257	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.513	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.513	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.513	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.513	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.513	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.513	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.3	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.03	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.03	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.03	--	1
PFAS, Total (6)	0.640		ng/g	0.257	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-22

Date Collected: 06/28/22 10:25

Client ID: CL67466

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	68	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	60		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	65	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	66	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	68	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	70	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	60		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	78		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	76	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	69	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	9	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	59	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	8	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	52	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	34		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	100		10-203



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-23

Date Collected: 06/28/22 10:30

Client ID: CL67467

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 19:44

Analyst: MP

Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.501	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	--	1
Perfluorohexanesulfonic Acid (PFHxS)	0.252	F	ng/g	0.250	--	1
Perfluorooctanoic Acid (PFOA)	0.418		ng/g	0.250	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	--	1
Perfluorooctanesulfonic Acid (PFOS)	2.76		ng/g	0.250	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.501	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.501	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.501	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.501	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.501	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.501	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.0	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.00	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.00	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.00	--	1
PFAS, Total (6)	3.43		ng/g	0.250	--	1



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-23

Date Collected: 06/28/22 10:30

Client ID: CL67467

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	94		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	91		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	82		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	84		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	92		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	103		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	101		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	111		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	48		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	59		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	84		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	91		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	109		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-24

Date Collected: 06/28/22 11:12

Client ID: CL67468

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 20:18

Analyst: MP

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.258	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.516	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.258	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.258	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.258	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.258	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.936		ng/g	0.258	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.258	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.516	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.516	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.516	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.516	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.516	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.516	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.3	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.03	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.03	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.03	--	1
PFAS, Total (6)	0.936		ng/g	0.258	--	1



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-24

Date Collected: 06/28/22 11:12

Client ID: CL67468

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	58	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	53		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	58	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	57	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	54	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	61	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	53		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	63	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	58	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	54	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	13	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	43	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	15	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	31	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	7	Q	24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	84		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-25

Date Collected: 06/28/22 11:18

Client ID: CL67469

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 20:34

Analyst: MP

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.265	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.530	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.265	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.265	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.265	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.265	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.265	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.265	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.530	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.530	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.530	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.530	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.530	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.530	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.6	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.06	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.06	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.06	--	1
PFAS, Total (6)	ND		ng/g	0.265	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-25

Date Collected: 06/28/22 11:18

Client ID: CL67469

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	80		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	78		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	80		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	80		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	78		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	81		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	92		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	27	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	78		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	25	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	69		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	50		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	96		10-203

Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-26

Date Collected: 06/28/22 15:35

Client ID: CL67470

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 20:51

Analyst: MP

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.99	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.999	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.999	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.999	--	1
PFAS, Total (6)	ND		ng/g	0.250	--	1



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-26

Date Collected: 06/28/22 15:35

Client ID: CL67470

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	12	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	6	Q	14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	10	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	11	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	11	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	11	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	6	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	11	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	12	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	10	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	1	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	8	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	0	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	6	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	1	Q	24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	18		10-203

Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-27

Date Collected: 06/28/22 15:40

Client ID: CL67471

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 21:07

Analyst: MP

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.249	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.497	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.249	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.249	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.249	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.249	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.249	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.249	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.497	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.497	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.94	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.994	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.994	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.994	--	1
PFAS, Total (6)	ND		ng/g	0.249	--	1



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-27

Date Collected: 06/28/22 15:40

Client ID: CL67471

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	8	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	4	Q	14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	7	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	6	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	7	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	7	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	4	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	7	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	8	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	6	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	1	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	5	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	0	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	3	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	1	Q	24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	13		10-203

Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-27 RE

Date Collected: 06/28/22 15:40

Client ID: CL67471

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/25/22 11:30

Analytical Date: 07/26/22 05:44

Analyst: SG

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Perfluorododecanoic Acid (PFDoA)	ND		ng/g	1.96	--	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	8	Q	54-150

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-28

Date Collected: 06/28/22 11:50

Client ID: CL67472

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 21:24

Analyst: MP

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.261	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.523	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.261	--	1
Perfluorohexanesulfonic Acid (PFHxS)	0.524	F	ng/g	0.261	--	1
Perfluorooctanoic Acid (PFOA)	0.341		ng/g	0.261	--	1
Perfluorononanoic Acid (PFNA)	0.315		ng/g	0.261	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.28		ng/g	0.261	--	1
Perfluorodecanoic Acid (PFDA)	0.497		ng/g	0.261	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.523	--	1
Perfluoroundecanoic Acid (PFUnA)	0.630		ng/g	0.523	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.523	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.523	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.523	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.523	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.4	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.04	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.04	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.04	--	1
PFAS, Total (6)	2.96		ng/g	0.261	--	1



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-28

Date Collected: 06/28/22 11:50

Client ID: CL67472

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	63	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	55		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	63	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	63	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	58	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	67	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	59		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	70	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	71	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	64	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	29	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	54	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	28	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	44	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	14	Q	24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	88		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-29

Date Collected: 06/28/22 11:52

Client ID: CL67473

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 21:40

Analyst: MP

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.290	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.581	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.290	--	1
Perfluorohexanesulfonic Acid (PFHxS)	1.13		ng/g	0.290	--	1
Perfluorooctanoic Acid (PFOA)	0.299		ng/g	0.290	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.290	--	1
Perfluorooctanesulfonic Acid (PFOS)	4.14		ng/g	0.290	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.290	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.581	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.581	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.581	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.581	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.581	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.581	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	11.6	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.16	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.16	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.16	--	1
PFAS, Total (6)	5.57		ng/g	0.290	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-29

Date Collected: 06/28/22 11:52

Client ID: CL67473

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	77		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	82		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	70		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	72		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	75	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	79		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	87		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	84		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	75		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	54		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	74		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	63		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	62		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	41		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	97		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-30

Date Collected: 06/28/22 12:05

Client ID: CL67474

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 21:57

Analyst: MP

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.244	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.488	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.244	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.244	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.244	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.244	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.427		ng/g	0.244	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.244	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.488	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.488	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.488	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.488	--	1
Perfluorotridecanoic Acid (PFTrDA)	0.910		ng/g	0.488	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.488	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.76	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.976	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.976	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.976	--	1
PFAS, Total (6)	0.427		ng/g	0.244	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-30

Date Collected: 06/28/22 12:05

Client ID: CL67474

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	95		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	94		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	96		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	92		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	103		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	100		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	110		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	109		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	105		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	61		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	100		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	66		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	90		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	86		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	110		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-31

Date Collected: 06/28/22 12:10

Client ID: CL67475

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 22:14

Analyst: MP

Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.234	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.469	--	1
Perfluoroheptanoic Acid (PFHpA)	0.238		ng/g	0.234	--	1
Perfluorohexanesulfonic Acid (PFHxS)	3.43		ng/g	0.234	--	1
Perfluorooctanoic Acid (PFOA)	0.273		ng/g	0.234	--	1
Perfluorononanoic Acid (PFNA)	0.397		ng/g	0.234	--	1
Perfluorooctanesulfonic Acid (PFOS)	65.2		ng/g	0.234	--	1
Perfluorodecanoic Acid (PFDA)	4.28		ng/g	0.234	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.469	--	1
Perfluoroundecanoic Acid (PFUnA)	6.24		ng/g	0.469	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.469	--	1
Perfluorododecanoic Acid (PFDoA)	0.686		ng/g	0.469	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.469	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.469	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.38	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.938	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.938	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.938	--	1
PFAS, Total (6)	73.8		ng/g	0.234	--	1



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-31

Date Collected: 06/28/22 12:10

Client ID: CL67475

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	90		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	78		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	78		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	86		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	83		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	95		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	90		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	43		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	84		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	45		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	75		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	68		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	115		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-32

Date Collected: 06/28/22 12:15

Client ID: CL67476

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 22:47

Analyst: MP

Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.246	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.493	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.246	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.246	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.246	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.246	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.721		ng/g	0.246	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.246	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.493	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.493	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.493	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.493	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.493	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.493	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.85	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.985	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.985	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.985	--	1
PFAS, Total (6)	0.721		ng/g	0.246	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-32

Date Collected: 06/28/22 12:15

Client ID: CL67476

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	92		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	98		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	93		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	95		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	89		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	99		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	96		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	109		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	103		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	63		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	67		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	82		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	80		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	127		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-33

Date Collected: 06/28/22 12:20

Client ID: CL67477

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 23:03

Analyst: MP

Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.244	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.488	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.244	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.244	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.244	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.244	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.38		ng/g	0.244	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.244	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.488	--	1
Perfluoroundecanoic Acid (PFUnA)	0.498		ng/g	0.488	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.488	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.488	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.488	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.488	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.76	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.976	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.976	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.976	--	1
PFAS, Total (6)	1.38		ng/g	0.244	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-33

Date Collected: 06/28/22 12:20

Client ID: CL67477

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	84		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	85		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	87		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	87		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	80		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	93		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	89		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	99		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	99		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	46		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	87		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	49		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	77		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	59		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	115		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-34

Date Collected: 06/28/22 12:30

Client ID: CL67478

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 23:20

Analyst: MP

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.259	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.518	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.259	--	1
Perfluorohexanesulfonic Acid (PFHxS)	0.498		ng/g	0.259	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.259	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.259	--	1
Perfluorooctanesulfonic Acid (PFOS)	2.74		ng/g	0.259	--	1
Perfluorodecanoic Acid (PFDA)	0.434		ng/g	0.259	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.518	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.518	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.518	--	1
Perfluorododecanoic Acid (PFDoA)	1.97		ng/g	0.518	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.518	--	1
Perfluorotetradecanoic Acid (PFTA)	0.707		ng/g	0.518	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.4	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.04	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.04	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.04	--	1
PFAS, Total (6)	3.67		ng/g	0.259	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-34

Date Collected: 06/28/22 12:30

Client ID: CL67478

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	83		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	86		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	89		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	90		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	80		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	94		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	100		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	103		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	72		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	92		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	77		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	87		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	86		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	118		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-35

Date Collected: 06/28/22 12:35

Client ID: CL67479

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 23:37

Analyst: MP

Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.244	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.487	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.244	--	1
Perfluorohexanesulfonic Acid (PFHxS)	0.463		ng/g	0.244	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.244	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.244	--	1
Perfluorooctanesulfonic Acid (PFOS)	9.32		ng/g	0.244	--	1
Perfluorodecanoic Acid (PFDA)	3.63		ng/g	0.244	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.487	--	1
Perfluoroundecanoic Acid (PFUnA)	0.495		ng/g	0.487	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.487	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.487	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.487	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.487	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.74	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.974	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.974	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.974	--	1
PFAS, Total (6)	13.4		ng/g	0.244	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-35

Date Collected: 06/28/22 12:35

Client ID: CL67479

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	84		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	96		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	90		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	90		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	84		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	97		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	107		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	102		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	99		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	79		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	97		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	88		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	83		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	83		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	117		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-36

Date Collected: 06/28/22 15:15

Client ID: CL67480

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/23/22 23:53

Analyst: MP

Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.243	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.485	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.243	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.243	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.243	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.243	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.243	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.243	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.485	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.485	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.485	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.485	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.485	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.71	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.971	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.971	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.971	--	1
PFAS, Total (6)	ND		ng/g	0.243	--	1



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-36

Date Collected: 06/28/22 15:15

Client ID: CL67480

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	57	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	45		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	52	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	53	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	55	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	57	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	49		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	59	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	66	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	55	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	1	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	52	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	3	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	45	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	21	Q	24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	78		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-37

Date Collected: 06/28/22 15:20

Client ID: CL67481

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/24/22 00:10

Analyst: MP

Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.256	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.512	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.256	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.256	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.256	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.256	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.256	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.256	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.512	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.512	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.512	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.512	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.512	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.512	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.2	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.02	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.02	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.02	--	1
PFAS, Total (6)	ND		ng/g	0.256	--	1



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-37

Date Collected: 06/28/22 15:20

Client ID: CL67481

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	61	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	57		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	61	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	63	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	60	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	67	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	58		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	72		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	74	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	66	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	15	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	61		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	11	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	52	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	24		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	79		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-38

Date Collected: 06/28/22 15:25

Client ID: CL67482

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/24/22 00:26

Analyst: MP

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.274	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.547	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.274	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.274	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.274	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.274	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.274	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.274	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.547	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.547	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.547	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.547	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.547	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.547	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.9	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.09	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.09	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.09	--	1
PFAS, Total (6)	ND		ng/g	0.274	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-38

Date Collected: 06/28/22 15:25

Client ID: CL67482

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	43	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	31		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	39	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	40	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	42	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	43	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	35		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	45	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	51	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	42	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	3	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	38	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	3	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	33	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	16	Q	24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	62		10-203

Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-38 RE

Date Collected: 06/28/22 15:25

Client ID: CL67482

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/25/22 11:30

Analytical Date: 07/26/22 06:17

Analyst: SG

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)

ND

ng/g

1.92

--

1

N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)

ND

ng/g

1.92

--

1

Surrogate (Extracted Internal Standard)**% Recovery****Qualifier****Acceptance
Criteria**

N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)

4

Q

31-134

N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)

5

Q

34-137

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-39

Date Collected: 06/28/22 16:00

Client ID: CL67483

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/24/22 00:43

Analyst: MP

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.244	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.488	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.244	--	1
Perfluorohexanesulfonic Acid (PFHxS)	0.578		ng/g	0.244	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.244	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.244	--	1
Perfluorooctanesulfonic Acid (PFOS)	28.7		ng/g	0.244	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.244	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.488	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.488	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.488	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.488	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.488	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.488	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.76	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.976	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.976	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.976	--	1
PFAS, Total (6)	29.3		ng/g	0.244	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-39

Date Collected: 06/28/22 16:00

Client ID: CL67483

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	90		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	89		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	88		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	91		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	89		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	96		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	105		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	99		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	98		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	57		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	92		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	56		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	88		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	74		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	121		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-40

Date Collected: 06/28/22 16:10

Client ID: CL67484

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/11/22 15:15

Analytical Date: 07/24/22 00:59

Analyst: MP

Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.246	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.493	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.246	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.246	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.246	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.246	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.246	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.246	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.493	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.493	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.493	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.493	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.493	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.493	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	9.86	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	0.986	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	0.986	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	0.986	--	1
PFAS, Total (6)	ND		ng/g	0.246	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-40

Date Collected: 06/28/22 16:10

Client ID: CL67484

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	76		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	73		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	76		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	76	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	79		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	87		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	84		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	27	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	81		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	34		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	71		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	61		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	98		10-203

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-41

Date Collected: 06/28/22 16:15

Client ID: CL67485

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/08/22 14:45

Analytical Date: 07/14/22 11:28

Analyst: MP

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	46.1	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	--	1
PFAS, Total (6)	ND		ng/l	1.84	--	1

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-41

Date Collected: 06/28/22 16:15

Client ID: CL67485

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	94		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	98		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	98		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	98		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	90		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	96		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	108		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	104		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	100		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	79		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	98		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	77		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	84		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	76		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	109		10-165

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 07/22/22 14:28

Extraction Date: 07/08/22 10:40

Analyst: MP

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-19,21 Batch: WG1660329-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	--
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	--
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	--
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	--
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.0	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.00	--
PFAS, Total (6)	ND		ng/g	0.250	--

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 07/22/22 14:28

Extraction Date: 07/08/22 10:40

Analyst: MP

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-19,21 Batch: WG1660329-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	87		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	64		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	74		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	83		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	82		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	60		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	95		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87		75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	42		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	81		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	49		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	71		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	75		24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	88		10-203



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 07/09/22 08:44

Extraction Date: 07/08/22 14:45

Analyst: MP

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 20,41 Batch: WG1660430-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	50.0	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
PFAS, Total (6)	ND		ng/l	2.00	--

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 07/09/22 08:44

Extraction Date: 07/08/22 14:45

Analyst: MP

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 20,41 Batch: WG1660430-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	87		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	97		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	79		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	63		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	83		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	82		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	74		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	88		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	75		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	98		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	93		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	55		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	80		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	26		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	59		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	68		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	72		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	100		10-165
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	75		10-206
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	85		50-150



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 07/23/22 18:38

Extraction Date: 07/11/22 15:15

Analyst: MP

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 22-40 Batch: WG1661335-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	--
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	--
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	--
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	--
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.0	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.00	--
PFAS, Total (6)	ND		ng/g	0.250	--

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 07/23/22 18:38

Extraction Date: 07/11/22 15:15

Analyst: MP

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 22-40 Batch: WG1661335-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	59	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	58		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	60	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	57		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	58	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	58	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	57	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	61	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	54		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	67	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	63	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	58	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	60		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	27	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	50	Q	61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	11		5-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	30	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	40	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	22	Q	24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	77		10-203



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 07/25/22 02:38

Extraction Date: 07/24/22 08:40

Analyst: SG

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 09 Batch: WG1666620-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	--
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	--
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	--
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	--
PFAS, Total (6)	ND		ng/g	0.250	--

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 07/25/22 02:38

Extraction Date: 07/24/22 08:40

Analyst: SG

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 09 Batch: WG1666620-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	58	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	63		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	75		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	78		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	58	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	59	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	75	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	53	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	78		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	42	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	53	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	52	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	63		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	57		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	69		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	80		5-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	57		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	63		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	29		24-159

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 07/26/22 04:54

Extraction Date: 07/25/22 11:30

Analyst: SG

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 27,38 Batch: WG1666961-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	--
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	--
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	--
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	--
Perfluorotridecanoic Acid (PFTTrDA)	ND		ng/g	0.500	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	--
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/g	10.0	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/g	1.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/g	1.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/g	1.00	--
PFAS, Total (6)	ND		ng/g	0.250	--

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 07/26/22 04:54

Extraction Date: 07/25/22 11:30

Analyst: SG

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 27,38 Batch: WG1666961-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	46	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	29		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	50	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	51	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	45	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	52	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	29		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	52	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	51	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	49	Q	75-130
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	29	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	48	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	27	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	40	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	17	Q	24-159
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	65		10-203

Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual	Limits	RPD
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-19,21 Batch: WG1660329-2								
Perfluorobutanesulfonic Acid (PFBS)	96		-		72-128	-		30
Perfluorohexanoic Acid (PFHxA)	93		-		70-132	-		30
Perfluoroheptanoic Acid (PFHpA)	95		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	113		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	93		-		69-133	-		30
Perfluorononanoic Acid (PFNA)	83		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	97		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	89		-		69-133	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	98		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	116		-		64-136	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEFOSAA)	99		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	100		-		69-135	-		30
Perfluorotridecanoic Acid (PFTTrDA)	89		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	79		-		69-133	-		30
2,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]propanoic Acid (HFPO-DA)	104		-		41-165	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	88		-		61-135	-		30
9-Chlorohexadecafluoro-3-Oxanon-1-Sulfonic Acid (9Cl-PF3ONS)	82		-		69-139	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	78		-		51-155	-		30



Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits		Qual	Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-19,21 Batch: WG1660329-2								

Surrogate (Extracted Internal Standard)	LCS		LCSD		Acceptance	
	%Recovery	Qual	%Recovery	Qual	Criteria	
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	93				74-139	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	73				14-167	
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	91				66-128	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	88				71-129	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	89				78-139	
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94				75-130	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	72				20-154	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	107				72-140	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105				79-136	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	99				75-130	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	62				31-134	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	88				61-155	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	60				34-137	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	80				54-150	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	91				24-159	
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	112				10-203	

Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual	Limits	RPD
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 20,41 Batch: WG1660430-2								
Perfluorobutanesulfonic Acid (PFBS)	98		-		65-157	-		30
Perfluorohexanoic Acid (PFHxA)	93		-		69-168	-		30
Perfluoroheptanoic Acid (PFHpA)	93		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	111		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	88		-		63-159	-		30
Perfluorononanoic Acid (PFNA)	82		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	93		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	85		-		63-171	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	105		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	106		-		60-153	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEFOSAA)	84		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	99		-		67-153	-		30
Perfluorotridecanoic Acid (PFTTrDA)	99		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	85		-		59-182	-		30
2,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	88		-		57-162	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	85		-		69-143	-		30
9-Chlorohexadecafluoro-3-Oxanon-1-Sulfonic Acid (9Cl-PF3ONS)	78		-		55-158	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	72		-		52-156	-		30



Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits		Qual	Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 20,41 Batch: WG1660430-2

Surrogate (Extracted Internal Standard)		LCS		LCSD		Acceptance Criteria	
		%Recovery	Qual	%Recovery	Qual		
Perfluoro[13C4]Butanoic Acid (MPFBA)		88				58-132	
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)		98				62-163	
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)		83				70-131	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4,2FTS)		72				12-142	
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)		85				57-129	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)		84				60-129	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)		78				71-134	
Perfluoro[13C8]Octanoic Acid (M8PFOA)		93				62-129	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6,2FTS)		88				14-147	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)		103				59-139	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)		100				69-131	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)		95				62-124	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8,2FTS)		102				10-162	
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)		59				24-116	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)		83				55-137	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)		26				5-112	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEIFOSAA)		59				27-126	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)		76				48-131	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)		77				22-136	
2,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)		102				10-165	
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)		80				10-206	
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10,2FTS)		85				50-150	

Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual	Limits	RPD
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 22-40 Batch: WG1661335-2								
Perfluorobutanesulfonic Acid (PFBS)	104		-		72-128	-		30
Perfluorohexanoic Acid (PFHxA)	98		-		70-132	-		30
Perfluoroheptanoic Acid (PFHpA)	100		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	119		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	96		-		69-133	-		30
Perfluorononanoic Acid (PFNA)	87		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	102		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	93		-		69-133	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	120		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	118		-		64-136	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEFOSAA)	101		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	101		-		69-135	-		30
Perfluorotridecanoic Acid (PFTTrDA)	105		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	89		-		69-133	-		30
2,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	102		-		41-165	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	94		-		61-135	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	85		-		69-139	-		30



Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits		Qual	Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 22-40 Batch: WG1661335-2								

Surrogate (Extracted Internal Standard)		LCS		LCSD		Acceptance Criteria	
		%Recovery	Qual	%Recovery	Qual		
Perfluoro[13C4]Butanoic Acid (MPFBA)		64					61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)		63					58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)		61	Q				74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4,2FTS)		63					14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)		63	Q				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)		63	Q				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)		59	Q				78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)		67	Q				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6,2FTS)		60					20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)		75					72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)		68	Q				79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)		63	Q				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8,2FTS)		66					19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)		31					31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)		53	Q				61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)		10					5-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEIFOSAA)		32	Q				34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)		47	Q				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)		27					24-159
2,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)		83					10-203

Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 09 Batch: WG1666620-2								
Perfluorobutanesulfonic Acid (PFBS)	94		-		72-128	-		30
Perfluorohexanoic Acid (PFHxA)	100		-		70-132	-		30
Perfluoroheptanoic Acid (PFHpA)	100		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	110		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	104		-		69-133	-		30
Perfluorononanoic Acid (PFNA)	128		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	99		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	117		-		69-133	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	121		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	85		-		64-136	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	99		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	94		-		69-135	-		30
Perfluorotridecanoic Acid (PFTTrDA)	110		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	92		-		69-133	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits		Qual	Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 09 Batch: WG1666620-2								

Surrogate (Extracted Internal Standard)								
	LCS		LCSD		Acceptance			
	%Recovery	Qual	%Recovery	Qual	Criteria			
Perfluoro[13C4]Butanoic Acid (MPFBA)	63				61-135			
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	68				58-150			
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	84				74-139			
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4,2FTS)	98				14-167			
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	62	Q			66-128			
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	63	Q			71-129			
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	82				78-139			
Perfluoro[13C8]Octanoic Acid (M8PFOA)	60	Q			75-130			
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6,2FTS)	100				20-154			
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	47	Q			72-140			
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	63	Q			79-136			
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	57	Q			75-130			
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8,2FTS)	73				19-175			
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	51				31-134			
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	77				61-155			
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	92				5-117			
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEIFOSAA)	53				34-137			
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	73				54-150			
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	38				24-159			

Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual	Limits	RPD
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 27,38 Batch: WG1666961-2								
Perfluorobutanesulfonic Acid (PFBS)	100		-		72-128	-		30
Perfluorohexanoic Acid (PFHxA)	95		-		70-132	-		30
Perfluoroheptanoic Acid (PFHpA)	94		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	113		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	92		-		69-133	-		30
Perfluorononanoic Acid (PFNA)	91		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	87		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	96		-		69-133	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	108		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	103		-		64-136	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEFOSAA)	102		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	95		-		69-135	-		30
Perfluorotridecanoic Acid (PFTTrDA)	104		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	94		-		69-133	-		30
2,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]propanoic Acid (HFPO-DA)	84		-		41-165	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	89		-		61-135	-		30
9-Chlorohexadecafluoro-3-Oxanon-1-Sulfonic Acid (9Cl-PF3ONS)	75		-		69-139	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	61		-		51-155	-		30



Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Parameter	LCS		LCSD		%Recovery		RPD	
	Qual	%Recovery	Qual	%Recovery	Limits	Qual	Qual	Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 27,38 Batch: WG1666961-2								

Surrogate (Extracted Internal Standard)	LCS		LCSD		Acceptance	
	%Recovery	Qual	%Recovery	Qual	Criteria	
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	50	Q			74-139	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	34				14-167	
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	54	Q			66-128	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	56	Q			71-129	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	49	Q			78-139	
Perfluoro[13C8]Octanoic Acid (M8PFOA)	59	Q			75-130	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	35				20-154	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	59	Q			72-140	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	61	Q			79-136	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	56	Q			75-130	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	29	Q			31-134	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	54	Q			61-155	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEIFOSAA)	33	Q			34-137	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	46	Q			54-150	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	24				24-159	
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	75				10-203	

Matrix Spike Analysis Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-19,21 QC Batch ID: WG1660329-3 WG1660329-4 QC Sample: L2235349-19 Client ID: CL67463												
Perfluorobutanesulfonic Acid (PFBS)	ND	4.52	4.33	96		4.11	98		72-128	5		30
Perfluorohexanoic Acid (PFHxA)	ND	5.1	4.88	93		4.61	95		70-132	6		30
Perfluoroheptanoic Acid (PFHpA)	ND	5.1	4.85	94		4.59	96		71-131	6		30
Perfluorohexanesulfonic Acid (PFHxS)	0.585F	4.66	5.78	112		5.61	117		67-130	3		30
Perfluorooctanoic Acid (PFOA)	ND	5.1	4.86	94		4.48	94		69-133	8		30
Perfluorononanoic Acid (PFNA)	ND	5.1	4.32	83		4.28	89		72-129	1		30
Perfluorooctanesulfonic Acid (PFOS)	0.664	4.73	5.45	101		4.99	99		68-136	9		30
Perfluorodecanoic Acid (PFDA)	ND	5.1	4.61	88		4.50	93		69-133	2		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	5.1	5.30	104		5.18	110		63-144	2		30
Perfluoroundecanoic Acid (PFUnA)	ND	5.1	5.83	108		5.40	108		64-136	8		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	5.1	5.12	100		4.32	92		61-139	17		30
Perfluorododecanoic Acid (PFDoA)	ND	5.1	4.82	89		5.00	100		69-135	4		30
Perfluorotridecanoic Acid (PFTriDA)	1.89	5.1	6.70	94		6.86	105		66-139	2		30
Perfluorotetradecanoic Acid (PFTA)	ND	5.1	4.34	80		4.13	82		69-133	5		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	49.7	41.8	84		48.6	106		41-165	15		30
4,8-Dioxa-3H-Perfluorononanoic Acid (ADONA)	ND	4.82	4.26	88		4.01	90		61-135	6		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	4.76	4.12	87		3.66	83		67-139	12		30
11-Chloroicosafuoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	4.81	3.93	82		3.72	84		51-155	5		30

Matrix Spike Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-19,21 QC Batch ID: WG1660329-3 WG1660329-4 QC Sample: L2235349-19 Client ID: CL67463												
Surrogate (Extracted Internal Standard)	MS			% Recovery	Qualifier	MSD			Acceptance Criteria			
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)				98				103				14-167
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)				107				112				20-154
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)				113				113				10-203
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)				79				87				34-137
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)				70				80				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)				104				110				61-155
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)				105				108				75-130
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)				92				96				66-128
Perfluoro[1,2,3,4,4-13C4]Heptanoic Acid (M4PFHpA)				93				95				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)				93				95				78-139
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)				93				95				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)				107				109				24-159
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)				107				113				79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)				99				102				75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)				115				114				72-140
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)				95				98				74-139

Matrix Spike Analysis Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 20,41 QC Batch ID: WG1660430-3 QC Sample: L2235099-03 Client ID: MS												
Perfluorobutanoic Acid (PFBA)	ND	43.3	40.6	94		-	-	-	67-148	-	-	30
Perfluoropentanoic Acid (PFPeA)	ND	43.3	40.0	92		-	-	-	63-161	-	-	30
Perfluorobutanesulfonic Acid (PFBS)	ND	38.5	36.5	95		-	-	-	65-157	-	-	30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	40.6	44.8	110		-	-	-	37-219	-	-	30
Perfluorohexanoic Acid (PFHxA)	ND	43.3	39.4	91		-	-	-	69-168	-	-	30
Perfluoropentanesulfonic Acid (PFPeS)	ND	40.8	40.7	100		-	-	-	52-156	-	-	30
Perfluoroheptanoic Acid (PFHpA)	ND	43.3	39.8	92		-	-	-	58-159	-	-	30
Perfluorohexanesulfonic Acid (PFHxS)	ND	39.6	43.9	111		-	-	-	69-177	-	-	30
Perfluorooctanoic Acid (PFOA)	ND	43.3	38.4	89		-	-	-	63-159	-	-	30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	41.2	41.9	97		-	-	-	49-187	-	-	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	41.3	33.4	81		-	-	-	61-179	-	-	30
Perfluorononanoic Acid (PFNA)	ND	43.3	35.1	81		-	-	-	68-171	-	-	30
Perfluorooctanesulfonic Acid (PFOS)	ND	40.2	36.6	91		-	-	-	52-151	-	-	30
Perfluorodecanoic Acid (PFDA)	ND	43.3	36.2	84		-	-	-	63-171	-	-	30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	41.6	46.2F	111		-	-	-	56-173	-	-	30
Perfluorononanesulfonic Acid (PFNS)	ND	41.7	31.6	76		-	-	-	48-150	-	-	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	43.3	41.7	96		-	-	-	60-166	-	-	30
Perfluoroundecanoic Acid (PFUnA)	ND	43.3	48.2	111		-	-	-	60-153	-	-	30
Perfluorodecanesulfonic Acid (PFDS)	ND	41.8	31.6	76		-	-	-	38-156	-	-	30
Perfluorooctanesulfonamide (FOSA)	ND	43.3	41.2F	95		-	-	-	46-170	-	-	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	43.3	42.1	97		-	-	-	45-170	-	-	30
Perfluorododecanoic Acid (PFDoA)	ND	43.3	42.2	97		-	-	-	67-153	-	-	30

Matrix Spike Analysis Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 20,41 QC Batch ID: WG1660430-3 QC Sample: L2235099-03 Client ID: MS											
Sample											
Perfluorotridecanoic Acid (PFTrDA)	ND	43.3	41.8	96		-	-	-	48-158	-	30
Perfluorotetradecanoic Acid (PFTA)	ND	43.3	34.5	80		-	-	-	59-182	-	30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	422	344	82		-	-	-	57-162	-	30
4,8-Dioxo-3h-Perfluorononanoic Acid (ADONA)	ND	41	34.1	83		-	-	-	69-143	-	30
Perfluorohexadecanoic Acid (PFHxDA)	ND	43.3	41.4	96		-	-	-	40-167	-	30
Perfluorooctadecanoic Acid (PFODA)	ND	43.3	16.3	38		-	-	-	10-119	-	30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	% Recovery	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H, 1H, 2H, 2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8,2FTS)	102					10-162
1H, 1H, 2H, 2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4,2FTS)	80					12-142
1H, 1H, 2H, 2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6,2FTS)	86					14-147
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-3-Propanoic Acid (M3HFPO-DA)	103					10-165
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEIFOSAA)	52					27-126
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	58					24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	77					55-137
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91					62-124
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	84					57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	83					60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	84					71-134
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	67					48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	75					22-136
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	71					10-206

Matrix Spike Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 20,41 QC Batch ID: WG1660430-3 QC Sample: L2235099-03 Client ID: MS												
Sample												
Surrogate (Extracted Internal Standard)				MS % Recovery	MS Qualifier		MSD % Recovery	MSD Qualifier		Acceptance Criteria		
Perfluoro[13C4]Butanoic Acid (MPFBA)				82						58-132		
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)				95						62-163		
Perfluoro[13C8]Octanesulfonamide (M8FOSA)				8						5-112		
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)				102						69-131		
Perfluoro[13C8]Octanoic Acid (M8PFOA)				91						62-129		
Perfluoro[13C9]Nonanoic Acid (M9PFNA)				101						59-139		
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)				89						70-131		



Matrix Spike Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Found	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 22-40 QC Batch ID: WG1661335-3 QC Sample: L2235349-22 Client ID: CL67466											
Perfluorobutanesulfonic Acid (PFBS)	ND	4.62	4.53	98	-	-	-	-	72-128	-	30
Perfluorohexanoic Acid (PFHxA)	ND	5.2	5.05	97	-	-	-	-	70-132	-	30
Perfluoroheptanoic Acid (PFHpA)	ND	5.2	5.14	99	-	-	-	-	71-131	-	30
Perfluorohexanesulfonic Acid (PFHxS)	ND	4.76	5.47	115	-	-	-	-	67-130	-	30
Perfluorooctanoic Acid (PFOA)	ND	5.2	4.90	94	-	-	-	-	69-133	-	30
Perfluorononanoic Acid (PFNA)	ND	5.2	4.54	87	-	-	-	-	72-129	-	30
Perfluorooctanesulfonic Acid (PFOS)	0.640	4.83	5.23	95	-	-	-	-	68-136	-	30
Perfluorodecanoic Acid (PFDA)	ND	5.2	4.80	92	-	-	-	-	69-133	-	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	5.2	4.34	83	-	-	-	-	63-144	-	30
Perfluoroundecanoic Acid (PFUnA)	ND	5.2	6.33	122	-	-	-	-	64-136	-	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	5.2	4.55	87	-	-	-	-	61-139	-	30
Perfluorododecanoic Acid (PFDoA)	ND	5.2	5.33	102	-	-	-	-	69-135	-	30
Perfluorotridecanoic Acid (PFTriDA)	ND	5.2	5.45	105	-	-	-	-	66-139	-	30
Perfluorotetradecanoic Acid (PFTA)	ND	5.2	4.32	83	-	-	-	-	69-133	-	30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	50.8	45.7	90	-	-	-	-	41-165	-	30
4,8-Dioxo-3H-Perfluorononanoic Acid (ADONA)	ND	4.92	4.49	91	-	-	-	-	61-135	-	30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	4.86	4.11	85	-	-	-	-	67-139	-	30
11-Chloroicosafuoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUds)	ND	4.91	3.67	75	-	-	-	-	51-155	-	30



Matrix Spike Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 22-40 QC Batch ID: WG1661335-3 QC Sample: L2235349-22 Client ID: CL67466

Surrogate (Extracted Internal Standard)		MS		MSD		Acceptance Criteria	
		% Recovery	Qualifier	% Recovery	Qualifier		
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)		62				14-167	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)		68				20-154	
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)		89				10-203	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)		9	Q			34-137	
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)		9	Q			31-134	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)		62				61-155	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)		69	Q			75-130	
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)		65	Q			66-128	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)		64	Q			71-129	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)		67	Q			78-139	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)		54				54-150	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)		36				24-159	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)		77	Q			79-136	
Perfluoro[13C8]Octanoic Acid (M8PFOA)		71	Q			75-130	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)		76				72-140	
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)		69	Q			74-139	



Matrix Spike Analysis Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Found	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 09 QC Batch ID: WG1666620-3 QC Sample: L2239168-01 Client ID: MS											
Perfluorohexanesulfonic Acid (PFHxS)	ND	6.14	6.84	111	-	-	-	-	67-130	-	30
Perfluorooctanoic Acid (PFOA)	0.349	6.72	7.25	103	-	-	-	-	69-133	-	30
Perfluorononanoic Acid (PFNA)	ND	6.72	8.88	132	Q	-	-	-	72-129	-	30
Perfluorooctanesulfonic Acid (PFOS)	ND	6.23	6.95	111	-	-	-	-	68-136	-	30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	116				78-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	86				79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85				75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	65	Q			72-140

Matrix Spike Analysis Batch Quality Control

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Found	MSD Found	MSD %Recovery	Recovery Limits	RPD Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 27,38 QC Batch ID: WG1666961-3 QC Sample: L2237102-44 Client ID: MS										
Perfluorobutanesulfonic Acid (PFBS)	2.54	6.79	8.98	95		-	-	72-128	-	30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	7.17	7.35	102		-	-	62-145	-	30
Perfluorohexanoic Acid (PFHxA)	7.65	7.65	14.0	83		-	-	70-132	-	30
Perfluoropentanesulfonic Acid (PFPeS)	ND	7.2	7.20	100		-	-	73-123	-	30
Perfluoroheptanoic Acid (PFHpA)	4.60	7.65	11.6	92		-	-	71-131	-	30
Perfluorohexanesulfonic Acid (PFHxS)	ND	6.99	8.28	115		-	-	67-130	-	30
Perfluorooctanoic Acid (PFOA)	17.0	7.65	23.0	79		-	-	69-133	-	30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	7.28	7.22	99		-	-	64-140	-	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	7.3	5.83	80		-	-	70-132	-	30
Perfluorononanoic Acid (PFNA)	5.61	7.65	12.0	84		-	-	72-129	-	30
Perfluorooctanesulfonic Acid (PFOS)	36.1	7.1	39.0	41	Q	-	-	68-136	-	30
Perfluorodecanoic Acid (PFDA)	13.3	7.65	19.7	84		-	-	69-133	-	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	7.65	9.47	116		-	-	63-144	-	30
Perfluoroundecanoic Acid (PFUnA)	4.46	7.65	13.1	113		-	-	64-136	-	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	25.5	7.65	33.0	98		-	-	61-139	-	30
Perfluorododecanoic Acid (PFDoA)	5.21	7.65	12.1	90		-	-	69-135	-	30
Perfluorotridecanoic Acid (PFTriDA)	1.39	7.65	9.70	109		-	-	66-139	-	30
Perfluorotetradecanoic Acid (PFTA)	1.93	7.65	9.04	93		-	-	69-133	-	30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	74.6	67.3F	90		-	-	41-165	-	30
4,8-Dioxa-3n-Perfluorononanoic Acid (ADONA)	ND	7.23	5.76	80		-	-	61-135	-	30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	7.14	5.55	78		-	-	67-139	-	30



Matrix Spike Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 27,38 QC Batch ID: WG1666961-3 QC Sample: L2237102-44 Client ID: MS									
Sample									

11-Chloroeicosafuoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	7.22	4.92	68	-	-	51-155	-	30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	100				14-167
1H,1H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	243	Q			20-154
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	102				10-203
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	85				34-137
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	72				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	84				61-155
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	95				75-130
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	79				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	82				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	79				78-139
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	78				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	76				24-159
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105				79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	93				75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	97				72-140
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	82				74-139



Lab Duplicate Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 20,41 QC Batch ID: WG1660430-4 QC Sample: L2235099-04 Client ID: DUP Sample						
Perfluorobutanoic Acid (PFBA)	ND	ND	ng/l	NC		30
Perfluoropentanoic Acid (PFPeA)	ND	ND	ng/l	NC		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/l	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/l	NC		30
Perfluorononanesulfonic Acid (PFNS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonamide (FOSA)	ND	ND	ng/l	NC		30



Lab Duplicate Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 20,41 QC Batch ID: WG1660430-4 QC Sample: L2235099-04 Client ID: DUP Sample						
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
4,8-Dioxo-3H-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorohexadecanoic Acid (PFHxDA)	ND	ND	ng/l	NC		30
Perfluorooctadecanoic Acid (PFODA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	89		84		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	102		98		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		87		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	86		76		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	89		83		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	89		82		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	87		81		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	95		90		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	92		84		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	107		102		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	102		99		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92		93		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	101		102		101-162



Lab Duplicate Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab	Associated sample(s): 20,41 QC Batch ID: WG1660430-4 QC Sample: L2235099-04 Client					
ID: DUP Sample						

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	50		52		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	75		82		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	15		12		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEiFOSAA)	57		54		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	65		70		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	71		70		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	104		104		10-165
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	69		69		10-206



Lab Duplicate Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 22-40 QC Batch ID: WG1661335-4 QC Sample: L2235349-23 Client ID: CL67467						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/g	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/g	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/g	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	0.252F	ND	ng/g	NC		30
Perfluorooctanoic Acid (PFOA)	0.418	0.425	ng/g	2		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/g	NC		30
Perfluorooctanesulfonic Acid (PFOS)	2.76	1.74	ng/g	45	Q	30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/g	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/g	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/g	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/g	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/g	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/g	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/g	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/g	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/g	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9CLPF3ONS)	ND	ND	ng/g	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/g	NC		30



Lab Duplicate Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 22-40 QC Batch ID: WG1661335-4 QC Sample: L2235349-23 Client ID: CL67467						
Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	94		83		74-139	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	91		82		14-167	
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	82		71		66-128	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	84		73		71-129	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	92		81		78-139	
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		80		75-130	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	103		88		20-154	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	101		90		72-140	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	111		99		79-136	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		83		75-130	
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	48		39		31-134	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		82		61-155	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEiFOSAA)	59		52		34-137	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	84		73		54-150	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	91		77		24-159	
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	109		100		10-203	



Lab Duplicate Analysis
Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 09 QC Batch ID: WG1666620-4 QC Sample: L2239168-02 Client ID: DUP Sample						
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/g	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/g	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/g	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/g	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	118		112		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		86		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	67	Q	68	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93		87		79-136



Lab Duplicate Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 27, 38 QC Batch ID: WG1666961-4 QC Sample: L2237102-46 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	3.08	3.02	ng/g	2		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/g	NC		30
Perfluorohexanoic Acid (PFHxA)	9.44	9.08	ng/g	4		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/g	NC		30
Perfluoroheptanoic Acid (PFHpA)	5.99	5.88	ng/g	2		30
Perfluorohexanesulfonic Acid-Branched (br-PFHxS)	ND	ND	ng/g	NC		30
Perfluorohexanesulfonic Acid-Linear (L-PFHxS)	ND	ND	ng/g	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/g	NC		30
Perfluorooctanoic Acid-Branched (br-PFOA)	0.454	ND	ng/g	NC		30
Perfluorooctanoic Acid-Linear (L-PFOA)	29.9	29.7	ng/g	1		30
Perfluorooctanoic Acid (PFOA)	30.3	30.1	ng/g	1		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/g	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/g	NC		30
Perfluorononanoic Acid (PFNA)	9.70	9.89	ng/g	2		30
Perfluorooctanesulfonic Acid-Branched (br-PFOS)	11.2	11.2	ng/g	0		30
Perfluorooctanesulfonic Acid-Linear (L-PFOS)	30.9	31.1	ng/g	1		30
Perfluorooctanesulfonic Acid (PFOS)	42.2	42.3	ng/g	0		30
Perfluorodecanoic Acid (PFDA)	20.9	21.1	ng/g	1		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid-Branched (br-NMeFOSAA)	ND	ND	ng/g	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid-Linear (L-NMeFOSAA)	ND	0.961F	ng/g	NC		30



Lab Duplicate Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 27,38 QC Batch ID: WG1666961-4 QC Sample: L2237102-46 Client ID: DUP Sample						
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	1.34	1.58F	ng/g	16		30
Perfluoroundecanoic Acid (PFUnA)	7.69	7.84	ng/g	2		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid-Branched (br-NEtFOSAA)	11.3	10.2F	ng/g	10		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid-Linear (L-NEtFOSAA)	40.1	37.7	ng/g	6		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	51.5	48.0F	ng/g	7		30
Perfluorododecanoic Acid (PFDoA)	7.82	8.00	ng/g	2		30
Perfluorotridecanoic Acid (PFTTrDA)	2.54	3.06	ng/g	19		30
Perfluorotetradecanoic Acid (PFTA)	2.45	2.65	ng/g	8		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/g	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/g	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/g	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/g	NC		30
PFOA/PFOS, Total	72.5	72.4	ng/g	0		30
PFAS, Total (5)	88.2	88.2	ng/g	0		30
PFAS, Total (6)	109	109	ng/g	0		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	81		80		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4,2FTS)	141		131		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHXA)	78		76		66-128

Lab Duplicate Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 27,38 QC Batch ID: WG1666961-4 QC Sample: L2237102-46 Client ID: DUP Sample						
Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	81		78		71-129	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	83		80		78-139	
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		87		75-130	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6,2FTS)	229	Q	250	Q	20-154	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	98		92		72-140	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	103		99		79-136	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	90		89		75-130	
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	74		74		31-134	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	84		88		61-155	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEiFOSAA)	79		85		34-137	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	81		83		54-150	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	79		80		24-159	
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	95		90		10-203	



INORGANICS & MISCELLANEOUS

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-01

Date Collected: 06/27/22 11:15

Client ID: CL67445

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	93.0		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Serial_No:07282217:51

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-02

Date Collected: 06/27/22 11:20

Client ID: CL67446

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	94.5		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-03

Date Collected: 06/27/22 11:30

Client ID: CL67447

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	87.4		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Serial_No:07282217:51

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-04

Date Collected: 06/27/22 11:35

Client ID: CL67448

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.2		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-05

Client ID: CL67449

Sample Location: CT

Date Collected: 06/27/22 11:45

Date Received: 07/01/22

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	94.2		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Serial_No:07282217:51

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-06

Date Collected: 06/27/22 12:05

Client ID: CL67450

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	82.7		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-07

Date Collected: 06/27/22 12:10

Client ID: CL67451

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	89.2		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Serial_No:07282217:51

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-08

Date Collected: 06/27/22 12:30

Client ID: CL67452

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	86.3		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-09

Date Collected: 06/27/22 12:35

Client ID: CL67453

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	89.0		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-10

Date Collected: 06/27/22 13:00

Client ID: CL67454

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	90.7		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-11

Date Collected: 06/27/22 13:05

Client ID: CL67455

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	88.9		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-12

Date Collected: 06/27/22 14:05

Client ID: CL67456

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	86.5		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-13

Date Collected: 06/27/22 14:10

Client ID: CL67457

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	81.2		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-14

Client ID: CL67458

Sample Location: CT

Date Collected: 06/27/22 14:20

Date Received: 07/01/22

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	88.8		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-15

Date Collected: 06/27/22 14:15

Client ID: CL67459

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	90.4		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-16

Client ID: CL67460

Sample Location: CT

Date Collected: 06/27/22 15:00

Date Received: 07/01/22

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.2		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-17

Date Collected: 06/27/22 15:30

Client ID: CL67461

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	85.6		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-18

Client ID: CL67462

Sample Location: CT

Date Collected: 06/27/22 15:42

Date Received: 07/01/22

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.7		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-19

Date Collected: 06/27/22 16:00

Client ID: CL67463

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	95.5		%	0.100	--	1	-	07/11/22 09:18	121,2540G	AL



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-21

Date Collected: 06/28/22 10:20

Client ID: CL67465

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	95.1		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-22

Date Collected: 06/28/22 10:25

Client ID: CL67466

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	90.4		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-23

Date Collected: 06/28/22 10:30

Client ID: CL67467

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	94.8		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-24

Client ID: CL67468

Sample Location: CT

Date Collected: 06/28/22 11:12

Date Received: 07/01/22

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	90.9		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Serial_No:07282217:51

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-25

Date Collected: 06/28/22 11:18

Client ID: CL67469

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.0		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Serial_No:07282217:51

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-26

Client ID: CL67470

Sample Location: CT

Date Collected: 06/28/22 15:35

Date Received: 07/01/22

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	94.4		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Serial_No:07282217:51

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-27

Date Collected: 06/28/22 15:40

Client ID: CL67471

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	94.2		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Serial_No:07282217:51

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-28

Date Collected: 06/28/22 11:50

Client ID: CL67472

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	90.0		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-29

Date Collected: 06/28/22 11:52

Client ID: CL67473

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	81.4		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-30

Date Collected: 06/28/22 12:05

Client ID: CL67474

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	92.3		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Serial_No:07282217:51

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-31

Date Collected: 06/28/22 12:10

Client ID: CL67475

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	96.9		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Serial_No:07282217:51

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-32

Date Collected: 06/28/22 12:15

Client ID: CL67476

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	96.2		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-33

Date Collected: 06/28/22 12:20

Client ID: CL67477

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	95.8		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-34

Date Collected: 06/28/22 12:30

Client ID: CL67478

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	91.9		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-35

Date Collected: 06/28/22 12:35

Client ID: CL67479

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	93.3		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Serial_No:07282217:51

Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-36

Date Collected: 06/28/22 15:15

Client ID: CL67480

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	94.5		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445

Lab Number: L2235349

Project Number: GCL67445

Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2235349-37

Date Collected: 06/28/22 15:20

Client ID: CL67481

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	87.9		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-38

Date Collected: 06/28/22 15:25

Client ID: CL67482

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	86.6		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-39

Date Collected: 06/28/22 16:00

Client ID: CL67483

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	93.8		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22**SAMPLE RESULTS**

Lab ID: L2235349-40

Date Collected: 06/28/22 16:10

Client ID: CL67484

Date Received: 07/01/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Mansfield Lab										
Solids, Total	94.8		%	0.100	--	1	-	07/11/22 09:45	121,2540G	AL



Lab Duplicate Analysis

Batch Quality Control

Project Name: GCL67445
Project Number: GCL67445

Lab Number: L2235349
Report Date: 07/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-19 QC Batch ID: WG1661167-1 QC Sample: L2235349-01 Client ID: CL67445						
Solids, Total	93.0	92.8	%	0		10
General Chemistry - Mansfield Lab Associated sample(s): 21-40 QC Batch ID: WG1661168-1 QC Sample: L2235349-21 Client ID: CL67465						
Solids, Total	95.1	95.0	%	0		10



Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler Custody Seal

B Absent
C Absent
D Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2235349-01A	Plastic 8oz unpreserved	D	NA		3.5	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-01B	Plastic 2oz unpreserved for TS	D	NA		3.5	Y	Absent		A2-TS(7)
L2235349-02A	Plastic 8oz unpreserved	D	NA		3.5	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-02B	Plastic 2oz unpreserved for TS	D	NA		3.5	Y	Absent		A2-TS(7)
L2235349-03A	Plastic 8oz unpreserved	D	NA		3.5	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-03B	Plastic 2oz unpreserved for TS	D	NA		3.5	Y	Absent		A2-TS(7)
L2235349-04A	Plastic 8oz unpreserved	D	NA		3.5	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-04B	Plastic 2oz unpreserved for TS	D	NA		3.5	Y	Absent		A2-TS(7)
L2235349-05A	Plastic 8oz unpreserved	D	NA		3.5	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-05B	Plastic 2oz unpreserved for TS	D	NA		3.5	Y	Absent		A2-TS(7)
L2235349-06A	Plastic 8oz unpreserved	C	NA		3.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-06B	Plastic 2oz unpreserved for TS	C	NA		3.0	Y	Absent		A2-TS(7)
L2235349-07A	Plastic 8oz unpreserved	C	NA		3.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-07B	Plastic 2oz unpreserved for TS	C	NA		3.0	Y	Absent		A2-TS(7)
L2235349-08A	Plastic 8oz unpreserved	C	NA		3.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-08B	Plastic 2oz unpreserved for TS	C	NA		3.0	Y	Absent		A2-TS(7)
L2235349-09A	Plastic 8oz unpreserved	C	NA		3.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-09B	Plastic 2oz unpreserved for TS	C	NA		3.0	Y	Absent		A2-TS(7)
L2235349-10A	Plastic 8oz unpreserved	C	NA		3.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-10B	Plastic 2oz unpreserved for TS	C	NA		3.0	Y	Absent		A2-TS(7)
L2235349-11A	Plastic 8oz unpreserved	C	NA		3.0	Y	Absent		A2-537-ISOTOPE-36(14)



Serial_No:07282217:51
Lab Number: L2235349
Report Date: 07/28/22

Project Name: GCL67445
Project Number: GCL67445

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2235349-11B	Plastic 2oz unpreserved for TS	C	NA		3.0	Y	Absent		A2-TS(7)
L2235349-12A	Plastic 8oz unpreserved	C	NA		3.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-12B	Plastic 2oz unpreserved for TS	C	NA		3.0	Y	Absent		A2-TS(7)
L2235349-13A	Plastic 8oz unpreserved	C	NA		3.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-13B	Plastic 2oz unpreserved for TS	C	NA		3.0	Y	Absent		A2-TS(7)
L2235349-14A	Plastic 8oz unpreserved	C	NA		3.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-14B	Plastic 2oz unpreserved for TS	C	NA		3.0	Y	Absent		A2-TS(7)
L2235349-15A	Plastic 8oz unpreserved	C	NA		3.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-15B	Plastic 2oz unpreserved for TS	C	NA		3.0	Y	Absent		A2-TS(7)
L2235349-16A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-16B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-17A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-17B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-18A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-18B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-19A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-19A1	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-19A2	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-19B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-20A	Plastic 250ml unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-21A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-21B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-22A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-22B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-23A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-23B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-24A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-24B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)



*Values in parentheses indicate holding time in days

Serial_No:07282217:51
Lab Number: L2235349
Report Date: 07/28/22

Project Name: GCL67445
Project Number: GCL67445

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2235349-25A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-25B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-26A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-26B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-27A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-27B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-28A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-28B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-29A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-29B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-30A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-30B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-31A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-31B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-32A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-32B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-33A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-33B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-34A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-34B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-35A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-35B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-36A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-36B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-37A	Plastic 8oz unpreserved	B	NA		2.8	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-37B	Plastic 2oz unpreserved for TS	B	NA		2.8	Y	Absent		A2-TS(7)
L2235349-38A	Plastic 8oz unpreserved	D	NA		3.5	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-38B	Plastic 2oz unpreserved for TS	D	NA		3.5	Y	Absent		A2-TS(7)



*Values in parentheses indicate holding time in days

Serial_No:07282217:51
Lab Number: L2235349
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Project Name: GCL67445
Project Number: GCL67445

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2235349-39A	Plastic 8oz unpreserved	D	NA		3.5	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-39B	Plastic 2oz unpreserved for TS	D	NA		3.5	Y	Absent		A2-TS(7)
L2235349-40A	Plastic 8oz unpreserved	D	NA		3.5	Y	Absent		A2-537-ISOTOPE-36(14)
L2235349-40B	Plastic 2oz unpreserved for TS	D	NA		3.5	Y	Absent		A2-TS(7)
L2235349-41A	Plastic 250ml unpreserved	D	NA		3.5	Y	Absent		A2-537-ISOTOPE-36(14)



Project Name: GCL67445
Project Number: GCL67445

Serial_No: 07282217:51
Lab Number: L2235349
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PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA	376-06-7
Perfluorotridecanoic Acid	PFTTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

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GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report



Project Name: GCL67445
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Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report



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Project Number: GCL67445

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Data Qualifiers

- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: GCL67445**Lab Number:** L2235349**Project Number:** GCL67445**Report Date:** 07/28/22

REFERENCES

- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.
- 134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary****Certification Information**

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625/625.1:** alpha-Terpineol**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.****EPA 522, EPA 537.1.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

7/1/22

CHAIN OF CUSTODY RECORD

Page 1 of 4

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040

Email: info@phoenixlabs.com Fax: (860) 645-0823

Client Services (860) 645-8726



PHOENIX
Environmental Laboratories, Inc.

Customer: Alpha Analytical
Address: 8 Walkup Dr
Westborough, MA
(508) 898-9220

Project #: GCL67445

Report to: HelenG@Phoenixlabs.com / Helen Geothegean

Invoice to: AccountsPayable@Phoenixlabs.com

Quote #: 13683

Contact Options:

Fax: 860-645-0823

Phone: 800-827-5426

Email: HelenG@Phoenixlabs.com

Project P.O.: GCL67445

This section MUST be
completed with
Bottle Quantities.

Client Sample - Information - Identification			Analysis Request	
Phoenix Sample ID	Sample Comment	Sample Matrix	Date Sampled	Time Sampled
CL67445		SOIL	6/27/2022	11:15 AM
CL67446		SOIL	6/27/2022	11:20 AM
CL67447		SOIL	6/27/2022	11:30 AM
CL67448		SOIL	6/27/2022	11:35 AM
CL67449		SOIL	6/27/2022	11:45 AM
CL67450		SOIL	6/27/2022	12:05 PM
CL67451		SOIL	6/27/2022	12:10 PM
CL67452		SOIL	6/27/2022	12:30 PM
CL67453		SOIL	6/27/2022	12:35 PM
CL67454		SOIL	6/27/2022	1:00 PM
CL67455		SOIL	6/27/2022	1:05 PM

Relinquished by:	Accepted by:	Date:	Time:
<i>[Signature]</i>	<i>[Signature]</i>	7-1-22	11:15
<i>[Signature]</i>	<i>[Signature]</i>	7/1/22	11:30
<i>[Signature]</i>	<i>[Signature]</i>	7/1/22	20:00

Comments, Special Requirements or Regulations: *[Handwritten notes]*

EQUIS 3-file format includes the .mp file, the .res file, and the .bat file.
Transfer File Export: *[Handwritten notes]*

Please send notice to *[Handwritten notes]* as soon as possible for exceeding 24 hours of obtaining valid data, of the results of all drinking water samples that exceed any EPA or Department-established maximum contaminant level, maximum residual disinfectant level or reportable concentration.

Please notify Phoenix Environmental Laboratories, Inc. immediately and prior to conducting analysis if certification is required.

Page 184 of 187 analyses requested

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62235349



CHAIN OF CUSTODY RECORD

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587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823

Client Services (860) 645-8726

Customer: Alpha Analytical
Address: 8 Walkup Dr
Westborough, MA
(508) 898-9220

Project #: GCL67445
Report to: HelenG@PhoenixLabs.com / Helen Geochagan
Invoice to: AccountsPayable@PhoenixLabs.com
Quote#: 13683

Contact Options:
Fax: 860-645-0823
Phone: 800-827-5426
Email: HelenG@PhoenixLabs.com

Project P.O.: GCL67445

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification					Analysis Request	
Sampler's Signature		Date:				
Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid						
Phoenix Sample ID	Sample Comment	Sample Matrix	Date Sampled	Time Sampled		
CL67456		SOIL	6/27/2022	2:05 PM	x	
CL67457		SOIL	6/27/2022	2:10 PM	x	
CL67458		SOIL	6/27/2022	2:20 PM	x	
CL67459		SOIL	6/27/2022	2:15 PM	x	
CL67460		SOIL	6/27/2022	3:00 PM	x	
CL67461		SOIL	6/27/2022	3:30 PM	x	
CL67462		SOIL	6/27/2022	3:42 PM	x	
CL67463		SOIL	6/27/2022	4:00 PM	x	
CL67464		WTR	6/27/2022	4:40 PM	x	
CL67465		SOIL	6/28/2022	10:20 AM	x	
CL67466		SOIL	6/28/2022	10:25 AM	x	

Client MSA/SD		PFAS (8) ES37 modified		8oz HDPE Plastic As Is	
					1
					1
					1
					1
					1
					1
					1
					2
					1
					1
					1

Relinquished by: Date: 7-1-22	Accepted by: Date: 7/1/22	Time: 12:00
Comments, Special Requirements or Regulations: EQUIS file format includes the .smp file, the .res file, and the .bat file. Please email the file to info@phoenixlabs.com as soon as possible.		
Please notify Phoenix Environmental Laboratories, Inc. immediately and prior to conducting analysis if certification is required.		

State Criteria:

EDD Format:

Report Type:

Turnaround:

Date:

Time:

Accepted by:

Relinquished by:

Date:

Time:

State Criteria:

EDD Format:

Report Type:

Turnaround:

Date:

Time:

Accepted by:

Relinquished by:

Date:

Time:

State Criteria:

EDD Format:

Report Type:

Turnaround:

Date:

Time:

Accepted by:

Relinquished by:

Date:

Time:

State Criteria:

EDD Format:

Report Type:

Turnaround:

Date:

Time:

Accepted by:

Relinquished by:

Date:

Time:

State Criteria:

EDD Format:

Report Type:

Turnaround:

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Accepted by:

Relinquished by:

Date:

Time:

State Criteria:

EDD Format:

Report Type:

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Report Type:

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Accepted by:

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Report Type:

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Accepted by:

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EDD Format:

Report Type:

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Accepted by:

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Time:

State Criteria:

EDD Format:

Report Type:

Turnaround:

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Time:

Accepted by:

Relinquished by:

Date:

Time:

State Criteria:

EDD Format:

Report Type:

Turnaround:

Date:

Time:

Accepted by:

7/1/22

62235349



CHAIN OF CUSTODY RECORD

Page 3 of 4

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
 Email: info@phoenixlabs.com Fax (860) 645-0823

Client Services (860) 645-8726

Customer: Alpha Analytical
 Address: 8 Walkup Dr
 Westborough, MA
 (508) 898-9220

Project #: GCL67445

Report to: HelenG@Phoenixlabs.com / Helen Geophegan

Invoice to: AccountsPayable@Phoenixlabs.com

Quote#: 13683

Contact Options:

Fax: 860-645-0823

Phone: 800-827-5426

Email: HelenG@Phoenixlabs.com

Project P.O.: GCL67445

This section MUST be
 completed with
 Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature _____ Date: _____

Matrix Code: _____
 DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
 OIL=Oil B=Bulk L=Liquid

Analysis Request

PFAS (18) ESI7 modified

8oz HDPE Plastic As is

Phoenix Sample ID	Sample Comment	Sample Matrix	Date Sampled	Time Sampled
CL67467		SOIL	6/28/2022	10:30 AM
CL67468		SOIL	6/28/2022	11:12 AM
CL67469		SOIL	6/28/2022	11:18 AM
CL67470		SOIL	6/28/2022	3:35 PM
CL67471		SOIL	6/28/2022	3:40 PM
CL67472		SOIL	6/28/2022	11:50 AM
CL67473		SOIL	6/28/2022	11:52 AM
CL67474		SOIL	6/28/2022	12:05 PM
CL67475		SOIL	6/28/2022	12:10 PM
CL67476		SOIL	6/28/2022	12:15 PM
CL67477		SOIL	6/28/2022	12:20 PM

Relinquished by:

Accepted by:

Date:

Time:

Report Type:

EDD Format:

State Criteria:

Comments, Special Requirements or Regulations: *See 2-1-22 21:40*
 EQUIS file format includes the .smp file, the .res file, and the .bat file.
 Transfer File Export *See 2-1-22 21:40*
 Please include as soon as possible for exceeding 24 hours of obtaining valid data, of the results of all drinking water samples that exceed any EPA or Department-established maximum contaminant level, maximum residual disinfectant level or reportable concentration.

Please notify Phoenix Environmental Laboratories, Inc. immediately and prior to conducting analysis if certification is required for any analyses requested.

What State were samples collected?

CT

State Criteria: *See 2-1-22 21:40*
 EDD Format: *See 2-1-22 21:40*
 Report Type: *See 2-1-22 21:40*
 State Criteria: *See 2-1-22 21:40*

7/1/22

CHAIN OF CUSTODY RECORD

Page 4 of 4



587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Contact Options:

Fax: 880-645-0823
Phone: 800-827-5426
Email: HelenG@PhoenixLabs.com

Customer: Alpha Analytical
Address: 8 Walkup Dr
Westborough, MA
(508) 898-9220

Project #: GCL67445
Report to: HelenG@PhoenixLabs.com / Helen Geoghegan
Invoice to: AccountsPayable@PhoenixLabs.com
Quote#: 13683

Project P.O.: GCL67445

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification				Analysis Request
Sampler's Signature	Date	Sample Matrix	Sample Comment	
Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid				
Phoenix Sample ID	Sample Comment	Sample Matrix	Date Sampled	Time Sampled
CL67478		SOIL	6/28/2022	12:30 PM
CL67479		SOIL	6/28/2022	12:35 PM
CL67480		SOIL	6/28/2022	3:15 PM
CL67481		SOIL	6/28/2022	3:20 PM
CL67482		SOIL	6/28/2022	3:25 PM
CL67483		SOIL	6/28/2022	4:00 PM
CL67484		SOIL	6/28/2022	4:10 PM
CL67485		FB	6/28/2022	4:15 PM

Requisitioned by: <i>[Signature]</i> Accepted by: <i>[Signature]</i> Date: 7-22-22 Time: 11:36 Comments: Special Requirements or Regulations: <i>[Handwritten notes]</i> EQUIS 3-file format. It includes the .amp file, the .res file, and the .bat file. Please send notice as soon as possible not exceeding 24 hours of obtaining valid data. of the results of all drinking water samples that exceed any EPA or Department-established maximum contaminant level, maximum residual disinfectant level or reportable concentration. Please notify Phoenix Environmental Laboratories, Inc. immediately and prior to conducting analysis if certification is required for 187 analyses requested.	Turnaround: ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 5 Days ☐ 10 Days ☒ Standard ☐ Other	Report Type: ☒ Standard PDF ☐ Full Data Package ☐ NJ Reduced Deliverable ☐ NJ Full Deliverable ☐ NY ASP B	EDD Format: ☐ Excel ☐ GIS/Key ☐ EQUIS ☐ NJ Hazle EDD ☐ NY EZ EDD (ASP) ☐ Other	State Criteria: 7/1/22 2140
What State were samples collected? CT				

-34
-35
-36
-37
-38
-39
-40
-41



Tuesday, August 09, 2022

Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
SDG ID: GCL77449
Sample ID#s: CL77449 - CL77463

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Phyllis Shiller".

Phyllis Shiller

Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

August 09, 2022

SDG I.D.: GCL77449

Project ID: TOWN HALL AREA WELLS KILLINGWORTH

Client Id	Lab Id	Matrix
KLNG-MW1S-20220713	CL77449	GROUND WATER
KLNG-MW1D-20220713	CL77450	GROUND WATER
KLNG-MW2S-20220712	CL77451	GROUND WATER
KLNG-MW2D-20220712	CL77452	GROUND WATER
KLNG-MW3S-20220712	CL77453	GROUND WATER
KLNG-MW3D-20220712	CL77454	GROUND WATER
KLNG-MW4S-20220713	CL77455	GROUND WATER
KLNG-MW4D-20220713	CL77456	GROUND WATER
KLNG-MW11-20220712	CL77457	GROUND WATER
KLNG-MW12-20220713	CL77458	GROUND WATER
KLNG-MW13-20220713	CL77459	GROUND WATER
KLNG-MW14-20220712	CL77460	GROUND WATER
KLNG-SW1-20220713	CL77461	GROUND WATER
KLNG-TW1-20220713	CL77462	GROUND WATER
KLNG-DUP02-20220713	CL77463	GROUND WATER



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/13/22
07/14/22

Time

16:15
11:50

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77449

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW1S-20220713

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.88	0.276	ng/L	1	08/02/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.88	0.261	ng/L	1	08/02/22	***	LCMSMS-ID	C
ADONA	ND	1.88	0.317	ng/L	1	08/02/22	***	LCMSMS-ID	C
HFPO-DA	ND	47.1	21.4	ng/L	1	08/02/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.88	0.758	ng/L	1	08/02/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.88	0.611	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	1.25	J 1.88	0.224	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	0.539	J 1.88	0.286	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.88	0.350	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	18.6	1.88	0.212	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	31.9	1.88	0.354	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	14.9	1.88	0.309	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	1.74	JF 1.88	0.294	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	133	1.88	0.475	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	77.1	1.88	0.222	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.88	0.234	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.88	0.308	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.88	0.245	ng/L	1	08/02/22	***	LCMSMS-ID	C
Total PFAS (5)	260.6	1.88	1.88	ng/L	1	08/02/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	53.0			%	1	08/02/22	***	24 - 116 %	C
% d5-NEtFOSA	60.0			%	1	08/02/22	***	27 - 126 %	C
% M2-6:2FTS	111			%	1	08/02/22	***	14 - 147 %	C
% M2PFHxDA	92.0			%	1	08/02/22	***	55 - 137 %	C
% M2PFTeDA	111			%	1	08/02/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	103			%	1	08/02/22	***	10 - 165 %	C
% M3PFBS	109			%	1	08/02/22	***	70 - 131 %	C
% M3PFHxS	110			%	1	08/02/22	***	71 - 134 %	C
% M4PFHpA	86.0			%	1	08/02/22	***	60 - 129 %	C
% M5PFHxA	84.0			%	1	08/02/22	***	57 - 129 %	C
% M6PFDA	85.0			%	1	08/02/22	***	62 - 124 %	C
% M7-PFUDA	92.0			%	1	08/02/22	***	55 - 137 %	C
% M8PFOA	76.0			%	1	08/02/22	***	62 - 129 %	C
% M8PFOS	103			%	1	08/02/22	***	69 - 131 %	C
% M9PFNA	79.0			%	1	08/02/22	***	59 - 139 %	C
% MPFDoA	103			%	1	08/02/22	***	48 - 131 %	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level J=Estimated Below RL

LOD=Limit of Detection MDL=Method Detection Limit1

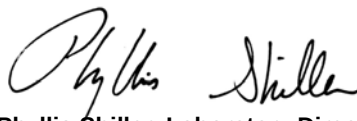
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/13/22
07/14/22

Time

15:07
11:50

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77450

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW1D-20220713

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.89	0.277	ng/L	1	08/02/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.89	0.261	ng/L	1	08/02/22	***	LCMSMS-ID	C
ADONA	ND	1.89	0.317	ng/L	1	08/02/22	***	LCMSMS-ID	C
HFPO-DA	ND	47.2	21.4	ng/L	1	08/02/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.89	0.759	ng/L	1	08/02/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.89	0.611	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	2.08	1.89	0.224	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.89	0.287	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.89	0.351	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	17.2	1.89	0.212	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	38.2	1.89	0.355	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	32.4	1.89	0.309	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	1.72	JF 1.89	0.294	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	50.0	1.89	0.476	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	56.7	1.89	0.223	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.89	0.234	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.89	0.309	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.89	0.245	ng/L	1	08/02/22	***	LCMSMS-ID	C
Total PFAS (5)	162.1	1.89	1.89	ng/L	1	08/02/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	63.0			%	1	08/02/22	***	24 - 116 %	C
% d5-NEtFOSA	71.0			%	1	08/02/22	***	27 - 126 %	C
% M2-6:2FTS	105			%	1	08/02/22	***	14 - 147 %	C
% M2PFHxDA	91.0			%	1	08/02/22	***	55 - 137 %	C
% M2PFTeDA	96.0			%	1	08/02/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	92.0			%	1	08/02/22	***	10 - 165 %	C
% M3PFBS	113			%	1	08/02/22	***	70 - 131 %	C
% M3PFHxS	111			%	1	08/02/22	***	71 - 134 %	C
% M4PFHpA	86.0			%	1	08/02/22	***	60 - 129 %	C
% M5PFHxA	80.0			%	1	08/02/22	***	57 - 129 %	C
% M6PFDA	90.0			%	1	08/02/22	***	62 - 124 %	C
% M7-PFUDA	91.0			%	1	08/02/22	***	55 - 137 %	C
% M8PFOA	80.0			%	1	08/02/22	***	62 - 129 %	C
% M8PFOS	108			%	1	08/02/22	***	69 - 131 %	C
% M9PFNA	83.0			%	1	08/02/22	***	59 - 139 %	C
% MPFDoA	90.0			%	1	08/02/22	***	48 - 131 %	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level J=Estimated Below RL

LOD=Limit of Detection MDL=Method Detection Limit1

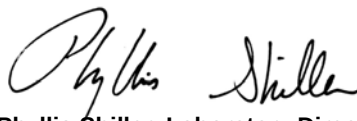
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/12/22
07/14/22

Time

9:50
11:50

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77451

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW2S-20220712

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.81	0.266	ng/L	1	08/02/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.81	0.251	ng/L	1	08/02/22	***	LCMSMS-ID	C
ADONA	ND	1.81	0.305	ng/L	1	08/02/22	***	LCMSMS-ID	C
HFPO-DA	ND	45.4	20.6	ng/L	1	08/02/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.81	0.730	ng/L	1	08/02/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.81	0.588	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	ND	1.81	0.216	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.81	0.276	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.81	0.338	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	ND	1.81	0.204	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	ND	1.81	0.341	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	ND	1.81	0.298	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	1.81	0.283	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	1.81	0.457	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	ND	1.81	0.214	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.81	0.225	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.81	0.297	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.81	0.236	ng/L	1	08/02/22	***	LCMSMS-ID	C
Total PFAS (5)	ND	1.81	1.81	ng/L	1	08/02/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	52.0			%	1	08/02/22	***	24 - 116 %	C
% d5-NEtFOSA	53.0			%	1	08/02/22	***	27 - 126 %	C
% M2-6:2FTS	107			%	1	08/02/22	***	14 - 147 %	C
% M2PFHxDA	86.0			%	1	08/02/22	***	55 - 137 %	C
% M2PFTeDA	84.0			%	1	08/02/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	76.0			%	1	08/02/22	***	10 - 165 %	C
% M3PFBS	99.0			%	1	08/02/22	***	70 - 131 %	C
% M3PFHxS	104			%	1	08/02/22	***	71 - 134 %	C
% M4PFHpA	76.0			%	1	08/02/22	***	60 - 129 %	C
% M5PFHxA	69.0			%	1	08/02/22	***	57 - 129 %	C
% M6PFDA	67.0			%	1	08/02/22	***	62 - 124 %	C
% M7-PFUDA	86.0			%	1	08/02/22	***	55 - 137 %	C
% M8PFOA	71.0			%	1	08/02/22	***	62 - 129 %	C
% M8PFOS	103			%	1	08/02/22	***	69 - 131 %	C
% M9PFNA	70.0			%	1	08/02/22	***	59 - 139 %	C
% MPFDoA	82.0			%	1	08/02/22	***	48 - 131 %	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

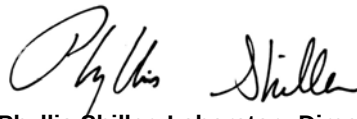
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/12/22 11:00
07/14/22 11:50

Time

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77452

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW2D-20220712

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.82	0.267	ng/L	1	08/02/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.82	0.252	ng/L	1	08/02/22	***	LCMSMS-ID	C
ADONA	ND	1.82	0.306	ng/L	1	08/02/22	***	LCMSMS-ID	C
HFPO-DA	ND	45.6	20.7	ng/L	1	08/02/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.82	0.733	ng/L	1	08/02/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.82	0.591	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	4.18	1.82	0.217	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.82	0.277	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.82	0.339	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	0.241	J 1.82	0.205	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	1.69	J 1.82	0.343	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	0.398	JF 1.82	0.299	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	1.82	0.284	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	ND	1.82	0.460	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	0.584	J 1.82	0.215	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.82	0.226	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTDA)	ND	1.82	0.298	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.82	0.237	ng/L	1	08/02/22	***	LCMSMS-ID	C
Total PFAS (5)	ND	1.82	1.82	ng/L	1	08/02/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	56.0			%	1	08/02/22	***	24 - 116 %	C
% d5-NEtFOSA	59.0			%	1	08/02/22	***	27 - 126 %	C
% M2-6:2FTS	74.0			%	1	08/02/22	***	14 - 147 %	C
% M2PFHxDA	94.0			%	1	08/02/22	***	55 - 137 %	C
% M2PFTeDA	98.0			%	1	08/02/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	60.0			%	1	08/02/22	***	10 - 165 %	C
% M3PFBS	93.0			%	1	08/02/22	***	70 - 131 %	C
% M3PFHxS	92.0			%	1	08/02/22	***	71 - 134 %	C
% M4PFHpA	65.0			%	1	08/02/22	***	60 - 129 %	C
% M5PFHxA	60.0			%	1	08/02/22	***	57 - 129 %	C
% M6PFDA	74.0			%	1	08/02/22	***	62 - 124 %	C
% M7-PFUDA	94.0			%	1	08/02/22	***	55 - 137 %	C
% M8PFOA	58.0	Q		%	1	08/02/22	***	62 - 129 %	C,3
% M8PFOS	81.0			%	1	08/02/22	***	69 - 131 %	C
% M9PFNA	66.0			%	1	08/02/22	***	59 - 139 %	C
% MPFDoA	77.0			%	1	08/02/22	***	48 - 131 %	C

3 = This parameter exceeds laboratory specified limits.

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level J=Estimated Below RL

LOD=Limit of Detection MDL=Method Detection Limit1

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/12/22 13:40
07/14/22 11:50

Time

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77453

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW3S-20220712

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.83	0.268	ng/L	1	08/02/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.83	0.253	ng/L	1	08/02/22	***	LCMSMS-ID	C
ADONA	ND	1.83	0.307	ng/L	1	08/02/22	***	LCMSMS-ID	C
HFPO-DA	ND	45.7	20.8	ng/L	1	08/02/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.83	0.735	ng/L	1	08/02/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.83	0.593	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	12.8	1.83	0.218	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.83	0.278	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.83	0.340	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	4.78	1.83	0.206	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	40.2	1.83	0.344	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	12.8	1.83	0.300	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	1.83	0.285	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	7.49	1.83	0.461	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	4.70	1.83	0.216	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.83	0.227	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.83	0.299	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.83	0.238	ng/L	1	08/02/22	***	LCMSMS-ID	C
Total PFAS (5)	57.17	1.83	1.83	ng/L	1	08/02/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	73.0			%	1	08/02/22	***	24 - 116 %	C
% d5-NEtFOSA	79.0			%	1	08/02/22	***	27 - 126 %	C
% M2-6:2FTS	83.0			%	1	08/02/22	***	14 - 147 %	C
% M2PFHxDA	89.0			%	1	08/02/22	***	55 - 137 %	C
% M2PFTeDA	109			%	1	08/02/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	99.0			%	1	08/02/22	***	10 - 165 %	C
% M3PFBS	102			%	1	08/02/22	***	70 - 131 %	C
% M3PFHxS	103			%	1	08/02/22	***	71 - 134 %	C
% M4PFHpA	80.0			%	1	08/02/22	***	60 - 129 %	C
% M5PFHxA	79.0			%	1	08/02/22	***	57 - 129 %	C
% M6PFDA	88.0			%	1	08/02/22	***	62 - 124 %	C
% M7-PFUDA	89.0			%	1	08/02/22	***	55 - 137 %	C
% M8PFOA	82.0			%	1	08/02/22	***	62 - 129 %	C
% M8PFOS	114			%	1	08/02/22	***	69 - 131 %	C
% M9PFNA	90.0			%	1	08/02/22	***	59 - 139 %	C
% MPFDoA	96.0			%	1	08/02/22	***	48 - 131 %	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

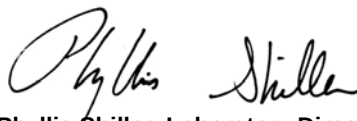
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/12/22 13:05
07/14/22 11:50

Time

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77454

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW3D-20220712

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.82	0.267	ng/L	1	08/02/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.82	0.252	ng/L	1	08/02/22	***	LCMSMS-ID	C
ADONA	ND	1.82	0.306	ng/L	1	08/02/22	***	LCMSMS-ID	C
HFPO-DA	ND	45.5	20.7	ng/L	1	08/02/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.82	0.732	ng/L	1	08/02/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.82	0.590	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	11.2	1.82	0.217	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.82	0.277	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.82	0.339	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	3.26	1.82	0.205	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	51.9	1.82	0.342	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	11.0	1.82	0.299	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	1.82	0.284	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	91.1	1.82	0.459	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	4.71	1.82	0.215	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.82	0.226	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.82	0.298	ng/L	1	08/02/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.82	0.237	ng/L	1	08/02/22	***	LCMSMS-ID	C
Total PFAS (5)	151.0	1.82	1.82	ng/L	1	08/02/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	85.0			%	1	08/02/22	***	24 - 116 %	C
% d5-NEtFOSA	69.0			%	1	08/02/22	***	27 - 126 %	C
% M2-6:2FTS	106			%	1	08/02/22	***	14 - 147 %	C
% M2PFHxDA	111			%	1	08/02/22	***	55 - 137 %	C
% M2PFTeDA	98.0			%	1	08/02/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	91.0			%	1	08/02/22	***	10 - 165 %	C
% M3PFBS	114			%	1	08/02/22	***	70 - 131 %	C
% M3PFHxS	114			%	1	08/02/22	***	71 - 134 %	C
% M4PFHpA	93.0			%	1	08/02/22	***	60 - 129 %	C
% M5PFHxA	86.0			%	1	08/02/22	***	57 - 129 %	C
% M6PFDA	98.0			%	1	08/02/22	***	62 - 124 %	C
% M7-PFUDA	111			%	1	08/02/22	***	55 - 137 %	C
% M8PFOA	86.0			%	1	08/02/22	***	62 - 129 %	C
% M8PFOS	115			%	1	08/02/22	***	69 - 131 %	C
% M9PFNA	89.0			%	1	08/02/22	***	59 - 139 %	C
% MPFDoA	101			%	1	08/02/22	***	48 - 131 %	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

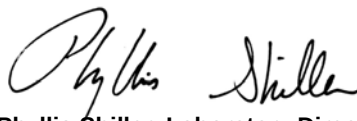
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/13/22
07/14/22

Time

14:35
11:50

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77455

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW4S-20220713

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.84	0.270	ng/L	1	08/03/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.84	0.254	ng/L	1	08/03/22	***	LCMSMS-ID	C
ADONA	ND	1.84	0.309	ng/L	1	08/03/22	***	LCMSMS-ID	C
HFPO-DA	ND	46.0	20.9	ng/L	1	08/03/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.84	0.739	ng/L	1	08/03/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.84	0.596	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	2.49	1.84	0.219	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.84	0.280	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.84	0.342	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	0.794	J 1.84	0.207	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	1.34	J 1.84	0.346	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	1.27	J 1.84	0.302	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	0.761	J 1.84	0.287	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	10.2	1.84	0.463	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	1.82	J 1.84	0.217	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.84	0.228	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTDA)	ND	1.84	0.301	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.84	0.239	ng/L	1	08/03/22	***	LCMSMS-ID	C
Total PFAS (5)	10.20	1.84	1.84	ng/L	1	08/03/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	65.0			%	1	08/03/22	***	24 - 116 %	C
% d5-NEtFOSA	62.0			%	1	08/03/22	***	27 - 126 %	C
% M2-6:2FTS	122			%	1	08/03/22	***	14 - 147 %	C
% M2PFHxDA	92.0			%	1	08/03/22	***	55 - 137 %	C
% M2PFTeDA	87.0			%	1	08/03/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	81.0			%	1	08/03/22	***	10 - 165 %	C
% M3PFBS	117			%	1	08/03/22	***	70 - 131 %	C
% M3PFHxS	123			%	1	08/03/22	***	71 - 134 %	C
% M4PFHpA	88.0			%	1	08/03/22	***	60 - 129 %	C
% M5PFHxA	80.0			%	1	08/03/22	***	57 - 129 %	C
% M6PFDA	91.0			%	1	08/03/22	***	62 - 124 %	C
% M7-PFUDA	92.0			%	1	08/03/22	***	55 - 137 %	C
% M8PFOA	90.0			%	1	08/03/22	***	62 - 129 %	C
% M8PFOS	116			%	1	08/03/22	***	69 - 131 %	C
% M9PFNA	80.0			%	1	08/03/22	***	59 - 139 %	C
% MPFDoA	94.0			%	1	08/03/22	***	48 - 131 %	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level J=Estimated Below RL

LOD=Limit of Detection MDL=Method Detection Limit1

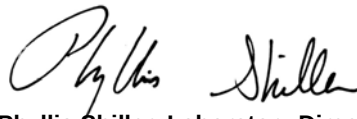
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/13/22 13:35
07/14/22 11:50

Time

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77456

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW4D-20220713

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.79	0.262	ng/L	1	08/03/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.79	0.248	ng/L	1	08/03/22	***	LCMSMS-ID	C
ADONA	ND	1.79	0.301	ng/L	1	08/03/22	***	LCMSMS-ID	C
HFPO-DA	ND	44.8	20.3	ng/L	1	08/03/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.79	0.720	ng/L	1	08/03/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.79	0.580	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	2.10	1.79	0.213	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	0.272 JF	1.79	0.272	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.79	0.333	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	1.22 J	1.79	0.202	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	0.802 J	1.79	0.337	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	1.55 J	1.79	0.294	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	0.648 JF	1.79	0.279	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	8.42	1.79	0.451	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	2.34	1.79	0.211	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.79	0.222	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.79	0.293	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.79	0.233	ng/L	1	08/03/22	***	LCMSMS-ID	C
Total PFAS (5)	10.76	1.79	1.79	ng/L	1	08/03/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	54.0			%	1	08/03/22	***	24 - 116 %	C
% d5-NEtFOSA	76.0			%	1	08/03/22	***	27 - 126 %	C
% M2-6:2FTS	163 Q			%	1	08/03/22	***	14 - 147 %	C,3
% M2PFHxDA	95.0			%	1	08/03/22	***	55 - 137 %	C
% M2PFTeDA	88.0			%	1	08/03/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	80.0			%	1	08/03/22	***	10 - 165 %	C
% M3PFBS	98.0			%	1	08/03/22	***	70 - 131 %	C
% M3PFHxS	101			%	1	08/03/22	***	71 - 134 %	C
% M4PFHpA	82.0			%	1	08/03/22	***	60 - 129 %	C
% M5PFHxA	74.0			%	1	08/03/22	***	57 - 129 %	C
% M6PFDA	89.0			%	1	08/03/22	***	62 - 124 %	C
% M7-PFUDA	95.0			%	1	08/03/22	***	55 - 137 %	C
% M8PFOA	84.0			%	1	08/03/22	***	62 - 129 %	C
% M8PFOS	105			%	1	08/03/22	***	69 - 131 %	C
% M9PFNA	83.0			%	1	08/03/22	***	59 - 139 %	C
% MPFDoA	90.0			%	1	08/03/22	***	48 - 131 %	C

3 = This parameter exceeds laboratory specified limits.

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level J=Estimated Below RL

LOD=Limit of Detection MDL=Method Detection Limit1

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/12/22 12:40
07/14/22 11:50

Time

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77457

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW11-20220712

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
Client MS/MSD	Completed					07/15/22			
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.92	0.282	ng/L	1	08/03/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.92	0.266	ng/L	1	08/03/22	***	LCMSMS-ID	C
ADONA	ND	1.92	0.323	ng/L	1	08/03/22	***	LCMSMS-ID	C
HFPO-DA	ND	48.0	21.8	ng/L	1	08/03/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.92	0.773	ng/L	1	08/03/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.92	0.623	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	20.1	1.92	0.229	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.92	0.292	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.92	0.358	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	18.7	1.92	0.216	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	198	1.92	0.361	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	38.9	1.92	0.315	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	5.77	1.92	0.300	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	136	1.92	0.484	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	22.0	1.92	0.227	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.92	0.238	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTrDA)	ND	1.92	0.314	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.92	0.250	ng/L	1	08/03/22	***	LCMSMS-ID	C
Total PFAS (5)	380.5	1.92	1.92	ng/L	1	08/03/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	80.0			%	1	08/03/22	***	24 - 116 %	C
% d5-NEtFOSA	84.0			%	1	08/03/22	***	27 - 126 %	C
% M2-6:2FTS	247	Q		%	1	08/03/22	***	14 - 147 %	C,3
% M2PFHxDA	94.0			%	1	08/03/22	***	55 - 137 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M2PFTeDA	83.0			%	1	08/03/22	***	22 - 136 %	C
% M3HFPO-DA	91.0			%	1	08/03/22	***	10 - 165 %	C
% M3PFBS	96.0			%	1	08/03/22	***	70 - 131 %	C
% M3PFHxS	103			%	1	08/03/22	***	71 - 134 %	C
% M4PFHpA	86.0			%	1	08/03/22	***	60 - 129 %	C
% M5PFHxA	75.0			%	1	08/03/22	***	57 - 129 %	C
% M6PFDA	88.0			%	1	08/03/22	***	62 - 124 %	C
% M7-PFUDA	94.0			%	1	08/03/22	***	55 - 137 %	C
% M8PFOA	96.0			%	1	08/03/22	***	62 - 129 %	C
% M8PFOS	100			%	1	08/03/22	***	69 - 131 %	C
% M9PFNA	97.0			%	1	08/03/22	***	59 - 139 %	C
% MPFDoA	81.0			%	1	08/03/22	***	48 - 131 %	C

3 = This parameter exceeds laboratory specified limits.

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection

MDL=Method Detection Limit1

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/13/22
07/14/22

Time

11:05
11:50

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77458

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW12-20220713

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.82	0.267	ng/L	1	08/03/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.82	0.252	ng/L	1	08/03/22	***	LCMSMS-ID	C
ADONA	ND	1.82	0.306	ng/L	1	08/03/22	***	LCMSMS-ID	C
HFPO-DA	ND	45.5	20.6	ng/L	1	08/03/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.82	0.732	ng/L	1	08/03/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.82	0.590	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	2.66	1.82	0.216	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.82	0.276	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.82	0.338	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	2.29	1.82	0.205	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	15.5	1.82	0.342	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	3.50	1.82	0.298	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	1.82	0.284	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	1.22	J 1.82	0.458	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	3.58	F 1.82	0.215	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.82	0.226	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.82	0.298	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.82	0.236	ng/L	1	08/03/22	***	LCMSMS-ID	C
Total PFAS (5)	21.37	1.82	1.82	ng/L	1	08/03/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	56.0			%	1	08/03/22	***	24 - 116 %	C
% d5-NEtFOSA	60.0			%	1	08/03/22	***	27 - 126 %	C
% M2-6:2FTS	209	Q		%	1	08/03/22	***	14 - 147 %	C,3
% M2PFHxDA	94.0			%	1	08/03/22	***	55 - 137 %	C
% M2PFTeDA	63.0			%	1	08/03/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	65.0			%	1	08/03/22	***	10 - 165 %	C
% M3PFBS	97.0			%	1	08/03/22	***	70 - 131 %	C
% M3PFHxS	106			%	1	08/03/22	***	71 - 134 %	C
% M4PFHpA	77.0			%	1	08/03/22	***	60 - 129 %	C
% M5PFHxA	67.0			%	1	08/03/22	***	57 - 129 %	C
% M6PFDA	86.0			%	1	08/03/22	***	62 - 124 %	C
% M7-PFUDA	94.0			%	1	08/03/22	***	55 - 137 %	C
% M8PFOA	80.0			%	1	08/03/22	***	62 - 129 %	C
% M8PFOS	119			%	1	08/03/22	***	69 - 131 %	C
% M9PFNA	80.0			%	1	08/03/22	***	59 - 139 %	C
% MPFDoA	84.0			%	1	08/03/22	***	48 - 131 %	C

3 = This parameter exceeds laboratory specified limits.

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level J=Estimated Below RL

LOD=Limit of Detection MDL=Method Detection Limit1

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/13/22
07/14/22

Time

12:32
11:50

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77459

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW13-20220713

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.89	0.278	ng/L	1	08/03/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.89	0.262	ng/L	1	08/03/22	***	LCMSMS-ID	C
ADONA	ND	1.89	0.318	ng/L	1	08/03/22	***	LCMSMS-ID	C
HFPO-DA	ND	47.4	21.5	ng/L	1	08/03/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.89	0.761	ng/L	1	08/03/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.89	0.614	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	1.98	1.89	0.225	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.89	0.288	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.89	0.352	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	3.18	1.89	0.213	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	3.99	1.89	0.356	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	3.92	1.89	0.311	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	1.89	0.295	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	3.66	1.89	0.477	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	4.08	1.89	0.224	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.89	0.235	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.89	0.310	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.89	0.246	ng/L	1	08/03/22	***	LCMSMS-ID	C
Total PFAS (5)	14.91	1.89	1.89	ng/L	1	08/03/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	49.0			%	1	08/03/22	***	24 - 116 %	C
% d5-NEtFOSA	57.0			%	1	08/03/22	***	27 - 126 %	C
% M2-6:2FTS	145			%	1	08/03/22	***	14 - 147 %	C
% M2PFHxDA	78.0			%	1	08/03/22	***	55 - 137 %	C
% M2PFTeDA	62.0			%	1	08/03/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	79.0			%	1	08/03/22	***	10 - 165 %	C
% M3PFBS	102			%	1	08/03/22	***	70 - 131 %	C
% M3PFHxS	107			%	1	08/03/22	***	71 - 134 %	C
% M4PFHpA	75.0			%	1	08/03/22	***	60 - 129 %	C
% M5PFHxA	70.0			%	1	08/03/22	***	57 - 129 %	C
% M6PFDA	67.0			%	1	08/03/22	***	62 - 124 %	C
% M7-PFUDA	78.0			%	1	08/03/22	***	55 - 137 %	C
% M8PFOA	70.0			%	1	08/03/22	***	62 - 129 %	C
% M8PFOS	97.0			%	1	08/03/22	***	69 - 131 %	C
% M9PFNA	69.0			%	1	08/03/22	***	59 - 139 %	C
% MPFDoA	77.0			%	1	08/03/22	***	48 - 131 %	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

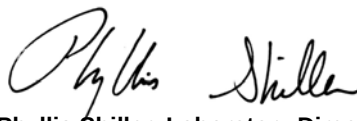
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/12/22
07/14/22

Time

14:10
11:50

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77460

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-MW14-20220712

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.90	0.279	ng/L	1	08/03/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.90	0.263	ng/L	1	08/03/22	***	LCMSMS-ID	C
ADONA	ND	1.90	0.320	ng/L	1	08/03/22	***	LCMSMS-ID	C
HFPO-DA	ND	47.5	21.6	ng/L	1	08/03/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.90	0.764	ng/L	1	08/03/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.90	0.616	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	0.989	J 1.90	0.289	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.90	0.354	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	120	1.90	0.214	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	825	1.90	0.312	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	17.4	1.90	0.297	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	245	1.90	0.224	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.90	0.236	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTrDA)	ND	1.90	0.311	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.90	0.247	ng/L	1	08/03/22	***	LCMSMS-ID	C
Total PFAS (5)	12910	1.90	1.90	ng/L	1	08/03/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	40.0			%	1	08/03/22	***	24 - 116 %	C
% d5-NEtFOSA	54.0			%	1	08/03/22	***	27 - 126 %	C
% M2-6:2FTS	285	Q		%	1	08/03/22	***	14 - 147 %	C,3
% M2PFHxDA	78.0			%	1	08/03/22	***	55 - 137 %	C
% M2PFTeDA	66.0			%	1	08/03/22	***	22 - 136 %	C
% M3HFPO-DA	96.0			%	1	08/03/22	***	10 - 165 %	C
% M3PFBS	131			%	1	08/03/22	***	70 - 131 %	C
% M3PFHxS	77.0			%	1	08/03/22	***	71 - 134 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M4PFHpA	85.0			%	1	08/03/22	***	60 - 129 %	C
% M5PFHxA	64.0			%	1	08/03/22	***	57 - 129 %	C
% M6PFDA	79.0			%	1	08/03/22	***	62 - 124 %	C
% M7-PFUDA	78.0			%	1	08/03/22	***	55 - 137 %	C
% M8PFOA	84.0			%	1	08/03/22	***	62 - 129 %	C
% M8PFOS	105			%	1	08/03/22	***	69 - 131 %	C
% M9PFNA	84.0			%	1	08/03/22	***	59 - 139 %	C
% MPFDaA	76.0			%	1	08/03/22	***	48 - 131 %	C

PFAS (18) (Re-Extraction 1)

Perfluorobutanesulfonic Acid (PFBS)	1530	50.0	5.95	ng/L	1	08/05/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	8090	50.0	9.40	ng/L	1	08/05/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	4440	50.0	12.6	ng/L	1	08/05/22	***	LCMSMS-ID	C

QA/QC Surrogates

% M3PFBS	83.0			%	1	08/05/22	***	70 - 131 %	C
% M3PFHxS	71.0			%	1	08/05/22	***	71 - 134 %	C
% M8PFOS	84.0			%	1	08/05/22	***	69 - 131 %	C

3 = This parameter exceeds laboratory specified limits.

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level J=Estimated Below RL

LOD=Limit of Detection MDL=Method Detection Limit1

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFAS (18) (Re-Extraction 1) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/13/22
07/14/22

Time

9:30
11:50

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77461

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-SW1-20220713

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.96	0.288	ng/L	1	08/03/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.96	0.272	ng/L	1	08/03/22	***	LCMSMS-ID	C
ADONA	ND	1.96	0.330	ng/L	1	08/03/22	***	LCMSMS-ID	C
HFPO-DA	ND	49.1	22.3	ng/L	1	08/03/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.96	0.789	ng/L	1	08/03/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.96	0.636	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	2.88	1.96	0.234	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.96	0.298	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.96	0.365	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	2.46	1.96	0.221	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	8.47	1.96	0.369	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	5.41	1.96	0.322	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	0.389	JF 1.96	0.306	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	2.85	1.96	0.495	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	4.27	1.96	0.232	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.96	0.243	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.96	0.321	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.96	0.255	ng/L	1	08/03/22	***	LCMSMS-ID	C
Total PFAS (5)	18.05	1.96	1.96	ng/L	1	08/03/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	61.0			%	1	08/03/22	***	24 - 116 %	C
% d5-NEtFOSA	61.0			%	1	08/03/22	***	27 - 126 %	C
% M2-6:2FTS	162	Q		%	1	08/03/22	***	14 - 147 %	C,3
% M2PFHxDA	84.0			%	1	08/03/22	***	55 - 137 %	C
% M2PFTeDA	65.0			%	1	08/03/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	87.0			%	1	08/03/22	***	10 - 165 %	C
% M3PFBS	88.0			%	1	08/03/22	***	70 - 131 %	C
% M3PFHxS	98.0			%	1	08/03/22	***	71 - 134 %	C
% M4PFHpA	85.0			%	1	08/03/22	***	60 - 129 %	C
% M5PFHxA	72.0			%	1	08/03/22	***	57 - 129 %	C
% M6PFDA	87.0			%	1	08/03/22	***	62 - 124 %	C
% M7-PFUDA	84.0			%	1	08/03/22	***	55 - 137 %	C
% M8PFOA	87.0			%	1	08/03/22	***	62 - 129 %	C
% M8PFOS	92.0			%	1	08/03/22	***	69 - 131 %	C
% M9PFNA	84.0			%	1	08/03/22	***	59 - 139 %	C
% MPFDoA	72.0			%	1	08/03/22	***	48 - 131 %	C

3 = This parameter exceeds laboratory specified limits.

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level J=Estimated Below RL

LOD=Limit of Detection MDL=Method Detection Limit1

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/13/22
07/14/22

Time

9:40
11:50

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77462

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-TW1-20220713

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.84	0.270	ng/L	1	08/03/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.84	0.255	ng/L	1	08/03/22	***	LCMSMS-ID	C
ADONA	ND	1.84	0.310	ng/L	1	08/03/22	***	LCMSMS-ID	C
HFPO-DA	ND	46.1	20.9	ng/L	1	08/03/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.84	0.741	ng/L	1	08/03/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.84	0.597	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	49.4	1.84	0.219	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.84	0.280	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.84	0.343	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	42.7	1.84	0.208	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	318	1.84	0.347	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	138	1.84	0.302	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	20.0	1.84	0.288	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	174	1.84	0.465	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	26.9	1.84	0.218	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.84	0.229	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.84	0.302	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.84	0.240	ng/L	1	08/03/22	***	LCMSMS-ID	C
Total PFAS (5)	581.6	1.84	1.84	ng/L	1	08/03/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	51.0			%	1	08/03/22	***	24 - 116 %	C
% d5-NEtFOSA	73.0			%	1	08/03/22	***	27 - 126 %	C
% M2-6:2FTS	119			%	1	08/03/22	***	14 - 147 %	C
% M2PFHxDA	97.0			%	1	08/03/22	***	55 - 137 %	C
% M2PFTeDA	53.0			%	1	08/03/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	89.0			%	1	08/03/22	***	10 - 165 %	C
% M3PFBS	103			%	1	08/03/22	***	70 - 131 %	C
% M3PFHxS	94.0			%	1	08/03/22	***	71 - 134 %	C
% M4PFHpA	78.0			%	1	08/03/22	***	60 - 129 %	C
% M5PFHxA	71.0			%	1	08/03/22	***	57 - 129 %	C
% M6PFDA	87.0			%	1	08/03/22	***	62 - 124 %	C
% M7-PFUDA	97.0			%	1	08/03/22	***	55 - 137 %	C
% M8PFOA	80.0			%	1	08/03/22	***	62 - 129 %	C
% M8PFOS	102			%	1	08/03/22	***	69 - 131 %	C
% M9PFNA	82.0			%	1	08/03/22	***	59 - 139 %	C
% MPFDoA	87.0			%	1	08/03/22	***	48 - 131 %	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level LOD=Limit of Detection
MDL=Method Detection Limit1

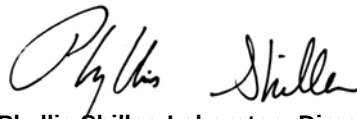
QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

August 09, 2022

FOR: Attn: Tina Clemmey
EnSafe
1233 Silas Deane Highway
Wethersfield, CT 06109

Sample Information

Matrix: GROUND WATER
Location Code: ENSAFE-DAS
Rush Request: Standard
P.O.#:

Custody Information

Collected by:
Received by: MMN
Analyzed by: see "By" below

Date

07/13/22
07/14/22

Time

12:45
11:50

Laboratory Data

SDG ID: GCL77449
Phoenix ID: CL77463

Project ID: TOWN HALL AREA WELLS KILLINGWORTH
Client ID: KLNG-DUP02-20220713

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
PFAS (18)	Completed					07/21/22	***	LCMSMS-ID	C
<u>PFAS (18)</u>									
11CI-PF3OUdS	ND	1.91	0.280	ng/L	1	08/03/22	***	LCMSMS-ID	C
9CI-PF3ONS	ND	1.91	0.265	ng/L	1	08/03/22	***	LCMSMS-ID	C
ADONA	ND	1.91	0.321	ng/L	1	08/03/22	***	LCMSMS-ID	C
HFPO-DA	ND	47.8	21.7	ng/L	1	08/03/22	***	LCMSMS-ID	C
NEtFOSAA	ND	1.91	0.769	ng/L	1	08/03/22	***	LCMSMS-ID	C
NMeFOSAA	ND	1.91	0.620	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorobutanesulfonic Acid (PFBS)	1.84	J 1.91	0.228	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorodecanoic Acid (PFDA)	ND	1.91	0.291	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorododecanoic Acid (PFDoA)	ND	1.91	0.356	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroheptanoic Acid (PFHpA)	3.13	1.91	0.215	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanesulfonic Acid (PFHxS)	4.31	1.91	0.360	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorohexanoic Acid (PFHxA)	3.99	1.91	0.314	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorononanoic Acid (PFNA)	ND	1.91	0.298	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanesulfonic Acid (PFOS)	3.60	1.91	0.482	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorooctanoic Acid (PFOA)	4.63	1.91	0.226	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotetradecanoic Acid (PFTA)	ND	1.91	0.237	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluorotridecanoic Acid (PFTTrDA)	ND	1.91	0.313	ng/L	1	08/03/22	***	LCMSMS-ID	C
Perfluoroundecanoic Acid (PFUnA)	ND	1.91	0.249	ng/L	1	08/03/22	***	LCMSMS-ID	C
Total PFAS (5)	15.67	1.91	1.91	ng/L	1	08/03/22	***	LCMSMS-ID	C
<u>QA/QC Surrogates</u>									
% d3-NMeFOSAA	40.0			%	1	08/03/22	***	24 - 116 %	C
% d5-NEtFOSA	33.0			%	1	08/03/22	***	27 - 126 %	C
% M2-6:2FTS	102			%	1	08/03/22	***	14 - 147 %	C
% M2PFHxDA	68.0			%	1	08/03/22	***	55 - 137 %	C
% M2PFTeDA	60.0			%	1	08/03/22	***	22 - 136 %	C

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference	
% M3HFPO-DA	72.0			%	1	08/03/22	***	10 - 165 %	C
% M3PFBS	101			%	1	08/03/22	***	70 - 131 %	C
% M3PFHxS	102			%	1	08/03/22	***	71 - 134 %	C
% M4PFHpA	70.0			%	1	08/03/22	***	60 - 129 %	C
% M5PFHxA	68.0			%	1	08/03/22	***	57 - 129 %	C
% M6PFDA	68.0			%	1	08/03/22	***	62 - 124 %	C
% M7-PFUDA	68.0			%	1	08/03/22	***	55 - 137 %	C
% M8PFOA	66.0			%	1	08/03/22	***	62 - 129 %	C
% M8PFOS	93.0			%	1	08/03/22	***	69 - 131 %	C
% M9PFNA	66.0			%	1	08/03/22	***	59 - 139 %	C
% MPFDoA	67.0			%	1	08/03/22	***	48 - 131 %	C

C = This parameter is subcontracted.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level J=Estimated Below RL

LOD=Limit of Detection MDL=Method Detection Limit1

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

*See attached

PFAS (18) (LCMSMS-ID), PFOA/PFOS - Water Extraction (LCMSMS-ID) were analyzed by CT certified lab #PH-0141.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director

August 09, 2022

Reviewed and Released by: Rashmi Makol, Project Manager



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

August 09, 2022

QA/QC Data

SDG I.D.: GCL77449

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

QA/QC Batch 636535 (ng/L), QC Sample No: CL77457 (CL77449, CL77450, CL77451, CL77452, CL77453, CL77454, CL77455, CL77456, CL77457, CL77458, CL77459, CL77460, CL77461, CL77462, CL77463)

PFOA & PFOS

11CI-PF3OUdS	ND	2	73			52	42	19	52 - 156	m
9CI-PF3ONS	ND	2	71			54	59	12	55 - 158	m
ADONA	ND	2	106			99	100	4	69 - 143	
HFPO-DA	ND	50	133			124	104	14	57 - 162	
NEtFOSAA	ND	2	106			101	104	6	45 - 170	
NMeFOSAA	ND	2	91			123	116	3	60 - 166	
Perfluorobutanesulfonic Acid (PFB)	ND	2	95			100	107	6	65 - 157	
Perfluorodecanoic Acid (PFDA)	ND	2	94			117	112	2	63 - 171	
Perfluorododecanoic Acid (PFDoA)	ND	2	97			100	95	3	67 - 153	
Perfluoroheptanoic Acid (PFHpA)	ND	2	101			102	109	7	58 - 159	
Perfluorohexanesulfonic Acid (PFH)	ND	2	111			100	113	3	69 - 177	
Perfluorohexanoic Acid (PFHxA)	ND	2	102			109	111	3	69 - 168	
Perfluorononanoic Acid (PFNA)	ND	2	110			118	112	2	68 - 171	
Perfluorooctanesulfonic Acid (PFO)	ND	2	114			54	74	5	52 - 151	
Perfluorooctanoic Acid (PFOA)	ND	2	104			115	112	0	63 - 159	
Perfluorotetradecanoic Acid (PFTA)	ND	2	105			108	114	9	59 - 182	
Perfluorotridecanoic Acid (PFTrDA)	ND	2	103			94	115	23	48 - 158	
Perfluoroundecanoic Acid (PFUnA)	ND	2	120			128	115	8	60 - 153	
% d5-NEtFOSA	101		91			81	72	11.8	27 - 126	
% M2-4:2FTS	121		121			245	263	7.1	12 - 142	m
% M2-6:2FTS	112		116			236	243	2.9	14 - 147	m
% M2PFTEdA	109		115			84	70	18.2	22 - 136	
% M3HFPO-DA	119		92			64	87	30.5	10 - 165	
% M3PFBS	109		109			93	96	3.2	70 - 131	
% M3PFHxS	111		106			99	104	4.9	71 - 134	
% M4PFHpA	110		107			78	82	5.0	60 - 129	
% M5PFHxA	109		111			67	72	7.2	57 - 129	
% M6PFDA	104		106			80	84	4.9	62 - 124	
% M8PFOA	103		106			81	88	8.3	62 - 129	
% M8PFOS	115		108			110	111	0.9	69 - 131	
% M9PFNA	99		99			83	88	5.8	59 - 139	
% MPFDOA	107		105			77	77	0.0	48 - 131	

QA/QC Batch 636536 (ng/L), QC Sample No: CL77460 (CL77460)

PFAS (18) (ReExtraction 1)

Perfluorobutanesulfonic Acid (PFB)	ND	2	106						65 - 157	
Perfluorohexanesulfonic Acid (PFH)	ND	2	124						69 - 177	
Perfluorooctanesulfonic Acid (PFO)	ND	2	113						52 - 151	
% M3PFBS - Water	87		88						70 - 131	
% M3PFHxS - Water	79		83						71 - 134	
% M8PFOS - Water	85		89						69 - 131	

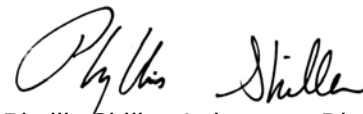
QA/QC Data

SDG I.D.: GCL77449

Parameter	Blk		LCS	LCSD	LCS	MS	MSD	MS	% Rec	% RPD
	Blank	RL								
			%	%	RPD	%	%	RPD	Limits	Limits

m = This parameter is outside laboratory MS/MSD specified recovery limits.
If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

- RPD - Relative Percent Difference
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MS Dup - Matrix Spike Duplicate
- NC - No Criteria
- Intf - Interference


Phyllis Shiller, Laboratory Director
August 09, 2022

Criteria: None
State: CT

Sample Criteria Exceedances Report
GCL77449 - ENSAFE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Comments

August 09, 2022

SDG I.D.: GCL77449

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD										COC No.		Page 1 of 2	
Project Name: Killingworth										PO No.		Project No. 0888828869 Phase 7-007.03	
Site Location: Town Hall Area Wells										Sample Analysis Requested (Enter number of containers for each test)			
Sampler/Site Phone# Michele Berisford / Alison Piscopo										(3) →			
Lab Name:										Total No. of Containers			
Turnaround Time(specific): 10 Day										PFAS			
Lab ID	Sample ID	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hh:mm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Extra Volume for MS/MSD		HOLD			
77449	KLING-MW1S-20220713		7/13/2022	16:15	GW	G	N	2	X				
77450	KLING-MW1D-20220713		7/13/2022	15:07	GW	G	N	2	X				
77451	KLING-MW2S-20220712		7/12/2022	9:50	GW	G	N	2	X				
77452	KLING-MW2D-20220712		7/12/2022	11:00	GW	G	N	2	X				
77453	KLING-MW3S-20220712		7/12/2022	13:40	GW	G	N	2	X				
77454	KLING-MW3D-20220712		7/12/2022	13:05	GW	G	N	2	X				
77455	KLING-MW4S-20220713		7/13/2022	14:35	GW	G	N	2	X				
77456	KLING-MW4D-20220713		7/13/2022	13:35	GW	G	N	2	X				
77457	KLING-MW11-20220712		7/12/2022	12:40	GW	G	N	2	X				
77458	KLING-MW12-20220713		7/13/2022	11:05	GW	G	N	2	X				
77459	KLING-MW13-20220712		7/13/2022	12:32	GW	G	N	2	X				
77460	KLING-MW14-20220713		7/12/2022	14:10	GW	G	N	2	X				
77461	KLING-SW1-20220713		7/13/2022	9:30	GW	G	N	2	X				

Field Comments: also sends results to ensafelabdata@ensafe.com Normal Turnaround Lab Comments:

Refiniquished by (signature): *Michele Berisford* Date: 7.14.2022 Time: 11am

Received by (signature): *[Signature]* Date: 7-14-22 Time: 11:10

Method of Shipment: 1,1 WGLP

Airbill No: 7/14/22 1150

Date Shipped:

(1) Matrix Code: AA=Air, AD=Air OC Matrix, CK=Caulk, CS=Soil Gas, LF=Free Product, LH=Liquid Waste, MS=Matrix, OI=Oil, PT=Paint, SC=Concrete/Concrete, SE=Sediment, SF=Filter Sandpack, SL=Sludge, SM=Miscellaneous Solid/Building Materials, SO=Soil, SQ=Soil/Solid OC Matrix, ST=Solid Waste, SW=Swab/Wipe, TA=Animal Tissue, TP=Plant Tissue, WG=Ground Water, WL=Leachate, WO=Ocean Water, WP=Drinking Water, WQ=Water OC Matrix, WS=Surface Water, SU=Sewer Water, WW=Waste Water

(2) Sample Type: AB=Ambient Blank, EB=Equipment Blank, FB=Field Blank, FD=Field Duplicate Sample, FR=Field Replicate, MB=Material Blank, N=Normal Environmental Sample, RB=Material Rinsate Blank, TB=Trip Blank

(3) Preservative added: HA=Hydrochloric Acid, NI=Nitric Acid, SH=Sodium Hydroxide, SA=Sulfuric Acid, AA=Ascorbic Acid, HX=Hexane, ME=Methanol, SB=sodium bisulfate, ST=sodium thiosulfate, IF NO preservative added leave blank

Rev. 7/19

Rebecca Merz

From: Michele Berisford <mberisford@Ensafe.com>
Sent: Friday, July 15, 2022 4:51 PM
To: Rebecca Merz
Subject: RE: MS MSD GCL77449

It's associated with MW-11.

Michele

From: Rebecca Merz <Rebeccam@phoenixlabs.com>
Sent: Friday, July 15, 2022 3:46 PM
To: Michele Berisford <mberisford@Ensafe.com>; Lisa Arnold <lisa@phoenixlabs.com>
Subject: MS MSD GCL77449

Hi Michele,

The MS/MSD need to be associated with a source sample. Please advise what ID it goes with.

Thank you,
Rebecca

Begin forwarded message:

From: Lisa Arnold <lisa@phoenixlabs.com>
Date: July 15, 2022 at 3:43:17 PM EDT
To: Rebecca Merz <Rebeccam@phoenixlabs.com>
Subject: MS MSD GCL77449

Hey there,

Do you know what ID the MS MSD should be a part of?

Thank you,

Lisa

Rebecca Merz

From: Michele Berisford <mberisford@Ensafe.com>
Sent: Thursday, July 14, 2022 5:55 PM
To: Rebecca Merz
Subject: Re: Label discrepancy

The label is correct...MW13 was taken on the 13th and MW14 was taken on the 12th. So the sample bottle labels don't match the COC? Correct?

Michele

Get [Outlook for iOS](#)

From: Rebecca Merz <Rebeccam@phoenixlabs.com>
Sent: Thursday, July 14, 2022 5:10:52 PM
To: Michele Berisford <mberisford@Ensafe.com>
Subject: Label discrepancy

Hi Michelle,

Can you please advise if we should go by the label or the chain? KLNG-MW13-20220712 is labeled KLNG-MW13-20220713 KLNG-MW14-20220713 is labeled KLNG-MW14-20220712.

Thank you,
Rebecca



ANALYTICAL REPORT

Lab Number:	L2237800
Client:	Phoenix Environmental Labs 587 East Middle Turnpike P.O. Box 370 Manchester, CT 06040
ATTN:	Helen Geoghegan
Phone:	(860) 645-8726
Project Name:	GCL77449
Project Number:	GCL77449
Report Date:	08/08/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2237800-01	CL77449	WATER	CT	07/13/22 16:15	07/15/22
L2237800-02	CL77450	WATER	CT	07/13/22 15:07	07/15/22
L2237800-03	CL77451	WATER	CT	07/12/22 09:50	07/15/22
L2237800-04	CL77452	WATER	CT	07/12/22 11:00	07/15/22
L2237800-05	CL77453	WATER	CT	07/12/22 13:40	07/15/22
L2237800-06	CL77454	WATER	CT	07/12/22 13:05	07/15/22
L2237800-07	CL77455	WATER	CT	07/13/22 14:35	07/15/22
L2237800-08	CL77456	WATER	CT	07/13/22 13:35	07/15/22
L2237800-09	CL77457	WATER	CT	07/12/22 12:40	07/15/22
L2237800-10	CL77458	WATER	CT	07/13/22 11:05	07/15/22
L2237800-11	CL77459	WATER	CT	07/13/22 12:32	07/15/22
L2237800-12	CL77460	WATER	CT	07/12/22 14:10	07/15/22
L2237800-13	CL77461	WATER	CT	07/13/22 09:30	07/15/22
L2237800-14	CL77462	WATER	CT	07/13/22 09:40	07/15/22
L2237800-15	CL77463	WATER	CT	07/13/22 12:45	07/15/22

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L2237800-08: The collection date and time on the chain of custody was 13-JUL-22 13:35; however, the collection date/time on the container label was 13-JUL-22 14:35. At the client's request, the collection date/time is reported as 13-JUL-22 13:35.

Perfluorinated Alkyl Acids by Isotope Dilution

L2237800-01: The Extracted Internal Standard recovery was outside the acceptance criteria for 1h,1h,2h,2h-perfluoro[1,2-13c2]hexanesulfonic acid (m2-4:2fts) (158%); however, this recovery does not apply to the abbreviated list of target analytes reported.

L2237800-03 and -11: The Extracted Internal Standard recoveries were outside the acceptance criteria for 1h,1h,2h,2h-perfluoro[1,2-13c2]hexanesulfonic acid (m2-4:2fts) (170%); however, these recoveries do not apply to the abbreviated list of target analytes reported.

L2237800-04 and -12: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

L2237800-07: The Extracted Internal Standard recovery was outside the acceptance criteria for 1h,1h,2h,2h-perfluoro[1,2-13c2]hexanesulfonic acid (m2-4:2fts) (189%); however, this recovery does not apply to the abbreviated list of target analytes reported.

L2237800-08: The Extracted Internal Standard recoveries were outside the acceptance criteria for 1h,1h,2h,2h-perfluoro[1,2-13c2]hexanesulfonic acid (m2-4:2fts) (227%) and 1h,1h,2h,2h-perfluoro[1,2-13c2]octanesulfonic acid (m2-6:2fts) (163%); however, these recoveries do not apply to the abbreviated list of target analytes reported.

L2237800-09 and -14: The sample was centrifuged and decanted prior to extraction due to sample matrix.

L2237800-09: The Extracted Internal Standard recoveries were outside the acceptance criteria for

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Case Narrative (continued)

1h,1h,2h,2h-perfluoro[1,2-13c2]hexanesulfonic acid (m2-4:2fts) (252%) and 1h,1h,2h,2h-perfluoro[1,2-13c2]octanesulfonic acid (m2-6:2fts) (247%); however, these recoveries do not apply to the abbreviated list of target analytes reported.

L2237800-10: The Extracted Internal Standard recoveries were outside the acceptance criteria for 1h,1h,2h,2h-perfluoro[1,2-13c2]hexanesulfonic acid (m2-4:2fts) (223%) and 1h,1h,2h,2h-perfluoro[1,2-13c2]octanesulfonic acid (m2-6:2fts) (209%); however, these recoveries do not apply to the abbreviated list of target analytes reported.

L2237800-12: The Extracted Internal Standard recoveries were outside the acceptance criteria for 1h,1h,2h,2h-perfluoro[1,2-13c2]hexanesulfonic acid (m2-4:2fts) (388%) and 1h,1h,2h,2h-perfluoro[1,2-13c2]octanesulfonic acid (m2-6:2fts) (285%); however, these recoveries do not apply to the abbreviated list of target analytes reported.

L2237800-12: The sample was re-extracted on dilution with the method required holding time exceeded in order to quantitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-extraction was performed only for the compound(s) that exceeded the calibration range.

L2237800-13: The Extracted Internal Standard recoveries were outside the acceptance criteria for 1h,1h,2h,2h-perfluoro[1,2-13c2]hexanesulfonic acid (m2-4:2fts) (214%) and 1h,1h,2h,2h-perfluoro[1,2-13c2]octanesulfonic acid (m2-6:2fts) (162%); however, these recoveries do not apply to the abbreviated list of target analytes reported.

The WG1665485-3 MS recoveries, performed on L2237800-09, are outside the acceptance criteria for 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9cl-pf3ons) (54%).

The WG1665485-4 MSD recovery, performed on L2237800-09, is outside the acceptance criteria for 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11cl-pf3ouds) (42%).

WG1665485-3: The Extracted Internal Standard recoveries were outside the acceptance criteria for 1h,1h,2h,2h-perfluoro[1,2-13c2]hexanesulfonic acid (m2-4:2fts) (245%) and 1h,1h,2h,2h-perfluoro[1,2-13c2]octanesulfonic acid (m2-6:2fts) (236%); however, these recoveries do not apply to the abbreviated list of target analytes reported.

Project Name: GCL77449
Project Number: GCL77449

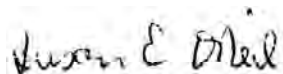
Lab Number: L2237800
Report Date: 08/08/22

Case Narrative (continued)

WG1665485-4: The Extracted Internal Standard recoveries were outside the acceptance criteria for 1h,1h,2h,2h-perfluoro[1,2-13c2]hexanesulfonic acid (m2-4:2fts) (263%) and 1h,1h,2h,2h-perfluoro[1,2-13c2]octanesulfonic acid (m2-6:2fts) (243%); however, these recoveries do not apply to the abbreviated list of target analytes reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Susan O'Neil

Title: Technical Director/Representative

Date: 08/08/22

ORGANICS

SEMIVOLATILES

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-01

Date Collected: 07/13/22 16:15

Client ID: CL77449

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/02/22 22:25

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	1.25	J	ng/l	1.88	0.224	1
Perfluorohexanoic Acid (PFHxA)	14.9		ng/l	1.88	0.309	1
Perfluoroheptanoic Acid (PFHpA)	18.6		ng/l	1.88	0.212	1
Perfluorohexanesulfonic Acid (PFHxS)	31.9		ng/l	1.88	0.354	1
Perfluorooctanoic Acid (PFOA)	77.1		ng/l	1.88	0.222	1
Perfluorononanoic Acid (PFNA)	1.74	JF	ng/l	1.88	0.294	1
Perfluorooctanesulfonic Acid (PFOS)	133		ng/l	1.88	0.475	1
Perfluorodecanoic Acid (PFDA)	0.539	J	ng/l	1.88	0.286	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.88	0.611	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.88	0.245	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.88	0.758	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.88	0.350	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.88	0.308	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.88	0.234	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	47.1	21.4	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.88	0.317	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.88	0.261	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.88	0.276	1
PFAS, Total (6)	263	J	ng/l	1.88	0.212	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-01

Date Collected: 07/13/22 16:15

Client ID: CL77449

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	109		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	158	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	84		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	110		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	76		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	111		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	79		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	103		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	53		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	92		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	60		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	103		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	111		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	103		10-165

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-02

Date Collected: 07/13/22 15:07

Client ID: CL77450

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/02/22 22:42

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	2.08		ng/l	1.89	0.224	1
Perfluorohexanoic Acid (PFHxA)	32.4		ng/l	1.89	0.309	1
Perfluoroheptanoic Acid (PFHpA)	17.2		ng/l	1.89	0.212	1
Perfluorohexanesulfonic Acid (PFHxS)	38.2		ng/l	1.89	0.355	1
Perfluorooctanoic Acid (PFOA)	56.7		ng/l	1.89	0.223	1
Perfluorononanoic Acid (PFNA)	1.72	JF	ng/l	1.89	0.294	1
Perfluorooctanesulfonic Acid (PFOS)	50.0		ng/l	1.89	0.476	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.89	0.287	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.89	0.611	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.89	0.245	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.89	0.759	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.89	0.351	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.89	0.309	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.89	0.234	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	47.2	21.4	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.89	0.317	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.89	0.261	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.89	0.277	1
PFAS, Total (6)	164	J	ng/l	1.89	0.212	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-02

Date Collected: 07/13/22 15:07

Client ID: CL77450

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	113		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	138		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	80		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	111		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	80		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	105		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	83		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	108		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	90		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	63		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	91		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	71		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	90		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	96		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	92		10-165

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-03

Date Collected: 07/12/22 09:50

Client ID: CL77451

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/02/22 22:58

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.81	0.216	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.81	0.298	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.81	0.204	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.81	0.341	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.81	0.214	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.81	0.283	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.81	0.457	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.81	0.276	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.81	0.588	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.81	0.236	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.81	0.730	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.81	0.338	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.81	0.297	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.81	0.225	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	45.4	20.6	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.81	0.305	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.81	0.251	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.81	0.266	1
PFAS, Total (6)	ND		ng/l	1.81	0.204	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-03

Date Collected: 07/12/22 09:50

Client ID: CL77451

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	99		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	170	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	69		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	71		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	107		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	70		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	103		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	67		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	52		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	53		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	82		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	84		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	76		10-165



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-04

Date Collected: 07/12/22 11:00

Client ID: CL77452

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/02/22 23:15

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	4.18		ng/l	1.82	0.217	1
Perfluorohexanoic Acid (PFHxA)	0.398	JF	ng/l	1.82	0.299	1
Perfluoroheptanoic Acid (PFHpA)	0.241	J	ng/l	1.82	0.205	1
Perfluorohexanesulfonic Acid (PFHxS)	1.69	J	ng/l	1.82	0.343	1
Perfluorooctanoic Acid (PFOA)	0.584	J	ng/l	1.82	0.215	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	0.284	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.82	0.460	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	0.277	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	0.591	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	0.237	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	0.733	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	0.339	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	0.298	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	0.226	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	45.6	20.7	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	0.306	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	0.252	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	0.267	1
PFAS, Total (6)	2.52	J	ng/l	1.82	0.205	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-04

Date Collected: 07/12/22 11:00

Client ID: CL77452

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	93		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	87		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	60		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	65		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	92		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	58	Q	62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	74		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	66		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	81		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	74		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	56		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	59		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	77		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	98		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	60		10-165

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-05

Date Collected: 07/12/22 13:40

Client ID: CL77453

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/02/22 23:31

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	12.8		ng/l	1.83	0.218	1
Perfluorohexanoic Acid (PFHxA)	12.8		ng/l	1.83	0.300	1
Perfluoroheptanoic Acid (PFHpA)	4.78		ng/l	1.83	0.206	1
Perfluorohexanesulfonic Acid (PFHxS)	40.2		ng/l	1.83	0.344	1
Perfluorooctanoic Acid (PFOA)	4.70		ng/l	1.83	0.216	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.83	0.285	1
Perfluorooctanesulfonic Acid (PFOS)	7.49		ng/l	1.83	0.461	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.83	0.278	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.83	0.593	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.83	0.238	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.83	0.735	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.83	0.340	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.83	0.299	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.83	0.227	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	45.7	20.8	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.83	0.307	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.83	0.253	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.83	0.268	1
PFAS, Total (6)	57.2		ng/l	1.83	0.206	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-05

Date Collected: 07/12/22 13:40

Client ID: CL77453

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	102		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	98		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	79		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	80		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	82		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	83		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	114		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	88		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	73		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	89		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	96		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	109		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	99		10-165

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-06

Date Collected: 07/12/22 13:05

Client ID: CL77454

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/02/22 23:48

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	11.2		ng/l	1.82	0.217	1
Perfluorohexanoic Acid (PFHxA)	11.0		ng/l	1.82	0.299	1
Perfluoroheptanoic Acid (PFHpA)	3.26		ng/l	1.82	0.205	1
Perfluorohexanesulfonic Acid (PFHxS)	51.9		ng/l	1.82	0.342	1
Perfluorooctanoic Acid (PFOA)	4.71		ng/l	1.82	0.215	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	0.284	1
Perfluorooctanesulfonic Acid (PFOS)	91.1		ng/l	1.82	0.459	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	0.277	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	0.590	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	0.237	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	0.732	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	0.339	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	0.298	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	0.226	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	45.5	20.7	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	0.306	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	0.252	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	0.267	1
PFAS, Total (6)	151		ng/l	1.82	0.205	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-06

Date Collected: 07/12/22 13:05

Client ID: CL77454

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	114		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	113		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	86		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	93		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	114		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	86		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	106		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	89		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	115		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	98		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	85		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	111		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	69		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	101		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	98		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	91		10-165

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-07

Date Collected: 07/13/22 14:35

Client ID: CL77455

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/03/22 00:05

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	2.49		ng/l	1.84	0.219	1
Perfluorohexanoic Acid (PFHxA)	1.27	J	ng/l	1.84	0.302	1
Perfluoroheptanoic Acid (PFHpA)	0.794	J	ng/l	1.84	0.207	1
Perfluorohexanesulfonic Acid (PFHxS)	1.34	J	ng/l	1.84	0.346	1
Perfluorooctanoic Acid (PFOA)	1.82	J	ng/l	1.84	0.217	1
Perfluorononanoic Acid (PFNA)	0.761	J	ng/l	1.84	0.287	1
Perfluorooctanesulfonic Acid (PFOS)	10.2		ng/l	1.84	0.463	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	0.280	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	0.596	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	0.239	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	0.739	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	0.342	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	0.301	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	0.228	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	46.0	20.9	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	0.309	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	0.254	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	0.270	1
PFAS, Total (6)	14.9	J	ng/l	1.84	0.207	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-07

Date Collected: 07/13/22 14:35

Client ID: CL77455

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	117		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	189	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	80		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	88		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	123		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	122		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	80		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	116		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	65		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	92		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	62		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	94		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	87		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	81		10-165



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-08

Date Collected: 07/13/22 13:35

Client ID: CL77456

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/03/22 00:21

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	2.10		ng/l	1.79	0.213	1
Perfluorohexanoic Acid (PFHxA)	1.55	J	ng/l	1.79	0.294	1
Perfluoroheptanoic Acid (PFHpA)	1.22	J	ng/l	1.79	0.202	1
Perfluorohexanesulfonic Acid (PFHxS)	0.802	J	ng/l	1.79	0.337	1
Perfluorooctanoic Acid (PFOA)	2.34		ng/l	1.79	0.211	1
Perfluorononanoic Acid (PFNA)	0.648	JF	ng/l	1.79	0.279	1
Perfluorooctanesulfonic Acid (PFOS)	8.42		ng/l	1.79	0.451	1
Perfluorodecanoic Acid (PFDA)	0.272	JF	ng/l	1.79	0.272	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.79	0.580	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.79	0.233	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.79	0.720	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.79	0.333	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.79	0.293	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.79	0.222	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	44.8	20.3	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.79	0.301	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.79	0.248	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.79	0.262	1
PFAS, Total (6)	13.7	J	ng/l	1.79	0.202	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-08

Date Collected: 07/13/22 13:35

Client ID: CL77456

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	98		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	227	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	74		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	82		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	163	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	83		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	54		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	95		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	76		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	90		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	88		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	80		10-165



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-09

Date Collected: 07/12/22 12:40

Client ID: CL77457

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/03/22 00:38

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	20.1		ng/l	1.92	0.229	1
Perfluorohexanoic Acid (PFHxA)	38.9		ng/l	1.92	0.315	1
Perfluoroheptanoic Acid (PFHpA)	18.7		ng/l	1.92	0.216	1
Perfluorohexanesulfonic Acid (PFHxS)	198		ng/l	1.92	0.361	1
Perfluorooctanoic Acid (PFOA)	22.0		ng/l	1.92	0.227	1
Perfluorononanoic Acid (PFNA)	5.77		ng/l	1.92	0.300	1
Perfluorooctanesulfonic Acid (PFOS)	136		ng/l	1.92	0.484	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.92	0.292	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.92	0.623	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.92	0.250	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.92	0.773	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.92	0.358	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.92	0.314	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.92	0.238	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	48.0	21.8	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.92	0.323	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.92	0.266	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.92	0.282	1
PFAS, Total (6)	380		ng/l	1.92	0.216	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-09

Date Collected: 07/12/22 12:40

Client ID: CL77457

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	96		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	252	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	75		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	96		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	247	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	97		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	88		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	80		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	84		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	81		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	83		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	91		10-165

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-10

Date Collected: 07/13/22 11:05

Client ID: CL77458

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/03/22 19:42

Analyst: SG

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	2.66		ng/l	1.82	0.216	1
Perfluorohexanoic Acid (PFHxA)	3.50		ng/l	1.82	0.298	1
Perfluoroheptanoic Acid (PFHpA)	2.29		ng/l	1.82	0.205	1
Perfluorohexanesulfonic Acid (PFHxS)	15.5		ng/l	1.82	0.342	1
Perfluorooctanoic Acid (PFOA)	3.58	F	ng/l	1.82	0.215	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	0.284	1
Perfluorooctanesulfonic Acid (PFOS)	1.22	J	ng/l	1.82	0.458	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	0.276	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	0.590	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	0.236	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	0.732	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	0.338	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	0.298	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	0.226	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	45.5	20.6	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	0.306	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	0.252	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	0.267	1
PFAS, Total (6)	22.6	J	ng/l	1.82	0.205	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-10

Date Collected: 07/13/22 11:05

Client ID: CL77458

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	97		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	223	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	67		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	106		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	80		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	209	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	80		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	119		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	56		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	60		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	84		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	63		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	65		10-165

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-11

Date Collected: 07/13/22 12:32

Client ID: CL77459

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/03/22 19:58

Analyst: SG

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	1.98		ng/l	1.89	0.225	1
Perfluorohexanoic Acid (PFHxA)	3.92		ng/l	1.89	0.311	1
Perfluoroheptanoic Acid (PFHpA)	3.18		ng/l	1.89	0.213	1
Perfluorohexanesulfonic Acid (PFHxS)	3.99		ng/l	1.89	0.356	1
Perfluorooctanoic Acid (PFOA)	4.08		ng/l	1.89	0.224	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.89	0.295	1
Perfluorooctanesulfonic Acid (PFOS)	3.66		ng/l	1.89	0.477	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.89	0.288	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.89	0.614	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.89	0.246	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.89	0.761	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.89	0.352	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.89	0.310	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.89	0.235	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	47.4	21.5	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.89	0.318	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.89	0.262	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.89	0.278	1
PFAS, Total (6)	14.9		ng/l	1.89	0.213	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-11

Date Collected: 07/13/22 12:32

Client ID: CL77459

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	102		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	170	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	70		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	75		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	107		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	70		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	145		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	69		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	67		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	49		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	78		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	57		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	77		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	62		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	79		10-165

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-12

Date Collected: 07/12/22 14:10

Client ID: CL77460

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/03/22 20:15

Analyst: SG

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	1440	E	ng/l	1.90	0.226	1
Perfluorohexanoic Acid (PFHxA)	825		ng/l	1.90	0.312	1
Perfluoroheptanoic Acid (PFHpA)	120		ng/l	1.90	0.214	1
Perfluorohexanesulfonic Acid (PFHxS)	5140	E	ng/l	1.90	0.358	1
Perfluorooctanoic Acid (PFOA)	245		ng/l	1.90	0.224	1
Perfluorononanoic Acid (PFNA)	17.4		ng/l	1.90	0.297	1
Perfluorooctanesulfonic Acid (PFOS)	2750	E	ng/l	1.90	0.479	1
Perfluorodecanoic Acid (PFDA)	0.989	J	ng/l	1.90	0.289	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.90	0.616	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.90	0.247	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.90	0.764	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.90	0.354	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.90	0.311	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.90	0.236	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	47.5	21.6	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.90	0.320	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.90	0.263	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.90	0.279	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-12

Date Collected: 07/12/22 14:10

Client ID: CL77460

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	131		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	338	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	64		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	85		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	77		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	285	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	84		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	79		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	40		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	78		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	54		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	76		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	66		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	96		10-165

Project Name: GCL77449**Lab Number:** L2237800**Project Number:** GCL77449**Report Date:** 08/08/22**SAMPLE RESULTS**

Lab ID: L2237800-12 RE

Date Collected: 07/12/22 14:10

Client ID: CL77460

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 08/04/22 07:30

Analytical Date: 08/05/22 08:35

Analyst: MP

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	1530		ng/l	50.0	5.95	1
Perfluorohexanesulfonic Acid (PFHxS)	8090		ng/l	50.0	9.40	1
Perfluorooctanesulfonic Acid (PFOS)	4440		ng/l	50.0	12.6	1
PFAS, Total (6)	12900		ng/l	50.0	9.40	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	83		70-131
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	71		71-134
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	84		69-131



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-13

Date Collected: 07/13/22 09:30

Client ID: CL77461

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/03/22 20:31

Analyst: SG

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	2.88		ng/l	1.96	0.234	1
Perfluorohexanoic Acid (PFHxA)	5.41		ng/l	1.96	0.322	1
Perfluoroheptanoic Acid (PFHpA)	2.46		ng/l	1.96	0.221	1
Perfluorohexanesulfonic Acid (PFHxS)	8.47		ng/l	1.96	0.369	1
Perfluorooctanoic Acid (PFOA)	4.27		ng/l	1.96	0.232	1
Perfluorononanoic Acid (PFNA)	0.389	JF	ng/l	1.96	0.306	1
Perfluorooctanesulfonic Acid (PFOS)	2.85		ng/l	1.96	0.495	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.96	0.298	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.96	0.636	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.96	0.255	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.96	0.789	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.96	0.365	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.96	0.321	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.96	0.243	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	49.1	22.3	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.96	0.330	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.96	0.272	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.96	0.288	1
PFAS, Total (6)	18.4	J	ng/l	1.96	0.221	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-13

Date Collected: 07/13/22 09:30

Client ID: CL77461

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	214	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	85		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	87		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	162	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	84		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	92		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	61		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	84		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	61		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	72		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	65		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	87		10-165

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-14

Date Collected: 07/13/22 09:40

Client ID: CL77462

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/03/22 20:48

Analyst: SG

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	49.4		ng/l	1.84	0.219	1
Perfluorohexanoic Acid (PFHxA)	138		ng/l	1.84	0.302	1
Perfluoroheptanoic Acid (PFHpA)	42.7		ng/l	1.84	0.208	1
Perfluorohexanesulfonic Acid (PFHxS)	318		ng/l	1.84	0.347	1
Perfluorooctanoic Acid (PFOA)	26.9		ng/l	1.84	0.218	1
Perfluorononanoic Acid (PFNA)	20.0		ng/l	1.84	0.288	1
Perfluorooctanesulfonic Acid (PFOS)	174		ng/l	1.84	0.465	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	0.280	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	0.597	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	0.240	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	0.741	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	0.343	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	0.302	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	0.229	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	46.1	20.9	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	0.310	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	0.255	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	0.270	1
PFAS, Total (6)	582		ng/l	1.84	0.208	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-14

Date Collected: 07/13/22 09:40

Client ID: CL77462

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	103		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	105		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	71		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	78		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	94		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	80		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	119		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	82		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	102		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	51		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	97		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	73		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	87		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	53		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	89		10-165



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-15

Date Collected: 07/13/22 12:45

Client ID: CL77463

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 07/21/22 04:50

Analytical Date: 08/03/22 21:04

Analyst: SG

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	1.84	J	ng/l	1.91	0.228	1
Perfluorohexanoic Acid (PFHxA)	3.99		ng/l	1.91	0.314	1
Perfluoroheptanoic Acid (PFHpA)	3.13		ng/l	1.91	0.215	1
Perfluorohexanesulfonic Acid (PFHxS)	4.31		ng/l	1.91	0.360	1
Perfluorooctanoic Acid (PFOA)	4.63		ng/l	1.91	0.226	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.91	0.298	1
Perfluorooctanesulfonic Acid (PFOS)	3.60		ng/l	1.91	0.482	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.91	0.291	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.91	0.620	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.91	0.249	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.91	0.769	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.91	0.356	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.91	0.313	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.91	0.237	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	47.8	21.7	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.91	0.321	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.91	0.265	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.91	0.280	1
PFAS, Total (6)	15.7		ng/l	1.91	0.215	1



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

SAMPLE RESULTS

Lab ID: L2237800-15

Date Collected: 07/13/22 12:45

Client ID: CL77463

Date Received: 07/15/22

Sample Location: CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	101		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	132		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	68		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	70		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	66		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	102		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	66		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	68		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	40		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	68		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	33		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	67		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	60		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	72		10-165



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 08/02/22 21:36

Extraction Date: 07/21/22 04:50

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-15 Batch: WG1665485-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.328
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	50.0	22.7
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	0.336
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	0.277
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	0.293
PFAS, Total (6)	ND		ng/l	2.00	0.225

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 08/02/22 21:36

Extraction Date: 07/21/22 04:50

Analyst: RS

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-15 Batch: WG1665485-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	105		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	123		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	109		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	121		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	109		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	110		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	111		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	103		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	112		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	99		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	115		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	104		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	123		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	98		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	105		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	40		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	101		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	107		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	109		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	119		10-165
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	120		10-206
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	117		50-150



Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 08/05/22 08:02

Extraction Date: 08/04/22 07:30

Analyst: MP

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 12 Batch: WG1671042-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.328
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	50.0	22.7
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	0.336
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	0.277
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	0.293
PFAS, Total (6)	ND		ng/l	2.00	0.225

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID

Extraction Method: ALPHA 23528

Analytical Date: 08/05/22 08:02

Extraction Date: 08/04/22 07:30

Analyst: MP

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 12 Batch: WG1671042-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	90		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	100		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	87		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	75		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	96		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	93		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	79		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	75		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	76		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	85		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	59		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	74		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	48		5-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	66		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	86		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	48		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	125		10-165
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	107		10-206
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	63		50-150



Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual	Limits	RPD
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-15 Batch: WG1665485-2								
Perfluorobutanesulfonic Acid (PFBS)	95		-		65-157	-		30
Perfluorohexanoic Acid (PFHxA)	102		-		69-168	-		30
Perfluoroheptanoic Acid (PFHpA)	101		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	111		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	104		-		63-159	-		30
Perfluorononanoic Acid (PFNA)	110		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	114		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	94		-		63-171	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	91		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	120		-		60-153	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEFOSAA)	106		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	97		-		67-153	-		30
Perfluorotridecanoic Acid (PFTTrDA)	103		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	105		-		59-182	-		30
2,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]propanoic Acid (HFPO-DA)	133		-		57-162	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	106		-		69-143	-		30
9-Chlorohexadecafluoro-3-Oxanon-1-Sulfonic Acid (9Cl-PF3ONS)	71		-		55-158	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	73		-		52-156	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL77449

Lab Number: L2237800

Project Number: GCL77449

Report Date: 08/08/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits		Qual	Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-15 Batch: WG1665485-2								

Surrogate (Extracted Internal Standard)		LCS		LCSD		Acceptance Criteria	
		%Recovery	Qual	%Recovery	Qual		
Perfluoro[13C4]Butanoic Acid (MPFBA)		103				58-132	
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)		119				62-163	
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)		109				70-131	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4,2FTS)		121				12-142	
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)		111				57-129	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)		107				60-129	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)		106				71-134	
Perfluoro[13C8]Octanoic Acid (M8PFOA)		106				62-129	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6,2FTS)		116				14-147	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)		99				59-139	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)		108				69-131	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)		106				62-124	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8,2FTS)		130				10-162	
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)		95				24-116	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)		98				55-137	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)		46				5-112	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEIFOSAA)		91				27-126	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)		105				48-131	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)		115				22-136	
2,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)		92				10-165	
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)		128				10-206	
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10,2FTS)		96				50-150	

Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual	Limits	RPD
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 12 Batch: WG1671042-2								
Perfluorobutanesulfonic Acid (PFBS)	106		-		65-157	-		30
Perfluorohexanoic Acid (PFHxA)	104		-		69-168	-		30
Perfluoroheptanoic Acid (PFHpA)	106		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	124		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	108		-		63-159	-		30
Perfluorononanoic Acid (PFNA)	116		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	113		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	110		-		63-171	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	111		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	96		-		60-153	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEFOSAA)	107		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	105		-		67-153	-		30
Perfluorotridecanoic Acid (PFTTrDA)	125		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	156		-		59-182	-		30
2,3,3-Tetrafluoro-2-[1,1,2,2,3,3-Hexafluoropropoxy]propanoic Acid (HFPO-DA)	110		-		57-162	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	111		-		69-143	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	93		-		55-158	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	80		-		52-156	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits		Qual	Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 12 Batch: WG1671042-2								

Surrogate (Extracted Internal Standard)	LCS		LCSD		Acceptance	
	%Recovery	Qual	%Recovery	Qual	Criteria	
Perfluoro[13C4]Butanoic Acid (MPFBA)	91				58-132	
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	99				62-163	
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88				70-131	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4,2FTS)	82				12-142	
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	97				57-129	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	93				60-129	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	83				71-134	
Perfluoro[13C8]Octanoic Acid (M8PFOA)	88				62-129	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6,2FTS)	84				14-147	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	77				59-139	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	89				69-131	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85				62-124	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8,2FTS)	75				10-162	
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	72				24-116	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	83				55-137	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	61				5-112	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEIFOSAA)	75				27-126	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	87				48-131	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	51				22-136	
2,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	106				10-165	
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	110				10-206	
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10,2FTS)	67				50-150	



Matrix Spike Analysis Batch Quality Control

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Found	MSD Found	MSD %Recovery	Recovery Limits	RPD Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG1665485-3 WG1665485-4 QC Sample: L2237800-09 Client ID: CL77457										
Perfluorobutanesulfonic Acid (PFBS)	20.1	35.1	55.2	100	58.6	107		65-157	6	30
Perfluorohexanoic Acid (PFHxA)	38.9	39.6	82.0	109	84.1	111		69-168	3	30
Perfluoroheptanoic Acid (PFHpA)	18.7	39.6	58.9	102	63.0	109		58-159	7	30
Perfluorohexanesulfonic Acid (PFHxS)	198	36.2	234	100	240	113		69-177	3	30
Perfluorooctanoic Acid (PFOA)	22.0	39.6	67.6	115	67.4	112		63-159	0	30
Perfluorononanoic Acid (PFNA)	5.77	39.6	52.3	118	51.1	112		68-171	2	30
Perfluorooctanesulfonic Acid (PFOS)	136	36.7	156	54	164	74		52-151	5	30
Perfluorodecanoic Acid (PFDA)	ND	39.6	46.3	117	45.5	112		63-171	2	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	39.6	48.8	123	47.2	116		60-166	3	30
Perfluoroundecanoic Acid (PFUnA)	ND	39.6	50.6	128	46.6	115		60-153	8	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	39.6	40.0	101	42.3	104		45-170	6	30
Perfluorododecanoic Acid (PFDoA)	ND	39.6	39.7	100	38.7	95		67-153	3	30
Perfluorotridecanoic Acid (PFTriDA)	ND	39.6	37.0	94	46.5	115		48-158	23	30
Perfluorotetradecanoic Acid (PFTA)	ND	39.6	42.6	108	46.4	114		59-182	9	30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3-Hexafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	386	477F	124	413F	104		57-162	14	30
4,8-Dioxa-3H-Perfluorononanoic Acid (ADONA)	ND	37.4	37.0	99	38.6	100		69-143	4	30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	37	19.8	54	22.4F	59		55-158	12	30
11-Chloroicosafuoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUds)	ND	37.4	19.4	52	16.1	42		52-156	19	30

Matrix Spike Analysis

Batch Quality Control

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG1665485-3 WG1665485-4 QC Sample: L2237800-09
 Client ID: CL77457

Surrogate (Extracted Internal Standard)		MS		MSD		Acceptance Criteria	
		% Recovery	Qualifier	% Recovery	Qualifier		
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)		245	Q	263	Q	12-142	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)		236	Q	243	Q	14-147	
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)		64		87		10-165	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)		81		72		27-126	
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)		63		66		24-116	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)		75		78		55-137	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)		80		84		62-124	
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)		67		72		57-129	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)		78		82		60-129	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)		99		104		71-134	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)		77		77		48-131	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)		84		70		22-136	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)		110		111		69-131	
Perfluoro[13C9]Nonanoic Acid (M8PFOA)		81		88		62-129	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)		83		88		59-139	
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)		93		96		70-131	



Matrix Spike Analysis Batch Quality Control

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MS Found	MSD Found	MSD %Recovery	Recovery Limits	RPD Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1671042-3 QC Sample: L2240842-01 Client ID: MS										
Perfluorobutanesulfonic Acid (PFBS)	15.4	34.9	49.7	98		-	-	65-157	-	30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	36.9	39.3	107		-	-	37-219	-	30
Perfluorohexanoic Acid (PFHxA)	104	39.3	144	102		-	-	69-168	-	30
Perfluoropentanesulfonic Acid (PFPeS)	0.344J	37	38.6	103		-	-	52-156	-	30
Perfluorheptanoic Acid (PFHpA)	82.4	39.3	124	106		-	-	58-159	-	30
Perfluorohexanesulfonic Acid (PFHxS)	1.87J	35.9	44.2	118		-	-	69-177	-	30
Perfluorooctanoic Acid (PFOA)	199	39.3	228	74		-	-	63-159	-	30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	19.5	37.4	67.1	127		-	-	49-187	-	30
Perfluorheptanesulfonic Acid (PFHpS)	1.45J	37.5	41.1	106		-	-	61-179	-	30
Perfluorononanoic Acid (PFNA)	25.0	39.3	64.5	100		-	-	68-171	-	30
Perfluorooctanesulfonic Acid (PFOS)	97.6	36.5	119	59		-	-	52-151	-	30
Perfluorodecanoic Acid (PFDA)	6.93	39.3	49.6	109		-	-	63-171	-	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	39.3	45.0	114		-	-	60-166	-	30
Perfluoroundecanoic Acid (PFUnA)	0.476J	39.3	34.9	88		-	-	60-153	-	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	39.3	47.7F	121		-	-	45-170	-	30
Perfluorododecanoic Acid (PFDoA)	ND	39.3	42.1	107		-	-	67-153	-	30
Perfluorotridecanoic Acid (PFTriDA)	ND	39.3	49.3	125		-	-	48-158	-	30
Perfluorotetradecanoic Acid (PFTA)	ND	39.3	58.6	149		-	-	59-182	-	30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	383	339F	88		-	-	57-162	-	30
4,8-Dioxa-3n-Perfluorononanoic Acid (ADONA)	ND	37.2	40.8	110		-	-	69-143	-	30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	36.7	31.7	86		-	-	55-158	-	30



Matrix Spike Analysis
Batch Quality Control

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Qual	RPD Limits	RPD Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1671042-3 QC Sample: L2240842-01 Client ID: MS										
Sample										

11-Chloroicosafuoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	37.1	23.8	64	-	-	52-156	-	-	30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	121				12-142
1H,1H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	82				14-147
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	101				10-165
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	39				27-126
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	36				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	61				55-137
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	64				62-124
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	79				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	81				71-134
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	57				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	39				22-136
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	78				69-131
Perfluoro[13C8]Octanoic Acid (M8PFOA)	71				62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	65				59-139
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	84				70-131



Lab Duplicate Analysis

Batch Quality Control

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1671042-4 QC Sample: L2240842-02 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	2.80	2.61	ng/l	7		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	29.7	30.5	ng/l	3		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	31.6	32.2	ng/l	2		30
Perfluorohexanesulfonic Acid (PFHxS)	0.946J	0.527J	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	64.0	62.7	ng/l	2		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	23.4	25.0	ng/l	7		30
Perfluoroheptanesulfonic Acid (PFHpS)	0.707J	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	6.45	6.59	ng/l	2		30
Perfluorooctanesulfonic Acid (PFOS)	62.9	57.7	ng/l	9		30
Perfluorodecanoic Acid (PFDA)	1.56J	1.41J	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
4,8-Dioxa-3H-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30



Lab Duplicate Analysis

Batch Quality Control

Project Name: GCL77449
Project Number: GCL77449

Lab Number: L2237800
Report Date: 08/08/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG1671042-4 QC Sample: L2240842-02 Client ID: DUP Sample						
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9CLPF3ONS)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11CL-PF3OUdS)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	81		93		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4,2FTS)	177	Q	195	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72		83		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		87		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	81		90		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	73		85		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6,2FTS)	123		139		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	68		74		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	82		93		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	70		82		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	47		54		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	74		85		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	47		53		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	66		82		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	46		51		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	94		126		10-165



Serial_No:08082211:28
Lab Number: L2237800
Report Date: 08/08/22



Project Name: GCL77449
Project Number: GCL77449

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler B
Custody Seal Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237800-01A	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-01B	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-02A	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-02B	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-03A	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-03B	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-04A	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-04B	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-05A	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-05B	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-06A	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-06B	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-07A	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-07B	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-08A	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-08B	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-09A	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-09A1	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-09A2	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-09B	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-09B1	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-09B2	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)
L2237800-10A	Plastic 250ml unpreserved	B	NA		6.0	Y	Absent		A2-537-ISOTOPE-36(14)

*Values in parentheses indicate holding time in days

Serial_No:08082211:28
Lab Number: L2237800
Report Date: 08/08/22

Project Name: GCL77449
Project Number: GCL77449

Container Information			Initial			Temp			Frozen			Analysis(*)
Container ID	Container Type	Cooler	pH	pH	deg C	Pres	Seal	Date/Time				
L2237800-10B	Plastic 250ml unpreserved	B	NA	NA	6.0	Y	Absent					A2-537-ISOTOPE-36(14)
L2237800-11A	Plastic 250ml unpreserved	B	NA	NA	6.0	Y	Absent					A2-537-ISOTOPE-36(14)
L2237800-11B	Plastic 250ml unpreserved	B	NA	NA	6.0	Y	Absent					A2-537-ISOTOPE-36(14)
L2237800-12A	Plastic 250ml unpreserved	B	NA	NA	6.0	Y	Absent					A2-537-ISOTOPE-36(14)
L2237800-12B	Plastic 250ml unpreserved	B	NA	NA	6.0	Y	Absent					A2-537-ISOTOPE-36(14)
L2237800-13A	Plastic 250ml unpreserved	B	NA	NA	6.0	Y	Absent					A2-537-ISOTOPE-36(14)
L2237800-13B	Plastic 250ml unpreserved	B	NA	NA	6.0	Y	Absent					A2-537-ISOTOPE-36(14)
L2237800-14A	Plastic 250ml unpreserved	B	NA	NA	6.0	Y	Absent					A2-537-ISOTOPE-36(14)
L2237800-14B	Plastic 250ml unpreserved	B	NA	NA	6.0	Y	Absent					A2-537-ISOTOPE-36(14)
L2237800-15A	Plastic 250ml unpreserved	B	NA	NA	6.0	Y	Absent					A2-537-ISOTOPE-36(14)
L2237800-15B	Plastic 250ml unpreserved	B	NA	NA	6.0	Y	Absent					A2-537-ISOTOPE-36(14)



Project Name: GCL77449
Project Number: GCL77449

Serial_No:08082211:28
Lab Number: L2237800
Report Date: 08/08/22

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA	376-06-7
Perfluorotridecanoic Acid	PFTTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

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GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

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Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

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Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

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REFERENCES

- 134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary****Certification Information**

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625/625.1:** alpha-Terpineol**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.****EPA 522, EPA 537.1.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

C.O.C. edited by M.C. 7/21/22



CHAIN OF CUSTODY RECORD

Page 2 of 2

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040

Email: info@phoenixlabs.com Fax (860) 645-0823

Client Services (860) 645-8726

Customer: Alpha Analytical

Address: 8 Walkup Dr

Westborough, MA

(508) 898-9220

Project #: GCL77449

Report to: HelenG@PhoenixLabs.com / Helen Gieghegan

Invoice to: AccountsPayable@PhoenixLabs.com

Quote#: 13583

Project P.O. GCL77449

This section MUST be completed with Bottle Quantities.

Contact Options:

Fax: 860-645-0823

Phone: 800-827-5426

Email: HelenG@PhoenixLabs.com

Temp °C Pg of

Coolant IPK Yes No

Client Sample - Information - Identification

Sampler's Signature _____ Date _____

Matrix Code:
 DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
 RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
 OIL=Oil B=Bulk L=Liquid

Analysis Request

Client Name: 250ml HDPE Plastic As Is

Client MSMSD

PPS (16) E537 modified

Client Name: 250ml HDPE Plastic As Is

Client MSMSD

PPS (16) E537 modified

Client Name: 250ml HDPE Plastic As Is

Client MSMSD

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Client Name: 250ml HDPE Plastic As Is

Client MSMSD

PPS (16) E537 modified

Client Name: 250ml HDPE Plastic As Is

Client MSMSD

PPS (16) E537 modified

Client Name: 250ml HDPE Plastic As Is

Client MSMSD

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PPS (16) E537 modified

Client Name: 250ml HDPE Plastic As Is

Client MSMSD

PPS (16) E537 modified

Client Name: 250ml HDPE Plastic As Is

Client MSMSD

PPS (16) E537 modified

Client Name: 250ml HDPE Plastic As Is

Client MSMSD

PPS (16) E537 modified</

Appendix F
Historical Laboratory
Analytical Reports

LETTER OF TRANSMITTAL

Environmental Consulting Laboratories, Inc
1005 Boston Post Road
Madison, CT 06443
(203) 245 - 0568
(203) 318 - 0830

Send to: Town of Killingworth		From: Dave Barris	
Attention: Amy Scholtz		Date: 5/27/2021	
Office location:		Office location: Madison	
Fax number:		Phone number: 203-245-0568 ext 11	

Comments:

Attached please find your test results of PFAS testing. Samples were collected by ECL staff and sent to South Central Regional Water Authority for analysis.

CT DPH has set a drinking water action level of 70 ppt or ng/L for five compounds: PFHpA, PFHxS, PFOA, PFOS and PFNA.

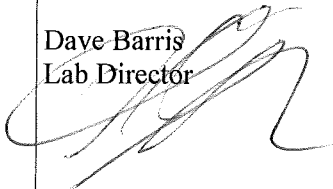
I have totaled the PFAS test results for your review.

See attached Heath Dept. fact sheet as well.

South Central Regional Water Authority test reports are included with field blanks. All Field Blanks were negative for PFAS.

Please give me a call should you have any questions.

Dave Barris
Lab Director



1005 BOSTON POST ROAD
MADISON, CT 06443
Phone 203-245-0568
FAX 203-318-0830
Connecticut Certification PH-0535
www.eclinonline.com



ENVIRONMENTAL
CONSULTING LABORATORIES, INC.

Report of Analysis

Name: Killingworth Elementary School
c/o Regional District 17
PO Box 568, 91 Little City Road
Higganum, CT 06441
Attn: Rob Albert

Sample ID#: 139428
Sample Type: Drinking Water
Sample Source: Well 1
Sampler: ECL - MB
PWS ID: CT0709003

Sample Date: 5/3/2021
Receipt Date: 5/3/2021
Report Date: 5/27/2021
Sample Site: 2

Parameter	Sample Result	Units	Method	MDL	Analysis Date	Analyst
Semivolatile Organics PFAS-Total	91	ng/L	EPA537.1	2	5/11/2021	RWA

DAVID BARRIS - LABORATORY DIRECTOR

JORDAN BARRIS - CO-DIRECTOR

ND = Not Detected

Comments Total PFAS are the sum of the following individual analytes: PFHpA, PFHxS, PFOA, PFOS and PFNA. The maximum recommended level for Total PFAS is 70 ng/L. Refer to attached test results by South Central CT Regional Water Authority PH-0411.

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615520

Subm #: 100206709
Study : FEE SERVICE -
MISCELLANEOUS
Logged : 04-May-2021 12:47 pm
By : GIGLIETTI
Categ. : FEE - MISC.
FEE - MISC.

Type : -FEE- MISC OTHER
(Loca) : -LOGIN
ID : ECL - 139428

KES-Well #1

Customer : ECL
Attn : n/a
Samp Addr: 139428
Samp City : MADISON CT
Collected : 05/03/21 11:00
Loca Desc : 139428

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	6	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	11	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	4	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	34	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	9	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	44	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTTrDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	05/11/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	05/07/21	MM/DD/YY			

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column or in the discussion below. This report is not valid without the cover sheet.

Please note that not all the analytes listed above are NELAP certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Perfluorinated compounds performed by isotope dilution (PFC Isotope) are not certified and New York NELAP only provides certification for PFOA and PFOS by method 537. RWA does maintain certifications in other states for perfluorinated compounds encompassing the entire list found in EPA method 537 and 537.1.

RL - Reporting Limits

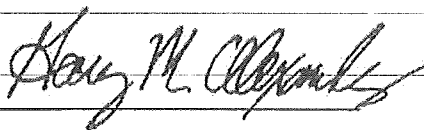
J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615520

Approved by and Date :



MAY 27 2021

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615521

Subm #: 100206709
Study: FEE SERVICE -
MISCELLANEOUS
Logged: 04-May-2021 12:47 pm
By: GIGLIETTI
Categ.: FEE - MISC.
FEE - MISC.

Type: -FEE- MISC OTHER
(Loca): -LOGIN
ID: FB - ECL - 139428

Field Blank -
KES Well #1

Customer: ECL
Attn: n/a
Samp Addr: FB - 139428
Samp City: MADISON CT
Collected: 05/03/21 11:00
Loca Desc: 139428

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	<2	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	<2	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	<2	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	<2	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTTrDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	05/11/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	05/07/21	MM/DD/YY			

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column or in the discussion below. This report is not valid without the cover sheet.

Please note that not all the analytes listed above are NELAP certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.
Perfluorinated compounds performed by isotope dilution (PFC Isotope) are not certified and New York NELAP only provides certification for PFOA and PFOS by method 537. RWA does maintain certifications in other states for perfluorinated compounds encompassing the entire list found in EPA method 537 and 537.1.

RL - Reporting Limits

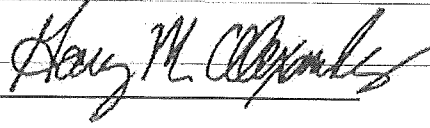
J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615521

Approved by and Date :



MAY 27 2021

1005 BOSTON POST ROAD
MADISON, CT 06443
Phone 203-245-0568
FAX 203-318-0830
Connecticut Certification PH-0535
www.eclinonline.com



ENVIRONMENTAL
CONSULTING LABORATORIES, INC.

Report of Analysis

Name: Killingworth Elementary School
c/o Regional District 17
PO Box 568, 91 Little City Road
Higganum, CT 06441
Attn: Rob Albert

Sample ID#: 139429
Sample Type: Drinking Water
Sample Source: Well 2
Sampler: ECL - MB
PWS ID: CT0709003

Sample Date: 5/3/2021
Receipt Date: 5/3/2021
Report Date: 5/27/2021
Sample Site: 2

Parameter	Sample Result	Units	Method	MDL	Analysis Date	Analyst
Semivolatile Organics PFAS-Total	32	ng/L	EPA537.1	2	5/11/2021	RWA

DAVID BARRIS - LABORATORY DIRECTOR

JORDAN BARRIS - CO-DIRECTOR

ND = Not Detected

Comments Total PFAS are the sum of the following individual analytes: PFHpA, PFHxS, PFOA, PFOS and PFNA. The maximum recommended level for Total PFAS is 70 ng/L. Refer to attached test results by South Central CT Regional Water Authority PH-0411.

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615522

Subm #: 100206709
Study: FEE SERVICE -
MISCELLANEOUS
Logged: 04-May-2021 12:47 pm
By: GIGLIETTI
Categ.: FEE - MISC.
FEE - MISC.

Type: -FEE- MISC OTHER
(Loca): -LOGIN
ID: ECL - 139429

KES-Well #2

Customer: ECL
Attn: n/a
Samp Addr: 139429
Samp City: MADISON CT
Collected: 05/03/21 11:00
Loca Desc: 139429

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	4	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	6	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	2	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	11	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	6	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	13	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9CI-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11CI-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDaA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	05/11/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	05/07/21	MM/DD/YY			

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column or in the discussion below. This report is not valid without the cover sheet.

Please note that not all the analytes listed above are NELAP certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Perfluorinated compounds performed by isotope dilution (PFC Isotope) are not certified and New York NELAP only provides certification for PFOA and PFOS by method 537. RWA does maintain certifications in other states for perfluorinated compounds encompassing the entire list found in EPA method 537 and 537.1.

RL - Reporting Limits

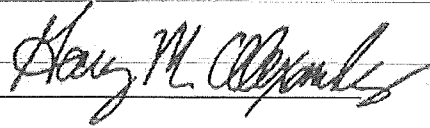
J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615522

Approved by and Date :



MAY 27 2021

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615523

Subm # : 100206709
Study : FEE SERVICE -
MISCELLANEOUS
Logged : 04-May-2021 12:47 pm
By : GIGLIETTI
Categ. : FEE - MISC.
FEE - MISC.

Type : -FEE- MISC OTHER
(Loca) : -LOGIN
ID : FB - ECL - 139429

Field Blank -
KES #2

Customer : ECL
Attn : n/a
Samp Addr: FB - 139429
Samp City : MADISON CT
Collected : 05/03/21 11:00
Loca Desc : 139429

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	<2	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	<2	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	<2	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	<2	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTTrDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	05/11/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	05/07/21	MM/DD/YY			

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column or in the discussion below. This report is not valid without the cover sheet.

Please note that not all the analytes listed above are NELAP certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Perfluorinated compounds performed by isotope dilution (PFC Isotope) are not certified and New York NELAP only provides certification for PFOA and PFOS by method 537. RWA does maintain certifications in other states for perfluorinated compounds encompassing the entire list found in EPA method 537 and 537.1.

RL - Reporting Limits

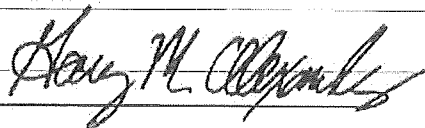
J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615523

Approved by and Date :



MAY 27 2021

1005 BOSTON POST ROAD
MADISON, CT 06443
Phone 203-245-0568
FAX 203-318-0830
Connecticut Certification PH-0535
www.eclinonline.com



ENVIRONMENTAL
CONSULTING LABORATORIES, INC.

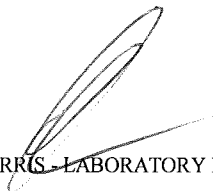
Report of Analysis

Name: Killingworth Town Hall
c/o Town of Killingworth Health Dept.
Town Office Building - 323 Rte. 81
Killingworth, CT 06417
Attn: Ms. Amy Scholtz

Sample ID#: 139430
Sample Type: Drinking Water
Sample Source: Town Hall - Kitchen Sink
Sampler: ECL - MB
PWS ID: CT0700204

Sample Date: 5/3/2021
Receipt Date: 5/3/2021
Report Date: 5/27/2021
Sample Site: 4

Parameter	Sample Result	Units	Method	MDL	Analysis Date	Analyst
Semivolatile Organics PFAS-Total	1675	ng/L	EPA537.1	2	5/11/2021	RWA


DAVID BARRIS - LABORATORY DIRECTOR

JORDAN BARRIS - CO-DIRECTOR

ND = Not Detected

Comments Total PFAS are the sum of the following individual analytes: PFHpA, PFHxS, PFOA, PFOS and PFNA. The maximum recommended level for Total PFAS is 70 ng/L. Refer to attached test results by South Central CT Regional Water Authority PH-0411.

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615524

Subm #: 100206709
Study: FEE SERVICE -
MISCELLANEOUS
Logged: 04-May-2021 12:47 pm
By: GIGLIETTI
Categ.: FEE - MISC.
FEE - MISC.

Type: -FEE- MISC OTHER
(Loca): -LOGIN
ID: ECL - 139430

Town Hall

Customer: ECL
Attn: n/a
Samp Addr: 139430
Samp City: MADISON CT
Collected: 05/03/21 10:10
Loca Desc: 139430

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	103	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	106	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	41	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	651	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	51	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	918	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	14	ng/L	2	EPA 537.1	
9CI-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11CI-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTTrDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	05/11/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	05/07/21	MM/DD/YY			

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column or in the discussion below. This report is not valid without the cover sheet.

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RL - Reporting Limits

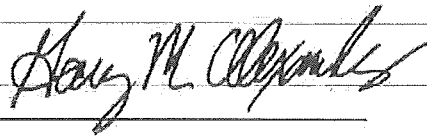
J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615524

Approved by and Date :



MAY 27 2021

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615525

Subm #: 100206709

Type : -FEE- MISC OTHER

Customer : ECL

Study : FEE SERVICE -
MISCELLANEOUS

(Loca) : -LOGIN

Attn : n/a

Logged : 04-May-2021 12:47 pm

ID : FB - ECL - 139430

Samp Addr: FB - 139430

By : GIGLIETTI

Field Blank-
Town Hall

Samp City : MADISON CT

Categ. : FEE - MISC.

Collected : 05/03/21 10:10

FEE - MISC.

Loca Desc : 139430

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	<2	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	<2	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	<2	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	<2	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3- oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3- oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTTrDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	05/11/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	05/07/21	MM/DD/YY			

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column or in the discussion below. This report is not valid without the cover sheet.

Please note that not all the analytes listed above are NELAP certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Perfluorinated compounds performed by isotope dilution (PFC Isotope) are not certified and New York NELAP only provides certification for PFOA and PFOS by method 537. RWA does maintain certifications in other states for perfluorinated compounds encompassing the entire list found in EPA method 537 and 537.1.

RL - Reporting Limits

J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615525

Approved by and Date :



MAY 27 2021

1005 BOSTON POST ROAD
MADISON, CT 06443
Phone 203-245-0568
FAX 203-318-0830
Connecticut Certification PH-0535
www.eclinonline.com



ENVIRONMENTAL
CONSULTING LABORATORIES, INC.

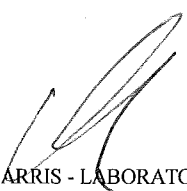
Report of Analysis

Name: Killingworth Town Hall
c/o Town of Killingworth Health Dept.
Town Office Building - 323 Rte. 81
Killingworth, CT 06417
Attn: Ms. Amy Scholtz

Sample ID#: 139431
Sample Type: Drinking Water
Sample Source: Town Garage - Entry Point
Sampler: ECL - MB
PWS ID: CT0700204

Sample Date: 5/3/2021
Receipt Date: 5/3/2021
Report Date: 5/27/2021
Sample Site: 3

Parameter	Sample Result	Units	Method	MDL	Analysis Date	Analyst
Semivolatile Organics PFAS-Total	2474	ng/L	EPA537.1	2	5/11/2021	RWA


DAVID BARRIS - LABORATORY DIRECTOR

JORDAN BARRIS - CO-DIRECTOR

ND = Not Detected

Comments Total PFAS are the sum of the following individual analytes: PFHpA, PFHxS, PFOA, PFOS and PFNA. The maximum recommended level for Total PFAS is 70 ng/L. Refer to attached test results by South Central CT Regional Water Authority PH-0411.

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615526

Subm #: 100206709
Study : FEE SERVICE -
MISCELLANEOUS
Logged : 04-May-2021 12:47 pm
By : GIGLIETTI
Categ.: FEE - MISC.
FEE - MISC.

Type : -FEE- MISC OTHER
(Loca) : -LOGIN
ID : ECL - 139431

Customer : ECL
Attn : n/a
Samp Addr: 139431
Samp City : MADISON CT
Collected : 05/03/21 10:30
Loca Desc : 139431

Town Garage

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	106	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	135	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	63	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	801	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	65	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	1521	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	24	ng/L	2	EPA 537.1	
9CI-PF3ONS 9-chlorohexadecafluoro-3- oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	4	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11CI-PF3OUdS 11-chloroeicosafluoro-3- oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTTrDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	05/11/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	05/07/21	MM/DD/YY			

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RL - Reporting Limits

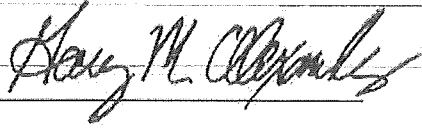
J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615526

Approved by and Date :



MAY 27 2021

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615527

Subm #: 100206709

Type : -FEE- MISC OTHER

Customer : ECL

Study : FEE SERVICE -
MISCELLANEOUS

(Loca) : -LOGIN

Attn : n/a

Logged : 04-May-2021 12:47 pm

ID : FB - ECL - 139431

Samp Addr: FB - 139431

By : GIGLIETTI

Field Blank -
Town Garage

Samp City : MADISON CT

Categ. : FEE - MISC.

Collected : 05/03/21 10:30

FEE - MISC.

Loca Desc : 139431

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	<2	ng/L	2	EPA 537.1	
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ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	<2	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
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DATE OF ANALYSIS REQUIRED	05/11/21	MM/DD/YY			
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RL - Reporting Limits

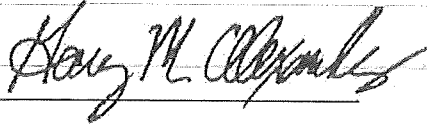
J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 27-MAY-2021 12:35 PM

Sample Number: 200615527

Approved by and Date :



MAY 27 2021



Chain of Custody Form

Company Environmental Consulting Laboratories, Inc

1005 Boston Post Road

Madison, Ct 06443

Sampler

PO Number:

RWA LIMS
NumberDate
Collected

Collected

Time
Collected

Location

Sample ID /

Cl2 Free / Cl2 Total

Cl2 Free / Cl2 Total

72-731100

72-731100

2006-07-28

26011572

555146-1

555146-1

✓ 55170 ✓

✓ 55170 ✓

Relinquished By (Signature):

Relinquished by (Signature):

Date & Time: 5/4/12

Date & Time: 5/4/21 9:40am

Received By (Signature):

Received By (Signature):

Date & Time:

Date & Time: 5/4/21 9:41

Date & Time:

State Sample Collected:

CT ☒ NY ☐ Other(specify) _____

Thermometer ID:

Evidence of Cooling (Circle): ☒ Y or ☐ N

Cooler Temp °C:

Container & Preservative Meet Criteria

(Circle): Yes/ No

Remarks

Number of Bottles

Lab Comments:

CONSULTING LABORATORIES, INC.

(203) 245-0568 P'

Client: Killingworth Town Hall c/o Town of Killingworth Health Dept. Contact: Paul Hutcheon Address: Town Office Bldg. 323 Rte. 81 Killingworth CT 06419 Phone: _____ Fax: _____										Project: Killingworth Town Garage 301 RT. 81 Killingworth, CT										(203) 318-0830 Fax																																																																															
PWSID#: _____ System Type: _____										Samplers Name: (Print) <u>M. Bond</u>										All bacteria samples must have corresponding field chlorine residual recorded																																																																															
Sample Point ID 00700										Sample Point Description Entry Point										Date 5/3										Time 10:30 AM										Sample Type RT/RP/NC/RS NC										Repeat Code OR/DN/UP/O										# of Containers 4										PFAS X										Required Analysis										Cl ₂ Res. ECL Sample I.D.# 139431									
Relinquished by: <u>[Signature]</u>										Date 5/3/11										Time 12:00 PM										Received by: <u>[Signature]</u>										Were Samples received within holding time? Y/N Were Samples chilled upon receipt? Y/N Were Samples in appropriate containers? Y/N If No Explain _____																																																											
Relinquished by: _____										Date _____										Time _____										Received by: _____										Are containers broken/leaking? Y/N Did Samples need to be split upon receipt? Y/N Were Samples preserved properly? Y/N																																																											

LETTER OF TRANSMITTAL

Environmental Consulting Laboratories, Inc
1005 Boston Post Road
Madison, CT 06443
(203) 245 - 0568
(203) 318 - 0830

Send to: Town of Killingworth		From: Dave Barris	
Attention: Amy Scholtz		Date: 4/22/2021	
Office location:		Office location: Madison	
Fax number:		Phone number: ext 11	

Comments:

Attached please find your test results of PFAS testing. Samples were collected by ECL staff and sent to South Central Regional Water Authority for analysis.

CT DPH has set a drinking water action level of 70 ppt or ng/L for five compounds: PFHpA, PFHxS, PFOA, PFOS and PFNA.

I have totaled the PFAS test results for your review.

See attached Heath Dept. fact sheet as well.

South Central Regional Water Authority test reports are included with field blanks. All Field Blanks were negative for PFAS.

Please give me a call should you have any questions.

Dave Barris
Lab Director

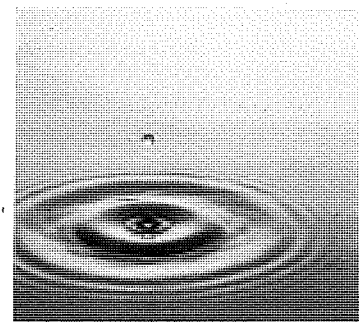


Per- and polyfluoroalkyl Substances (PFAS) in Drinking Water: Health Concerns

Environmental & Occupational Health Assessment Program • March 2021

What are these chemicals and where do they come from?

Per- and polyfluoroalkyl substances (PFAS) are a family of over 5,000 man-made chemicals with many useful properties including the ability to repel water, prevent staining and increase heat resistance. PFAS have many industrial and consumer uses including the coating of fabrics, carpets, electrical wire, and non-stick cookware, in food packaging (e.g., microwave popcorn bags), as a mist suppressant in metal plating, and in firefighting foam used by firefighters to put out petroleum fires, but not typically in home fire extinguishers.



The four most studied PFAS, perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS), perfluorononanoic acid (PFNA) and perfluorohexane sulfonic acid (PFHxS), are found with the highest frequencies and concentrations in the environment and in humans and wildlife. We know the most about the harmful effects and environmental fate of these four PFAS and are learning more about several other PFAS including perfluoroheptanoic acid (PFHpA). While PFOS and PFOA have been phased out of production, they are very persistent chemicals which can remain in the environment for long periods after being removed from the marketplace.

How do PFAS get into drinking water?

The way in which these chemicals reach groundwater is still being investigated. Drinking water contamination has occurred near industries manufacturing or using these chemicals to make consumer products. PFAS use at metal plating facilities for mist suppressant can also be a source of groundwater contamination. Because of their use in firefighting foams, it is possible that fire training schools, airports and sites where there was a major fire may have releases of PFAS. Once on the ground, these chemicals can gradually migrate down through the soil when it rains and affect groundwater.

Does Connecticut have a widespread PFAS problem?

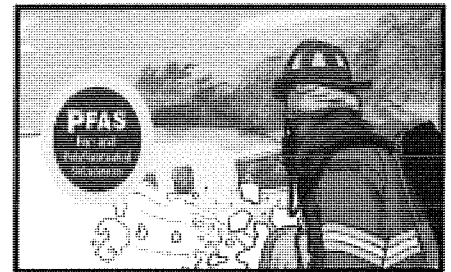
During the period 2013 –2015, Connecticut public water supply systems participated in the federal government's testing program (Unregulated Contaminant Monitoring Rule or UCMR) for 6 PFAS, including the five PFAS included in the Connecticut Department of Public Health (DPH) drinking water Action Level. None of the 29 large water systems tested at 129 locations had detectable levels of the 6 PFAS, which suggests that Connecticut does not have a widespread problem. However, there may be localized areas of contamination where these chemicals were more heavily used. Therefore, DPH and the Department of Energy and Environmental Protection (DEEP) are investigating where PFAS contamination of groundwater may have occurred and potentially affected local drinking water supplies.

What are PFAS health effects?

The main health concerns from ingestion of PFOS, PFOA, PFNA, PFHxS and related PFAS come from studies in laboratory animals which consistently show effects on the liver and immune system, and on growth, reproduction and fetal development. PFAS can also affect the endocrine and hormonal systems and can disturb blood lipids. Studies of human populations exposed to elevated levels of PFOS, PFOA, PFNA, and PFHxS generally support the effects seen in animals. Some studies have also shown an increased risk for kidney cancer, and at very high exposure levels, for testicular cancer. Our bodies eliminate these chemicals very slowly, so with continued exposure they can build up over time. Therefore even low levels in drinking water may increase your risk of developing a variety of health risks if exposure is long term (months to years). Exposure to PFAS above the CT Action Level does not necessarily mean that health effects will happen.

How can I be exposed to PFAS?

Nearly everyone has low levels of PFOA, PFOS, PFNA and PFHxS in their blood. These background levels likely come from consumer products and food packaging. You may still have some PFAS in your body years after the chemicals have been phased out because of their slow removal from the body.



Additional exposure can occur from eating PFAS-contaminated foods and consuming drinking water contaminated with PFAS. The CT DPH and DEEP are investigating where these chemicals may have been used in Connecticut to understand which groundwater supplies may be at risk. However, let your local health department, DPH, or DEEP know if you have reason to believe that there is a source of these chemicals in your neighborhood or workplace.

PFAS are not readily absorbed by your skin, so bathing, showering, swimming and washing dishes in water containing PFAS is not a significant source of exposure.

Should I get my blood tested for PFAS?

There is no need to have your blood tested for these chemicals. As noted above, nearly everyone has low levels of the four most studied PFAS in their blood. A PFAS blood test can tell you how much of each specific PFAS is in your body at the time of the test. However, finding measurable amounts of PFAS in your blood does not imply that the levels of PFAS have caused, or will cause adverse health effects. Also, PFAS blood tests cannot tell you where or how you were exposed to the PFAS in your body, and the test results cannot be used by your doctor to guide treatment decisions.

What is the drinking water standard?

There is no federal enforceable standard (Maximum Contaminant Level or MCL) for any chemical in the PFAS family. However, the US Environmental Protection Agency (EPA) issued a drinking water lifetime Health Advisory in 2016 for PFOS and PFOA of 70 parts per trillion (ppt) for either contaminant alone or for the sum of the two. EPA intended for the advisory level to be protective of all health effects (including cancer) for all potential consumers of the water.

Also in 2016, CT DPH set a drinking water Action Level in for PFAS that is the same as the EPA Health Advisory (70 ppt) but added three additional PFAS (PFNA, PFHxS, PFHpA) to the group. The sum of this group of 5 PFAS must be below the target concentration of 70 ppt. These additional PFAS have produced some of the same health effects as PFOS and PFOA.

Action Levels are not enforceable standards. DEEP and local health departments use Action Levels to help them evaluate groundwater contamination and identify private wells that may need an alternative drinking water source or treatment to reduce contaminant concentrations. Action Levels may also be used as guidelines for public water in the absence of enforceable standards.

CT DPH is tracking the rapidly evolving science on PFAS exposure and health effects and is aware that several states have recently set their own drinking water guidelines and standards for individual PFAS chemicals that are more stringent than CT DPH's current Action Levels. CT DPH is currently evaluating the need to update its 2016 PFAS Action Level.

Should I test my water for these chemicals?

No. If you drink from a public water supply, your water system may have already been tested during the 2013-2015 round of UCMR testing or through other proactive sampling conducted by your water supplier. If you have reason to believe your private well needs to be tested, let DEEP, DPH, or your local health department know of your concerns.

For More Information:

Questions about drinking water from Public Supplies:

DPH Drinking Water Section: 860-509-7333 or email to dwdcompliance@ct.gov

Questions on drinking from Private Wells and treatment options:

DPH Private Well Program: 860-509-8401 or email to DPH.PrivateWellProgram@ct.gov

Questions about PFAS Health Effects:

DPH Environmental & Occupational Health Assessment Program: (860) 509-7740 or email to DPH.EOHA@ct.gov

Questions on PFAS Sources:

DEEP Remediation Division: 860-424-3705

1005 BOSTON POST ROAD
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Phone 203-245-0568
FAX 203-318-0830
Connecticut Certification PH-0535
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ENVIRONMENTAL
CONSULTING LABORATORIES, INC.

Report of Analysis

Name: Killingworth Library
c/o Town of Killingworth Health Dept.
Town Office Building - 323 Rte. 81
Killingworth, CT 06419
Attn: Mr. Paul Hutcheon

Sample ID#: 138725
Sample Type: Drinking Water
Sample Source: Entry Point
Sampler: ECL - MB
PWS ID: CT0700144

Sample Date: 3/30/2021
Receipt Date: 3/30/2021
Report Date: 4/22/2021
Sample Site: 3

Parameter	Sample Result	Units	Method	MDL	Analysis Date	Analyst
Semivolatile Organics PFAS-Total	ND	ng/L	EPA537.1	2	4/6/2021	RWA

DAVID BARRIS - LABORATORY DIRECTOR

JORDAN BARRIS - CO-DIRECTOR

ND = Not Detected

Comments Total PFAS are the sum of the following individual analytes: PFHpA, PFHxS, PFOA, PFOS and PFNA. The maximum recommended level for Total PFAS is 70 ng/L. Refer to attached test results by South Central CT Regional Water Authority PH-0411.

FINAL REPORT

Report Date: 21-APR-2021 07:01 AM

Sample Number: 200611379

Subm #: 100205148

Type: -FEE- MISC OTHER

Customer: ECL

Study: FEE SERVICE -
MISCELLANEOUS

(Loca): -LOGIN

Attn: n/a

Logged: 31-Mar-2021 10:27 am

ID: ECL - 138725

Samp Addr: 138725

By: GIGLIETTI

Library

Samp City: MADISON CT

Categ.: FEE - MISC.

Collected: 03/30/21 09:10

FEE - MISC.

Loca Desc: 138725

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	<2	ng/L	2	EPA 537.1	
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PFHxS PerFluoroHexaneSulfonic acid	<2	ng/L	2	EPA 537.1	
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PFOA PerFluoroOctanoic Acid	<2	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9CI-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11CI-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTTrDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	04/06/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	04/01/21	MM/DD/YY			

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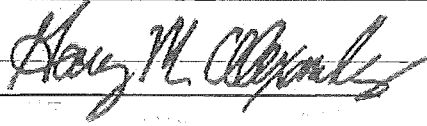
J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 21-APR-2021 07:01 AM

Sample Number: 200611379

Approved by and Date :



APR 21 2021

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611380

Subm #: 100205148

Type: -FEE- MISC OTHER

Customer: ECL

Study: FEE SERVICE -
MISCELLANEOUS

(Loca): -LOGIN

Attn: n/a

Logged: 31-Mar-2021 10:27 am

ID: FB - ECL - 138725

Samp Addr: FB -138725

By: GIGLIETTI

Field Blank -
Library

Samp City: MADISON CT

Categ.: FEE - MISC.

Collected: 03/30/21 09:10

FEE - MISC.

Loca Desc: 138725

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	<2	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	<2	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	<2	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	<2	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTrDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	04/06/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	04/01/21	MM/DD/YY			

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column or in the discussion below. This report is not valid without the cover sheet.

Please note that not all the analytes listed above are NELAP certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Perfluorinated compounds performed by isotope dilution (PFC Isotope) are not certified and New York NELAP only provides certification for PFOA and PFOS by method 537. RWA does maintain certifications in other states for perfluorinated compounds encompassing the entire list found in EPA method 537 and 537.1.

RL - Reporting Limits

J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611380

Approved by and Date :



APR 21 2021

CONSULTING LABORATORIES, INC.

Client: Killingworth Library c/o Town of Killingworth Health Dept.

Address: Town Office Bldg. 323 Rte. 81 Killingworth CT 06419

Fax:

Samplers Name: (Print)

6: Ke

[illegible]

ed by:

3/30/81

11:00 am

Received by: Jordan Davis

1000

Date

Time

Were Samples received within holding time? Y N
 Were Samples chilled upon receipt? Y N
 Were Samples in appropriate containers? Y N
 If No Explain _____

Are containers broken/leaking? Y/N
Did Samples need to be split upon receipt? Y/N
Were Samples preserved properly? Y/N

1005 BOSTON POST ROAD
MADISON, CT 06443
Phone 203-245-0568
FAX 203-318-0830
Connecticut Certification PH-0535
www.eclinonline.com



Report of Analysis

Name: Killingworth Town Hall
c/o Town of Killingworth Health Dept.
Town Office Building - 323 Rte. 81
Killingworth, CT 06417
Attn: Mr. Paul Hutcheon

Sample ID#: 138726
Sample Type: Drinking Water
Sample Source: Entry Point - Fire House
Sampler: ECL - MB
PWS ID: CT0700204

Sample Date: 3/30/2021
Receipt Date: 3/30/2021
Report Date: 4/22/2021
Sample Site: 3

Parameter	Sample Result	Units	Method	MDL	Analysis Date	Analyst
Semivolatile Organics PFAS-Total	1788	ng/L	EPA537.1	2	4/6/2021	RWA


DAVID BARRIS - LABORATORY DIRECTOR

JORDAN BARRIS - CO-DIRECTOR

ND = Not Detected

Comments Total PFAS are the sum of the following individual analytes: PFHpA, PFHxS, PFOA, PFOS and PFNA. The maximum recommended level for Total PFAS is 70 ng/L. Refer to attached test results by South Central CT Regional Water Authority PH-0411.

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611381

Subm #: 100205148

Type : -FEE- MISC OTHER

Customer : ECL

Study : FEE SERVICE -
MISCELLANEOUS

(Loca): -LOGIN

Attn : n/a

Logged : 31-Mar-2021 10:27 am

ID : ECL - 138726

Samp Addr: 138726

By : GIGLIETTI

Fire House

Samp City : MADISON CT

Categ. : FEE - MISC.

Collected : 03/30/21 09:30

FEE - MISC.

Loca Desc : 138726

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	88	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	123	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	38	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	693	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	43	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	1003	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	11	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3- oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3- oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTDA PerFluoroTridecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	04/06/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	04/01/21	MM/DD/YY			

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column or in the discussion below. This report is not valid without the cover sheet.

Please note that not all the analytes listed above are NELAP certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Perfluorinated compounds performed by isotope dilution (PFC Isotope) are not certified and New York NELAP only provides certification for PFOA and PFOS by method 537. RWA does maintain certifications in other states for perfluorinated compounds encompassing the entire list found in EPA method 537 and 537.1.

RL - Reporting Limits

J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM



Sample Number: 200611381

Approved by and Date :

APR 21 2021

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611382

Subm #: 100205148

Type : -FEE- MISC OTHER

Customer : ECL

Study : FEE SERVICE -
MISCELLANEOUS

(Loca) : -LOGIN

Attn : n/a

Logged : 31-Mar-2021 10:27 am

ID : FB - ECL - 138726

Samp Addr: FB - 138726

By : GIGLIETTI

Field Blank -
Fire House

Samp City : MADISON CT

Categ.: FEE - MISC.

Collected : 03/30/21 09:30

FEE - MISC.

Loca Desc : 138726

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	<2	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	<2	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	<2	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	<2	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3- oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3- oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTriDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	04/06/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	04/01/21	MM/DD/YY			

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column or in the discussion below. This report is not valid without the cover sheet.

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Perfluorinated compounds performed by isotope dilution (PFC Isotope) are not certified and New York NELAP only provides certification for PFOA and PFOS by method 537. RWA does maintain certifications in other states for perfluorinated compounds encompassing the entire list found in EPA method 537 and 537.1.

RL - Reporting Limits

J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611382

Approved by and Date :



APR 21 2021

CONSULTING LABORATORIES, INC.

Client: Killingworth Town Hall c/o Town of Killingworth Health Dept.
Contact: Paul Hutcheon
Address: Town Office Bldg. 323 Rte. 81 Killingworth CT 06419
Phone: Fax:

Samplers Name: (Print)

WSFID	Sample Point ID

Sample Point	Description

Date _____

Time

Sample Type

Repeat Code

of

AS

AS

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ECI Sample

Res.	LCL sample ID #
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[illegible]

JOURNAL OF DOCUMENTATION

holding time? Y/N

cept? Y/N Y
containers? Y/N Y

CONTENTS

N/A

upon receipt? Y / N

belly: 17/N

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0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

1005 BOSTON POST ROAD
MADISON, CT 06443
Phone 203-245-0568
FAX 203-318-0830
Connecticut Certification PH-0535
www.eclinonline.com



Report of Analysis

Name: Killingworth Elementary School
c/o Regional District 17
PO Box 568, 91 Little City Road
Higganum, CT 06441
Attn: Rob Albert

Sample ID#: 138727
Sample Type: Drinking Water
Sample Source: Entry Point
Sampler: ECL - MB
PWS ID: CT0709003

Sample Date: 3/30/2021
Receipt Date: 3/30/2021
Report Date: 4/22/2021
Sample Site: 3

Parameter	Sample Result	Units	Method	MDL	Analysis Date	Analyst
Semivolatile Organics PFAS-Total	47	ng/L	EPA537.1	2	4/6/2021	RWA


DAVID BARRIS - LABORATORY DIRECTOR

JORDAN BARRIS - CO-DIRECTOR

ND = Not Detected

Comments Total PFAS are the sum of the following individual analytes: PFHpA, PFHxS, PFOA, PFOS and PFNA. The maximum recommended level for Total PFAS is 70 ng/L. Refer to attached test results by South Central Ct Regional Water Authority PH-0411.

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611383

Subm #: 100205148

Type: -FEE- MISC OTHER

Customer: ECL

Study: FEE SERVICE -
MISCELLANEOUS

(Loca): -LOGIN

Attn: n/a

Logged: 31-Mar-2021 10:27 am

ID: ECL - 138727

Samp Addr: 138727

By: GIGLIETTI

K.E.S

Samp City: MADISON CT

Categ.: FEE - MISC.

Collected: 03/30/21 10:00

FEE - MISC.

Loca Desc: 138727

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	3	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	7	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	3	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	17	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	5	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	22	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3- oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3- oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTrDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	04/06/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	04/01/21	MM/DD/YY			

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RL - Reporting Limits

J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611383

Approved by and Date :



APR 21 2021

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611384

Subm #: 100205148

Type: -FEE- MISC OTHER

Customer: ECL

Study: FEE SERVICE -
MISCELLANEOUS

(Loca): -LOGIN

Attn: n/a

Logged: 31-Mar-2021 10:27 am

ID: FB - ECL - 138727

Samp Addr: FB - 138727

By: GIGLIETTI

Field Blank -
K.E.S.

Samp City: MADISON CT

Categ.: FEE - MISC.

Collected: 03/30/21 10:00

FEE - MISC.

Loca Desc: 138727

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	<2	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	<2	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	<2	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	<2	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	04/06/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	04/01/21	MM/DD/YY			

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Please note that not all the analytes listed above are NELAP certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

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RL - Reporting Limits

J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611384

Approved by and Date :



APR 21 2021

CONSULTING LABORATORIES, INC.

(203) 245-0568 P
(203) 318-0830 Fax

[illegible]

1005 BOSTON POST ROAD
MADISON, CT 06443
Phone 203-245-0568
FAX 203-318-0830
Connecticut Certification PH-0535
www.eclinonline.com



Report of Analysis

Name: HK Middle School
c/o Regional District 17
Central Office - 57 Little City Road
Higganum, CT 06441
Attn: Rob Albert

Sample ID#: 138728
Sample Type: Drinking Water
Sample Source: Entry Point
Sampler: ECL - MB
PWS ID: CT0709153

Sample Date: 3/30/2021
Receipt Date: 3/30/2021
Report Date: 4/22/2021
Sample Site: 3

Parameter	Sample Result	Units	Method	MDL	Analysis Date	Analyst
Semivolatile Organics PFAS-Total	6	ng/L	EPA537.1	2	4/6/2021	RWA

A handwritten signature in black ink, appearing to be "David Barris", is written over a faint, circular background.

DAVID BARRIS - LABORATORY DIRECTOR

JORDAN BARRIS - CO-DIRECTOR

ND = Not Detected

Comments Total PFAS are the sum of the following individual analytes: PFHpA, PFHxS, PFOA, PFOS and PFNA. The maximum recommended level for Total PFAS is 70 ng/L. Refer to attached test results by South Central CT Regional Water Authority PH-0411.

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611385

Subm #: 100205148

Type: -FEE- MISC OTHER

Customer: ECL

Study: FEE SERVICE -
MISCELLANEOUS

(Loca): -LOGIN

Attn: n/a

Logged: 31-Mar-2021 10:27 am

ID: ECL - 138728

Samp Addr: 138728

By: GIGLIETTI

H.K.M.S

Samp City: MADISON CT

Categ.: FEE - MISC.

Collected: 03/30/21 10:30

FEE - MISC.

Loca Desc: 138728

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	<2	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	<2	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	<2	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	2	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	4	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3- oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3- oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	04/06/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	04/01/21	MM/DD/YY			

All parameters were analyzed in accordance with EPA approved methods EXCEPT where noted in 'COMMENTS' column or in the discussion below. This report is not valid without the cover sheet.

Please note that not all the analytes listed above are NELAP certified. For identification of specific analytes maintaining this certification please contact the Laboratory Manager.

Perfluorinated compounds performed by isotope dilution (PFC Isotope) are not certified and New York NELAP only provides certification for PFOA and PFOS by method 537. RWA does maintain certifications in other states for perfluorinated compounds encompassing the entire list found in EPA method 537 and 537.1.

RL - Reporting Limits

J - The reported result is an estimate. The value is less than the minimum calibration level but greater than the calculated method detection limit (MDL)

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611385

Approved by and Date :



APR 21 2021

FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611386

Subm #: 100205148

Type: -FEE- MISC OTHER

Customer: ECL

Study: FEE SERVICE -
MISCELLANEOUS

(Loca): -LOGIN

Attn: n/a

Logged: 31-Mar-2021 10:27 am

ID: FB - ECL - 138728

Samp Addr: FB - 138728

By: GIGLIETTI

Field Blank -
H.K.M.S

Samp City: MADISON CT

Categ.: FEE - MISC.

Collected: 03/30/21 10:30

FEE - MISC.

Loca Desc: 138728

PARAMETER	RESULT	UNITS	RL	METHOD	COMMENTS
PFBS PerFluoroButaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFHxA PerFluoroHeXanoic Acid	<2	ng/L	2	EPA 537.1	
HFPO-DA HexaFluoroPropylene Oxide Dimer Acid	<2	ng/L	2	EPA 537.1	
PFHpA PerFluoroHeptanoic Acid	<2	ng/L	2	EPA 537.1	
PFHxS PerFluoroHexaneSulfonic acid	<2	ng/L	2	EPA 537.1	
ADONA 4,8-dioxa-3H-perfluorononanoic acid	<2	ng/L	2	EPA 537.1	
PFOA PerFluoroOctanoic Acid	<2	ng/L	2	EPA 537.1	
PFOS PerFluoroOctaneSulfonic acid	<2	ng/L	2	EPA 537.1	
PFNA PerFluoroNonanoic Acid	<2	ng/L	2	EPA 537.1	
9Cl-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
PFDA PerFluoroDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFUnA PerFluoroUndecanoic Acid	<2	ng/L	2	EPA 537.1	
11Cl-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	<2	ng/L	2	EPA 537.1	
NMeFOSAA N-Methyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
NEtFOSAA N-Ethyl perFluoroOctaneSulfonamidoAcetic Acid	<2	ng/L	2	EPA 537.1	
PFDoA PerFluoroDodecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTrDA PerFluoroTriDecanoic Acid	<2	ng/L	2	EPA 537.1	
PFTA PerFluoroTetradecanoic Acid	<2	ng/L	2	EPA 537.1	
DATE OF ANALYSIS REQUIRED	04/06/21	MM/DD/YY			
DATE OF EXTRACTION REQUIRED	04/01/21	MM/DD/YY			

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FINAL REPORT

Report Date: 21-APR-2021 07:02 AM

Sample Number: 200611386

Approved by and Date :



APR 21 2021

**ENVIRONMENTAL
CONSULTING LABORATORIES, INC.**

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