Lauridsen, Keld B - DNR

From: Lauridsen, Keld B - DNR
Sent: Friday, August 20, 2021 12:32 PM
To: Hassett, Mike P
Cc: Christopher, Michael L; Council, Greg; Savale, Michael; Nobile, Trevor W - DNR; McKnight, Kevin - DNR; Chronert, Roxanne N - DNR
Subject: RE: PFAS investigation Summary Report - Ashview Terrace Apartments, BRRTS #: 02-05-564043

Hi Mike,

If needed, I would be happy to have a conference call to discuss the DNR recommendation to collect a confirmatory groundwater sampling round for PFAS from the newly installed wells at the above referenced site. The main reason for asking for an additional round of groundwater sampling is to have more data to make a more informed regulatory decision on how to proceed. Note that PFAS compounds were detected in groundwater above the proposed ES and/or PAL at the three monitoring wells sampled. Hopefully, it will also be possible to determine the actual groundwater flow direction at the site.

Let me know if you would like to discuss this further.

Have a nice weekend.

-Keld

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Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Keld B. Lauridsen
Phone: (920) 510 8294
Keld.Lauridsen@wisconsin.gov

From: Hassett, Mike P <Mike.Hassett@gapac.com>
Sent: Friday, August 20, 2021 10:37 AM
To: Lauridsen, Keld B - DNR <Keld.Lauridsen@wisconsin.gov>; Savale, Michael <Michael.Savale@tetratech.com>
Cc: Christopher, Michael L <Michael.Christopher@GAPAC.com>; Council, Greg <greg.council@tetratech.com>; Nobile, Trevor W - DNR <Trevor.Nobile@wisconsin.gov>; McKnight, Kevin - DNR <Kevin.McKnight@wisconsin.gov>
Subject: RE: PFAS investigation Summary Report - Ashview Terrace Apartments, BRRTS #: 02-05-564043

Hi Keld,

Thank you for your review and comments. Generally speaking, GP is not averse to collecting additional groundwater samples from the recently installed wells. That being said, we were wondering if you and your team would be available for a brief call to discuss the objectives of the sampling. We understand that PFAS standards in groundwater are under development and in the absence of promulgated groundwater standards, we are just trying to understand to what extent collecting additional data at this time will provide information to determine appropriate next steps.

Thank you,
Mike

From: Lauridsen, Keld B - DNR <Keld.Lauridsen@wisconsin.gov>
Sent: Wednesday, August 18, 2021 5:29 PM
To: Savale, Michael <Michael.Savale@tetratech.com>
Cc: Christopher, Michael L <Michael.Christopher@GAPAC.com>; Hassett, Mike P <Mike.Hassett@gapac.com>; Council, Greg <greg.council@tetratech.com>; Nobile, Trevor W - DNR <Trevor.Nobile@wisconsin.gov>; McKnight, Kevin - DNR <Kevin.McKnight@wisconsin.gov>
Subject: RE: PFAS investigation Summary Report - Ashview Terrace Apartments, BRRTS #: 02-05-564043

Sent by an external sender

Hi Mike,

DNR has reviewed the PFAS soil and groundwater sampling results for the above referenced site provided in the *PFAS Investigation Summary Report* received via email on July 22, 2021. No hard copy is needed at this time.

Based on this review, DNR recommends that the three newly installed monitoring wells be resampled for PFAS in order to confirm the initial analytical results. Groundwater elevations should also be determined in order to establish the actual groundwater flow direction, if possible, based on the existing monitoring well network.

It is noted that the monitoring well screens were fully submerged below the water table when groundwater elevations were measured for two of three the monitoring wells.

When the monitoring wells have been resampled, it will be determined if any additional work is needed related to PFAS.

Let me know if you would like to discuss anything further.

Thanks,

-Keld

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Keld B. Lauridsen
Phone: (920) 510 8294
Keld.Lauridsen@wisconsin.gov

From: Savale, Michael <Michael.Savale@tetratech.com>
Sent: Thursday, July 22, 2021 3:52 PM
To: Lauridsen, Keld B - DNR <Keld.Lauridsen@wisconsin.gov>
Cc: Christopher, Michael L <Michael.Christopher@GAPAC.com>; Hassett, Mike <mike.hassett@gapac.com>; Council, Greg <Greg.Council@tetratech.com>
Subject: PFAS investigation Summary Report - Ashview Terrace Apartments, BRRTS #: 02-05-564043

Hi Keld,

Please see the attached PFAS Investigation Summary Report for the Ashview Terrace Apartments (BRRTS #: 02-05-564043), as prepared by Tetra Tech Inc for Georgia-Pacific LLC. This report will also be uploaded to the BRRTS site. Please advise if a hard copy is required.

Thank you,
Mike Savale

Mike Savale | Senior Project Geologist
Mobile **(810) 923-8076** | Fax **(734) 213-5008** | michael.savale@tetratech.com

Tetra Tech | *Leading with Science*® | ECA
710 Avis Drive, Suite 100 | Ann Arbor, MI 48108 | tetratech.com

LETTER OF TRANSMITTAL

TETRA TECH
710 Avis Drive
Suite 100
Ann Arbor, Michigan 48108
Telephone (734) 665-6000 Fax: (734) 213-5008

TO: Mr. Keld Lauridsen
Hydrogeologist
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, Wisconsin 54313-6727

July 22, 2021

We are sending you the following:

No of Copies	Description
1	PFAS Investigation Summary Report, Ashview Terrace Apartments, BRRTS #02-05-564043

Transmitted as checked below:

- ☐ For approval
- ☐ For your use
- ☐ As requested
- ☒ For review and comment
- ☐ Approved as submitted
- ☐ Approved as noted
- ☐ Returned for corrections
- ☐ Other

REMARKS:

Transmitted by:

- ☐ First Class Mail
- ☐ Federal Express
- ☐ Courier
- ☐ Registered Mail
- ☐ UPS
- ☒ Email

Signed: Michael Savale, Tetra Tech

cc: Michael Christopher, Georgia-Pacific
Michael Hassett, Georgia-Pacific
Gregory Council, Tetra Tech

TETRA TECH

July 22, 2021

Mr. Michael Christopher
Senior Remediation Project Manager
Global Remediation & Environmental Services LLC
1560 Bay Area Boulevard, Suite 200
Friendswood, Texas 77546
(281)947-0083

RE: PFAS Investigation Summary Report
Ashview Terrace Apartments
Ashwaubenon, Wisconsin
BRRTS # 02-05-564043

Dear Mr. Christopher,

Tetra Tech completed a groundwater investigation for polyfluoroalkyl and perfluoroalkyl substances (PFAS) at the Ashview Terrace Apartments in Ashwaubenon, Wisconsin (**Figure 1**). The investigation was conducted from May 3 through 6, 2021, in response to an August 17, 2020 letter from the Wisconsin Department of Natural Resources (WDNR) regarding "Reminder to Include Evaluation of Emerging Contaminants in Site Investigation." The investigation was conducted in general accordance with the WDNR-approved work plan, *PFAS Site Investigation Work Plan*, *Ashview Terrace Apartments, Ashwaubenon, WI*, dated November 16, 2020 (work plan), and in adherence to the Tetra Tech Standard Operating Procedure for PFAS sample acquisition, **Attachment 1**.

The Ashview Terrace Apartments (Site) PFAS investigation, as specified in the work plan, included the installation of three monitoring wells and the collection groundwater samples. In addition, one soil sample was collected from the southeastern soil boring location, SB-21-02. This report summarizes the Site PFAS investigation and includes a discussion of the Wisconsin PFAS regulatory background, soil boring and well installation methods, sampling and analytical methods, sample analytical results, investigation derived waste (IDW), and the proposed next steps.

REGULATORY BACKGROUND

In June 2019, the Wisconsin Department of Health Services (WDHS) developed recommended groundwater standards for two PFAS, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS). The WDHS recommended an Enforcement Standard of 20 ng/L and a Preventive Action Limit of 2 ng/L for both PFOA and PFOS, individually and combined. In November 2020, the WDHS developed recommended groundwater standards for 16 additional PFAS. However, on March 1, 2021, the WDNR removed perfluorooctadecanoic acid (PFODA) from the list of PFAS with WDHS recommended standards. The current WDHS recommended standards for PFAS are summarized in the following table.

PFAS with Assigned WDHS Standards	WDHS Recommended Enforcement Standard	WDHS Recommended Preventative Action Limit
Perfluorooctane sulfonamide (PFOSA)	20 ng/L	2 ng/L
Hexafluoropropylene oxide dimer acid (HPFO-DA)	300 ng/L	30 ng/L
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE)	20 ng/L	2 ng/L
Perfluorobutanoic acid (PFBA)	10,000 ng/L	2,000 ng/L
Perfluorobutanesulfonic acid (PFBS)	450,000 ng/L	90,000 ng/L
Perfluorododecanoic acid (PFDoA)	500 ng/L	100 ng/L
Perfluorohexanoic acid (PFHxA)	150,000 ng/L	30,000 ng/L
Perfluorooctane sulfonic acid (PFOS)	20 ng/L	2 ng/L
Perfluorooctanoic acid (PFOA)	20 ng/L	2 ng/L
Perfluorotetradecanoic acid (PFTeA)	10,000 ng/L	2,000 ng/L
Perfluoroundecanoic acid (PFUnA)	3,000 ng/L	600 ng/L
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	3,000 ng/L	600 ng/L
Perfluorohexanesulfonic acid (PFHxS)	40 ng/L	4 ng/L
Perfluorononanoic acid (PFNA)	30 ng/L	3 ng/L
Perfluorodecanoic acid (PFDA)	300 ng/L	60 ng/L
N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	20 ng/L	2 ng/L
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	20 ng/L	2 ng/L

For PFOSA, NEtFOSE, NEtFOSA, NEtFOSAA, PFOS, and PFOA (collectively these will be called the "select six PFAS"), the WDHS has recommended an Enforcement Standard of 20 ng/L and Preventive Action Limit of 2 ng/L for individual and combined concentrations of these select six PFAS. At this time, the WDNR has not amended *Table I - Drinking Water & Groundwater Quality Health Standards/Advisory Levels* to include enforceable standards for any PFAS. The current list of 33 PFAS compounds the WDNR expects to be included in PFAS sample analysis is presented on the Wisconsin DNR PFAS List 1.1.21 found in the Wisconsin DNR PFAS Updates, dated March 1, 2021 (**Attachment 2**).

SOIL BORING METHODS

Prior to drilling, several precautionary measures were taken. Utility locating was completed by utilizing the Diggers Hotline and a private utility locating service. To avoid property damage, ground protection mats were used when moving the drill rig over unpaved areas. While drilling was in progress, the work areas were delineated using traffic cones and caution tape. As an additional precaution, the upper five feet of soil borings SB-21-02 and SB-21-03 were completed using hand tools.

Soil borings were completed at three locations depicted on **Figure 2.** At each boring location, continuous soil samples were collected by sonic drilling methods using 6-inch diameter drill casing and 4-inch diameter core barrel. The soil samples were collected into the 4-inch diameter core barrel and placed into plastic sleeves. The plastic sleeves were placed on a table and cut open to access the recovered soil samples, which then were photographed and logged by the onsite Tetra Tech geologist. Each soil sample was described using the Unified Soil Classification System. Moisture content, sample recovery, and other notable observations were documented. This information was used to finalize depths for well installation. WDNR Soil Boring Logs (WDNR Form 4400-122) are included as **Attachment 3**.

MONITORING WELL INSTALLATION METHODS

The work plan included the installation of three monitoring wells, one monitoring well installed in the western portion of the Site to evaluate upgradient groundwater PFAS concentrations and two monitoring wells installed within the eastern portion of the Site to evaluate downgradient groundwater PFAS concentrations. With the exception of monitoring well, MW-21-03, all wells were installed at the general locations specified in the work plan. Monitoring well, MW-21-03 was relocated approximately 85-feet to the north-northeast due to the presence of underground utilities at the original planned location. The monitoring well installation locations are depicted on **Figure 2**.

The monitoring wells were installed in the soil sampling boreholes via 6-inch diameter drill casing. With the exception of MW-21-02 (discussed below), the monitoring wells were installed in general accordance with the procedures and specifications described in Chapter NR 141 Wisconsin Administrative Code. Monitoring wells were constructed with two-inch diameter polyvinyl chloride (PVC) casing and 0.010-inch slot, PVC well screen. The well annulus was filled above the top of the screen using well sand pack and then plugged to one foot below surface grade with bentonite chips. The monitoring wells were finished flush with the surface grade and covered with eight-inch protective covers set in concrete. Monitoring well construction details are summarized on **Table 1.** WDNR Monitoring Well Construction Forms (WDNR Form 4400-113A) are included as **Attachment 4**. Following installation, the monitoring wells were developed, by purging the wells with a pump to remove fine sediment. Monitoring Well Development Forms (WDNR Form 4400-113B) are included as **Attachment 5**.

Due the subsurface conditions observed while installing MW-21-02, the final well construction deviated from the procedures and specifications described in Chapter NR 141 Wisconsin Administrative Code. While collecting the continuous soil sample at this boring location (SB-21-02), a grey, clay-like soil was intermittently observed in the vadose zone from 2.5 to 4 feet below the ground surface (bgs). Past site investigations indicate the presence of paper residuals in this area. In addition, approximately two inches of saturated sand was observed 20-feet bgs, at the top of a 3.5-foot-thick clay interval. It was determined that the two-inch layer of saturated sand most likely would not produce enough groundwater for sample collection and that the well would be screened into a 1.5-foot interval of saturated sand occurring below the clay. With the presence of potential paper residual in the soil boring, the well was constructed using a three-foot screen placed only within the zone of saturation below the clay to avoid breaching the upper confining unit.

DECONTAMINATION PROCEDURES

All drilling equipment was decontaminated before being brought to the Site and between each of the boring locations. Drilling tooling was decontaminated using a pressure washer and Alconox detergent.

All non-disposable sampling equipment was decontaminated prior to use and after each use. Non-disposable sampling equipment was decontaminated using Alconox detergent and rinsed with distilled water. The decontamination water was containerized for offsite disposal as described below.

MONITORING WELL SURVEY

After the monitoring well installations were completed, a professional survey was conducted to measure the geographic location of each well, including the top of well casing elevation and the adjacent ground elevation. Survey data for all monitoring wells is included in **Table 1**.

SOIL SAMPLING AND ANALYTICAL METHODS

While retrieving the continuous soil sample at soil boring SB-21-02, a grey, clay-like soil was intermittently

observed in the vadose zone from 2.5 to 4 feet bgs. Past site investigations indicate the presence of paper residuals in this area. A grab sample of the grey, clay-like soil was collected into a clean, pre-labeled, laboratory-provided high-density polyethylene (HDPE) container and placed into an ice-packed cooler. The sample was shipped to Vista Analytical Laboratory (Vista) and analyzed for the 33 PFAS included on the Wisconsin DNR PFAS List 1.1.21 (**Attachment 2**), via a modified EPA Method 537 utilizing isotope dilution. The laboratory analytical report for the soil sample is included in **Attachment 6**.

GROUNDWATER SAMPLING AND ANALYTICAL METHODS

Prior to groundwater sampling, the static water level was measured at each well. Field personnel gauged depth-to-water from the top of the well casings with a water-level interface probe accurate to 0.01 foot. Measurements were subtracted from top-of-casing elevations to obtain groundwater elevations, provided in **Table 1.**

Groundwater samples were collected from the monitoring wells using low-flow techniques. Groundwater was purged using a peristatic pump until a stabilized water level and stabilized field parameters were achieved. Field parameters including pH, specific conductance, temperature, oxidation-reduction potential (ORP), dissolved oxygen (DO), and turbidity were measured using YSI ProDSS multi-parameter water quality meter. The instrument was calibrated according to the manufacturer's specifications prior to sampling. To avoid cross-contamination between wells, new HDPE and silicone tubing was used for each monitoring well. The water quality parameters were collected at three-minute intervals until all parameters had stabilized for three consecutive readings and were within the following limits:

- pH (0.1 unit)
- Specific conductance (3%)
- Temperature (3%)
- ORP (10 millivolts)
- Turbidity (10%)
- DO (10%)

Drawdown was maintained at 0.3 foot or less during purging and sampling. Groundwater monitoring field data are included in **Table 2**.

Following stabilization, groundwater samples were collected directly into clean, pre-labeled, laboratory-provided HDPE containers and placed into an ice-packed cooler. Samples were shipped to Vista and analyzed for the 33 PFAS included on the Wisconsin DNR PFAS List 1.1.21 (**Attachment 2**), via a modified EPA Method 537 utilizing isotope dilution. The laboratory analytical report for the groundwater samples is included in **Attachment 6**.

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

QA/QC samples were collected to assure PFAS contamination was not introduced to the samples from the drilling equipment, sample collection equipment, or the environment. QA/QC samples are also used to assess the accuracy and reliability of concentration results. QA/QC sample collection methodology is provided below:

- Drilling Activities
    - After drilling tooling was decontaminated, one equipment rinsate blank sample was collected from the drill rig tooling. The equipment blank was collected by pouring laboratory-provided reagent-free water over the drilling tooling and into laboratory supplied containers.
- Sample Collection Events

- One equipment rinsate blank sample was collected during groundwater sampling. Reusable sampling equipment was decontaminated before and after each use. Following decontamination, laboratory provided reagent-free water poured over non-disposable equipment (water level meter) and was run through and over disposable equipment (tubing and nitrile gloves). The rinsate was collected into laboratory supplied containers.
- One field blank sample was collected concurrently with the groundwater sampling equipment rinsate blank sample.
- One groundwater field duplicate sample was collected concurrently with the MW-21-03 groundwater sample.
- One soil field duplicate sample was collected concurrently with the SB-21-02 soil sample.

QA/QC samples were collected into laboratory-provided HDPE containers and placed into an ice-packed cooler. Samples were shipped to Vista and analyzed for the 33 PFAS included on the Wisconsin DNR PFAS List 1.1.21 (**Attachment 2**), via a modified EPA Method 537 utilizing isotope dilution. The laboratory analytical report for the QA/QC samples is included in **Attachment 6**.

SOIL ANALYTICAL RESULTS

The PFAS analytical results associated with the gray, soil like material encounter at soil boring SB-21-02 indicate the following:

- PFOS was detected above the reporting limit (RL) at 1.69 nanograms per gram (ng/g).
- PFOS was detected above the RL in the SB-21-02 duplicate soil sample at 2.30 ng/g.
- No PFAS were detected in the equipment rinsate blank sample collected from the drill rig tooling.

The soil PFAS analytical results are presented in **Table 3**. The soil laboratory analytical report is provided in **Attachment 6**.

GROUNDWATER ELEVATION MEASUREMENTS

Prior to well installation, it was expected that groundwater flow would be toward the southeast. This was based on local topography and the presence of the Fox River (a major groundwater sink) located 1.4 miles to the southeast of the Site. The water levels measured at the three Site wells did not exhibit the expected pattern. The northwestern well (MW-21-03) had the lowest water level (617.99 ft above mean sea level [amsl]) and the southeastern well (MW-21-02) had a slightly higher water level (619.01 ft amsl). Groundwater was encountered at a much higher elevation (631.84 ft amsl) in the northeastern well (MW-21-01), suggesting the possible presence of perched groundwater at this location. Therefore, groundwater flow direction at the Site could not be determined from the water level data.

GROUNDWATER ANALYTICAL RESULTS

The PFAS analytical results associated with the groundwater samples collected from the monitoring wells indicate the following:

- PFAS were detected in all 3 monitoring wells.
- The total concentration of the select six PFAS was above the WDHS recommended Preventive Action Limit but below the recommended Enforcement Standard in MW-21-01 and MW-21-02.
- The total concentration of the select six PFAS was detected above the WDHS recommended

Preventive Action Limit and the WDHS recommended Enforcement Standard in monitoring well MW-21-03. PFOA had the highest concentration of the select six PFAS, with a concentration of 23.4 ng/L which slightly exceeds the 20 ng/L Enforcement Standard.

- The duplicate sample collected at MW-21-03 indicated maximum percent difference of 22.8 percent in PFAS detections.
- No PFAS were detected in the equipment rinsate blank sample or the field blank sample collected during groundwater sampling.

A summary of the PFAS groundwater sampling results is presented in **Table 4**. The laboratory analytical report for groundwater samples is provided in **Attachment 6**. PFAS detections exceeding the WDHS recommended Preventive Action Limits for groundwater are presented on **Figure 2**.

INVESTIGATION DERVIVED WASTE

Soil cuttings generated during well installations were containerized in 55-gallon drums. Well purge water and equipment decontamination water generated during monitoring well installation and groundwater sampling were containerized in separate 55-gallon drums. Drums were properly labeled identifying their contents and staged on-site pending transport and disposal. To characterize the waste, composite samples were collected from both the liquid and solid IDW. The solid composite sample was submitted to Pace Analytical for the following analysis:

- Toxic Characteristic Leaching Procedure (TCLP) Resource Conservation and Recovery Act (RCRA) Volatile Organic Compounds (VOCs)
- TCLP RCRA Semi-volatile Organic Compounds (SVOCs)
- TCLP RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver)
- Polychlorinated Biphenyls (PCBs)

The liquid composite sample was submitted to Pace Analytical for the following analysis:

- RCRA VOCs
- RCRA SVOCs
- RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver)
- PCBs

For solid IDW PFAS characterization, a composite sample was collected from the drums and submitted to Vista for analysis via a modified EPA Method 537. The liquid IDW is comprised primarily of groundwater generated during well development and is assumed to contain PFAS at similar concentrations. The laboratory analytical reports for the waste characterization samples are provided in **Attachment 7**.

Waste characterization analytical results indicate that the solid IDW contains no detectable PFAS and that it is non-hazardous; not regulated by RCRA or the Toxic Substances Control Act (TSCA).

Analysis of the liquid IDW characterization samples indicate that it is non-hazardous; not regulated by RCRA or TSCA. The analysis of groundwater samples collected from the monitoring wells indicated the

presence of PFAS. This IDW will be transported off-Site for treatment/disposal at an appropriate facility.

SUMMARY AND PROPOSED NEXT STEPS

Low concentrations of PFAS were measured in groundwater at all three wells at the Site. Only one well (MW-21-03) had PFAS concentrations that exceeded the WDHS recommended Enforcement Standard. At this well, the PFOA concentration was 23.4 ng/L and the recommended Enforcement Standard is 20 ng/L. This well was intended to be an upgradient well, but the expected west-to-east groundwater flow direction could not be confirmed from the groundwater levels collected.

A soil sample was collected from an interval of soil boring SB-21-02 that appeared to contain paper residuals. This sample had a very low detection of PFOS and does not appear to represent a significant source.

Given the relatively low concentrations of PFAS measured during this investigation and the absence of enforceable PFAS standards in Wisconsin, no further investigation related to PFAS is recommended at this time.

Tetra Tech appreciates the opportunity to provide our services to GP. If you have any questions regarding the information herein, please contact Michael Savale at 810.923.8076 or michael.savale@tetratech.com.

Sincerely,

Michael Savale
Senior Project Geologist

Mark A. Manthey, P.G
Associate Hydrogeologist

Table 1 - Well Construction and Water Levels
Table 2 - Groundwater Monitoring Field Data
Table 3 - Soil Analytical Results
Table 4 - Groundwater Analytical Results
Figure 1 - Site Location Map
Figure 2 - Groundwater Analytical Results and Soil Boring Locations
Attachment 1 - Tetra Tech Standard Operating Procedure: Sample Acquisition for PFCs and Other Polyfluoroalkyl Substance Analysis
Attachment 2 - Wisconsin DNR PFAS Updates
Attachment 3 - Soil Boring Logs
Attachment 4 - Monitoring Well Construction Forms
Attachment 5 - Monitoring Well Development Forms
Attachment 6 - Soil and Groundwater Analytical Reports
Attachment 7 - Investigation Derived Waste Analytical Reports

Table 1

Well Construction and Water Levels

Table 1
Well Construction and Water Levels
PFAS Investigation Summary Report
Ashview Terrace Apartments
Ashwaubenon, Wisconsin

Well Name	Soil Boring Name	Date Installed	Northing	Easting	TOC Elevation (feet amsl)	Surface Elevation (feet amsl)	Screen Length (feet)	Screen Slot Size	Screen Interval (bgs feet)		Screen Elevation (feet amsl)		Well Casing Diameter (inches)	Well Casing Material	Stickup or Flush Mount (S/F)	Depth to Water 5/6/21 (feet)	Groundwater Elevation 5/6/21 (feet amsl)
									Top	Bottom	Top	Bottom					
MW-21-01	SB-21-01	5/3/2021	558055.22	85188.41	643.38	643.79	5	10	13	18	630.79	625.79	2	PVC	F	11.54	631.84
MW-21-02	SB-21-02	5/5/2021	557836.76	85071.85	638.34	638.72	3	10	23	26	615.72	612.72	2	PVC	F	19.33	619.01
MW-21-03	SB-21-03	5/4/2021	558266.87	84719.66	642.51	642.96	5	10	23	28	619.96	614.96	2	PVC	F	24.52	617.99

Notes:
Coordinates are based on WisCRS-Brown County, NAD83(2011)
Elevations are based on NAVD88 vertical Datum
TOC = Top of Casing
amsl = Above Mean Sea Level
bgs = Below Ground Surface
PVC =Polyvinyl chloride

Table 2

Groundwater Monitoring Field Data

Table 2
Groundwater Monitoring Field Data
PFAS Investigation Summary Report
Ashview Terrace Apartments
Ashwaubenon, Wisconsin

Well Name	Groundwater Sample Name	Sample Date	Temp (°C)	Specific Conductance (mS/cm)	DO (mg/L)	pH (S.U.)	ORP (mV)	Turb (NTU)	Approximate Pump Rate (mL/min)
			Parameter Stabilization Criteria						
			3%	3%	10%	0.1	10 mV	10%	
MW-21-01	MW-21-01-210506	5/6/2021	9.7	5.218	2.75	6.99	-181.0	7.41	100
MW-21-02	MW-21-02-210506	5/6/2021	12.7	1.388	1.69	7.19	-20.4	4.49	100
MW-21-03	MW-21-03-210505	5/5/2021	11.8	0.882	4.70	7.20	-121.9	29.49	110

Notes:
Temp (°C) = Temperature in degrees Celsius
pH (S.U.) = pH represented in pH units
Specific Conductance (mS/cm) = Conductivity represented in microsiemens per centimeter
ORP (mV) = Oxidation reduction potential represented in millivolts
DO (mg/L) = Dissolved oxygen represented in milligrams per liter
Turb (NTU) = Turbidity represented in nephelometric turbidity units
mL/min = milliliters per minute
ft amsl = feet above mean sea level
ft below TOC = feet below the top of well casing

Table 3

Soil Analytical Results

Table 3
Soil Analytical Results
PFAS Investigation Summary Report
Ashview Terrace Apartments
Ashwaubenon, Wisconsin

Parameter	CAS Number	Units	Non-Industrial Not-to-Exceed Direct Contact Residual Contaminant Levels	Sample Location and Date SB-21-02 5/4/21
Perfluoroalkyl Carboxylates/Carboxylic Acids (PFCA)				
Perfluorobutanoic acid (**PFBA**)	375-22-4	ng/g	--	<0.261
Perfluoropentanoic acid (**PFPeA**)	2706-90-3	ng/g	--	<0.247
Perfluorohexanoic acid (**PFHxA**)	307-24-4	ng/g	--	<0.625
Perfluoroheptanoic acid (**PFHpA**)	375-85-9	ng/g	--	<0.325
Perfluorooctanoic acid (**PFOA**)	335-67-1	ng/g	1,260	<0.282
Perfluorononanoic acid (**PFNA**)	375-95-1	ng/g	--	<0.369
Perfluorodecanoic acid (**PFDA**)	335-76-2	ng/g	--	<0.639
Perfluoroundecanoic acid (**PFUnDA/PFUdA**)	2058-94-8	ng/g	--	<0.306
Perfluorododecanoic acid (**PFDoA**)	307-55-1	ng/g	--	<0.400
Perfluorotridecanoic acid (**PFTrDA**)	72629-94-8	ng/g	--	<0.606
Perfluorotetradecanoic acid (**PFTeDA**)	376-06-7	ng/g	--	<0.596
Perfluoroalkyl Sulfonates/Sulfonic Acids (PFSA)				
Perfluorobutane sulfonic acid (**PFBS**)	375-73-5	ng/g	1,260,000	<0.429
Perfluoropentane sulfonic acid (**PFPeS**)	2706-91-4	ng/g	--	<0.318
Perfluorohexane sulfonic acid (**PFHxS**)	355-46-4	ng/g	--	<0.400
Perfluoroheptane sulfonic acid (**PFHpS**)	375-92-8	ng/g	--	<0.618
Perfluorooctane sulfonic acid (**PFOS**)	1763-23-1	ng/g	1,260	**1.69**
Perfluorononе sulfonic acid (**PFNS**)	68259-12-1	ng/g	--	<0.610
Perfluorodecane sulfonic acid (**PFDS**)	335-77-3	ng/g	--	<0.737
Perfluorododecanesulfonic acid (**PFDoS**)	79780-39-5	ng/g	--	<0.988
Perfluoroalkane Sulfonamides/Sufonamidoacetic Acids, Sulfonamidoethanols (FASA)				
Perfluorooctane sulfonamide (**PFOSA**)	754-91-6	ng/g	--	<0.443
N-methyl perfluorooctane sulfonamide (**NMeFOSA**)	31506-32-8	ng/g	--	<3.10
N-ethyl perfluorooctane sulfonamide (**NEtFOSA**)	4151-50-2	ng/g	--	<4.90
N-methyl perfluorooctane sulfonamidoacetic acid (**NMeFOSAA**)	2355-31-9	ng/g	--	<0.376
N-ethyl perfluorooctane sulfonamidoacetic acid (**NEtFOSAA**)	2991-50-6	ng/g	--	<0.690
N-methyl perfluorooctane sulfonamidoethanol (**NMeFOSE**)	24448-09-7	ng/g	--	<3.00
N-ethyl perfluorooctane sulfonamidoethanol (**NEtFOSE**)	1691-99-2	ng/g	--	<3.45
Fluorotelomer Substances (FTS)				
4:2 Fluorotelomer sulfonic acid (**4:2FTS**)	757124-72-4	ng/g	--	<0.408
6:2 Fluorotelomer sulfonic acid (**6:2FTS**)	27619-97-2	ng/g	--	<0.635
8:2 Fluorotelomer sulfonic acid (**8:2FTS**)	39108-34-4	ng/g	--	<0.527
Replacement Chemicals				
Hexafluoropropylene oxide dimer acid (**HFPO-DA**)	13252-13-6	ng/g	--	<0.537
4,8-Dioxa-3H-perfluorononanioc acid (**ADONA**)	919005-14-4	ng/g	--	<0.343
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (**9Cl-PF3ONS**)	756426-58-1	ng/g	--	<0.700
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (**11Cl-PF3OUdS**)	763051-92-9	ng/g	--	<1.11

Notes:
PFAS laboratory analysis was completed using Modified USEPA Method 537.
ng/g = nanogram per gram
J = The amount detected is greater than the Method Detection Limit, but less than the Reporting Limit.
Q = The ion transition ratio is outside of the acceptance criteria.
Bold = value exceeds the Method Detection Limit

Table 4

Groundwater Analytical Results

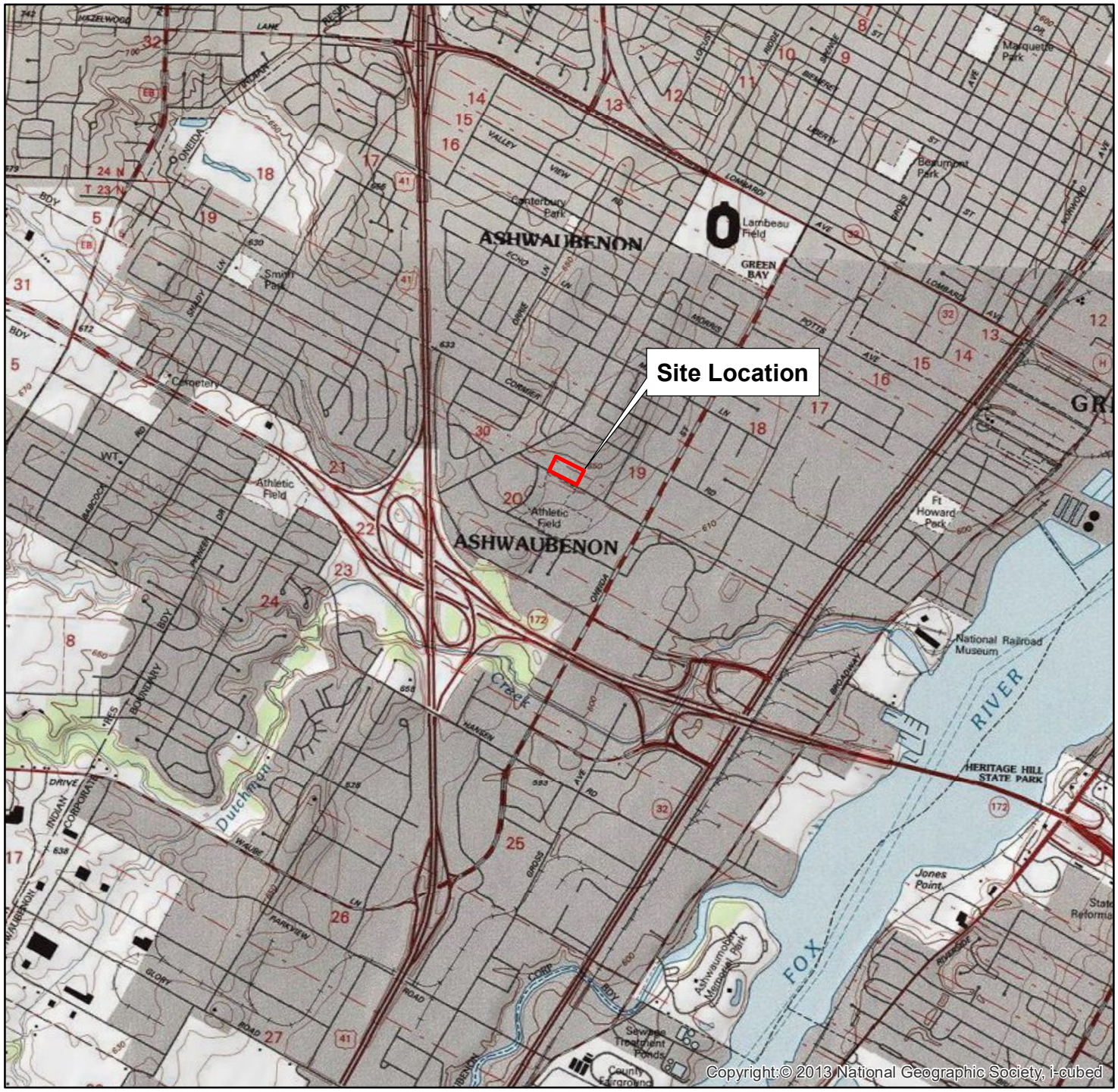
Table 4
Groundwater Analytical Results
PFAS Investigation Summary Report
Ashview Terrace Apartments
Ashwaubenon, Wisconsin

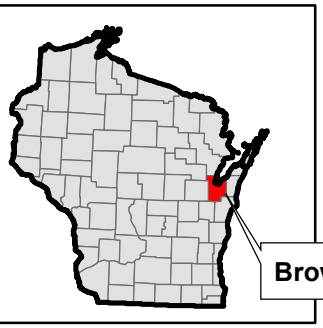
Parameter	CAS Number	Units	Recommended Enforcement Standard	Recommended Preventive Action Limit	Sample Location and Date		
					MW-21-01	MW-21-02	MW-21-03
					5/6/21	5/6/21	5/5/21
Perfluoroalkyl Carboxylates/Carboxylic Acids (PFCA)							
Perfluorobutanoic acid (**PFBA**)	375-22-4	ng/L	10,000	2,000	**18.8**	**3.69**	**15.2**
Perfluoropentanoic acid (**PFPeA**)	2706-90-3	ng/L	--	--	**25.2**	**2.92**	**5.48**
Perfluorohexanoic acid (**PFHxA**)	307-24-4	ng/L	150,000	30,000	**15.7**	**1.89 (J)**	**3.97**
Perfluoroheptanoic acid (**PFHpA**)	375-85-9	ng/L	--	--	**8.43**	**1.20 (J)**	**3.37**
Perfluorooctanoic acid (**PFOA**)	335-67-1	ng/L	20	2	**12.1**	<1.15	**23.4**
Perfluorononanoic acid (**PFNA**)	375-95-1	ng/L	30	3	<0.577	<0.596	**0.687 (J)**
Perfluorodecanoic acid (**PFDA**)	335-76-2	ng/L	300	60	<0.920	<0.949	<0.979
Perfluoroundecanoic acid (**PFUnDA/PFUdA**)	2058-94-8	ng/L	3,000	600	<1.37	<1.42	<1.46
Perfluorododecanoic acid (**PFDoA**)	307-55-1	ng/L	500	100	<0.802	<0.828	<0.854
Perfluorotridecanoic acid (**PFTrDA**)	72629-94-8	ng/L	--	--	<1.13	<1.17	<1.20
Perfluorotetradecanoic acid (**PFTeDA**)	376-06-7	ng/L	10,000	2,000	<0.833	<8.59	<0.886
Perfluoroalkyl Sulfonates/Sulfonic Acids (PFSA)							
Perfluorobutane sulfonic acid (**PFBS**)	375-73-5	ng/L	450,000	90,000	**169**	**3.64**	**122**
Perfluoropentane sulfonic acid (**PFPeS**)	2706-91-4	ng/L	--	--	<0.925	<0.954	<0.984
Perfluorohexane sulfonic acid (**PFHxS**)	355-46-4	ng/L	40	4	**1.44 (J,Q)**	<1.13	<1.17
Perfluoroheptane sulfonic acid (**PFHpS**)	375-92-8	ng/L	--	--	<2.52	<2.60	<2.69
Perfluorooctane sulfonic acid (**PFOS**)	1763-23-1	ng/L	20	2	**1.39 (J,Q)**	<1.12	**3.12**
Perfluorononone sulfonic acid (**PFNS**)	68259-12-1	ng/L	--	--	<1.44	<1.49	<1.53
Perfluorodecane sulfonic acid (**PFDS**)	335-77-3	ng/L	--	--	<2.76	<2.85	<2.94
Perfluorododecanesulfonic acid (**PFDoS**)	79780-39-5	ng/L	--	--	<1.63	<1.68	<1.73
Perfluoroalkane Sulfonamides/Sufonamidoacetic Acids, Sulfonamidoethanols (FASA)							
Perfluorooctane sulfonamide (**PFOSA**)	754-91-6	ng/L	20	2	**3.91**	**2.22 (Q)**	**3.70**
N-methyl perfluorooctane sulfonamide (**NMeFOSA**)	31506-32-8	ng/L	--	--	<7.00	<7.22	<7.45
N-ethyl perfluorooctane sulfonamide (**NEtFOSA**)	4151-50-2	ng/L	20	2	<7.46	<7.70	<7.94
N-methyl perfluorooctane sulfonamidoacetic acid (**NMeFOSAA**)	2355-31-9	ng/L	--	--	<0.966	<0.996	<1.03
N-ethyl perfluorooctane sulfonamidoacetic acid (**NEtFOSAA**)	2991-50-6	ng/L	20	2	<2.59	<2.67	<2.76
N-methyl perfluorooctane sulfonamidoethanol (**NMeFOSE**)	24448-09-7	ng/L	--	--	<8.18	<8.44	<8.70
N-ethyl perfluorooctane sulfonamidoethanol (**NEtFOSE**)	1691-99-2	ng/L	20	2	<5.67	<5.85	<6.04
Fluorotelomer Substances (FTS)							
4:2 Fluorotelomer sulfonic acid (**4:2FTS**)	757124-72-4	ng/L	--	--	<1.10	<1.14	<1.17
6:2 Fluorotelomer sulfonic acid (**6:2FTS**)	27619-97-2	ng/L	--	--	**1.81**	<1.02	**5.63**
8:2 Fluorotelomer sulfonic acid (**8:2FTS**)	39108-34-4	ng/L	--	--	<2.29	<2.36	<2.44
Replacement Chemicals							
Hexafluoropropylene oxide dimer acid (**HFPO-DA**)	13252-13-6	ng/L	300	30	<0.634	<0.654	<0.674
4,8-Dioxa-3H-perfluorononanioc acid (**ADONA**)	919005-14-4	ng/L	3,000	600	<0.869	<0.896	<0.925
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (**9Cl-PF3ONS**)	756426-58-1	ng/L	--	--	<0.848	<0.875	<0.903
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (**11Cl-PF3OUdS**)	763051-92-9	ng/L			<0.436	<0.450	<0.464
***Total combined PFOSA, NEtFOSE, NEtFOSA, NEtFOSAA, PFOA and PFOS**		**ng/L**	20	2	**17.40**	**2.22**	**30.22**

Notes:
PFAS laboratory analysis was completed using Modified USEPA Method 537.
ng/L = nanogram per liter
J = The amount detected is greater than the Method Detection Limit, but less than the Reporting Limit.
Q = The ion transition ratio is outside of the acceptance criteria.
* The Wisconsin Department of Health Services (WDHS) recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for PFOSA, NEtFOSE, NEtFOSA, NEtFOSAA, PFOS, and PFOA.
Bold = value exceeds the Method Detection Limit
Blue highlighted values exceed the WDHS Recommended Preventive Action Limit for groundwater.
Yellow highlighted values exceed both the WDHS Recommended Preventive Action Limit and the WDHS Recommended Enforcement Standard for groundwater.

Figure 1

Site Location Map





Project Area

N

0 0.25 0.5 1 Miles

P:\Projects\Georgia-Pacific\Ashwaubenon, WI\GIS

ORIGINAL BY: ARR	ASHVIEW TERRACE APARTMENTS SITE GEORGIA-PACIFIC ASHWAUBENON, WISCONSIN **SITE LOCATION**
DATE: 11/5/2020	
REVISED BY: ARR	
DATE: 11/5/2020	

FIGURE 1

Figure 2

Groundwater Analytical Results and Soil Boring Locations

P:\Projects\Georgia-Pacific\Ashwaubenon, WI\GIS

Project Area

Monitoring Well and Soil Boring Locations

Notes:
1. Results are in nanograms per liter (ng/L)
2. Posted analytical results only include detections for PFAS which exceed the Wisconsin Department of Health Services recommended Preventative Action Limits.
3. "Select Six PFAS" refers to total combined values of PFOSA, NEtFOSE, NEtFOSA, NEtFOSAA, PFOA and PFOS for groundwater.
4. (Q) = The ion transition ratio is outside of the acceptance criteria

N

0 50 100 Feet

ORIGINAL BY:	ARR
DATE:	11/5/2020
REVISED BY:	ARR
DATE:	7/15/2021

PFAS INVESTIGATION SUMMARY REPORT
ASHVIEW TERRACE APARTMENTS
ASHWAUBENON, WISCONSIN

GROUNDWATER ANALYTICAL RESULTS AND SOIL BORING LOCATIONS

FIGURE
2

Attachment 1

Tetra Tech Standard Operating Procedure: Sample Acquisition for Perfluorinated Compounds (PFCs) and Other Polyfluoroalkyl Substance Analysis

STANDARD OPERATING PROCEDURE
SAMPLE ACQUISITION FOR PERFLUORINATED COMPOUNDS (PFCs) AND OTHER POLYFLUOROALKYL SUBSTANCE ANALYSIS

1.0 PURPOSE

This Standard Operating Procedure (SOP) describes the methods and protocols to be used for collecting and handling samples to be analyzed for perfluorinated chemicals (PFCs), and other polyfluoroalkyl substances (PFASs). PFAS are present in many consumer products including some typical sampling equipment and are ubiquitous in the environment. Because regulatory screening criteria are very low, measurements of very low PFAS concentrations are required. These two conditions make the collection of samples for accurate quantitation of PFAS concentrations difficult unless special precautions are taken to avoid introducing contaminants into the samples. Instructions are provided herein for collection of environmental samples without contaminating them. This SOP is designed to supplement but not replace existing sampling SOPs. In addition, some clients and/or projects may have specific PFAS-related sampling requirements that extend beyond the procedures described in this SOP.

2.0 SCOPE AND APPLICABILITY

This document provides information on proper sampling equipment and techniques for groundwater, surface water, sediment, and soil sampling for PFAS analysis. Sampling of air or biota is not addressed in this SOP, but the same principles would apply for those media.

3.0 BACKGROUND

PFAS have been used since the 1940s as manufacturer-applied oil and water repellants on products such as clothing, upholstery, paper, and carpets; and in making fluoropolymers for non-stick cookware. They are found in textiles and leather products, mist suppressants for metal plating, the photography industry, photolithography, semi-conductors, paper and packaging coatings, cleaning products, pesticides, and cosmetics. They have been used in well-known consumer products including Teflon®, StainMaster®, Scotchgard®, and GoreTex®. In the 1960s, aqueous film-forming foam (AFFF) containing PFAS was developed for fighting flammable liquid fires, particularly petroleum-fueled (Class B) fires (ATSDR, 2009). The two most researched and most prevalent PFAS in the environment are perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) (ATSDR, 2009).

STANDARD OPERATING PROCEDURE
SAMPLE ACQUISITION FOR PERFLUORINATED COMPOUNDS (PFCs) AND OTHER POLYFLUOROALKYL SUBSTANCE ANALYSIS

PFAS are persistent in the environment, tend to bioaccumulate, and demonstrate toxicity in laboratory animals, enough to raise concerns about their presence in the environment. Some areas where PFAS may have been released to the environment include the following:

- Firefighting training areas
- Areas where firefighting products/materials are stored
- Aircraft crash sites
- Metal coating and plating facilities
- Water treatment systems and receiving water bodies
- Airport hangars and other facilities storing fire-fighting foams
- Fluorochemical manufacturing, use, and disposal facilities

PFAS are ubiquitous in consumer products and some materials used in environmental sampling (Teflon® tubing, waterproof logbooks, or GoreTex® field clothing). There are many potential sources of PFAS that are independent of media being sampled; therefore, it is essential to take special precautions to minimize the potential for contaminating environmental samples with PFAS during collection and handling. Laboratory detection limits are low for these compounds and contact of sample material or sampling equipment with any one of the multitude of PFAS sources could result in detectable contamination. In addition, PFAS tend to adsorb to glass so glass sample collection containers are inappropriate. Adsorption to glass sample containers may result in a low bias for measured PFAS concentrations.

Collection and analysis of Quality Control blanks is an important aspect of verifying that samples have not been contaminated during sample collection and handling. Use of additional blanks or blanks of a different type than usual may be required and the governing project planning documents should be consulted. Consult Section 7.7 of this SOP for instructions regarding collection of field reagent blanks (FRBs).

4.0 DEFINITIONS AND ABBREVIATIONS

AFFF – Aqueous film-forming foam.

FRB – Field Reagent Blank. A blank sample prepared in the field by transferring laboratory-supplied, chemically-preserved deionized water to an empty, laboratory-supplied collection bottle.

FRBs are typically analyzed only for PFAS and are treated as a site sample in all respects, including shipment to the sampling site, exposure to sampling site conditions, storage, preservation, and all PFAS analytical procedures. The purpose of FRBs is to indicate whether PFAS measured in corresponding site samples may have been introduced during sample collection and handling.

PFASs – Per- and polyfluoroalkyl Substances. A reference term currently in use, replacing "PFCs" in recent scientific and other technical literature. The term is inclusive of both perfluorinated chemicals like PFOA and PFOS and polyfluoroalkyl substances like fluorinated telomers.

PFCs – Perfluorinated Compounds or Chemicals. PFCs are a family of man-made chemicals that have been used for commercial, industrial, and military applications because they resist thermal degradation, and they repel oil, stains, grease, and water.

PFOA – Perfluorooctanoic Acid. PFOA is used as an aqueous dispersion agent and in the manufacture of fluoropolymers (including Teflon®) that are used in industrial components such as electrical wire casings, fire- and chemical-resistant tubing, and plumbing seal tape. PFOA is used in surface treatment products to impart oil, stain, grease, and water resistance. PFOA can also be produced by the breakdown of some fluorinated telomers.

PFOS – Perfluorooctane Sulfonate. PFOS was a key ingredient in Scotchgard® and used in the manufacture of Class B AFFF used per DoD military specifications. Phase out of AFFF by 3M occurred in 2002.

5.0 SAFETY PRECAUTIONS

Sample acquisition activities shall be conducted in accordance health and safety requirements identified in the project-specific Health and Safety Plan (HASP), corporate health and safety policies, and individual sampling SOPs, as applicable.

6.0 PERSONNEL RESPONSIBILITIES, QUALIFICATIONS, AND TRAINING

Project Manager (PM) – The PM is responsible for determining sampling objectives, initial sampling locations, and field procedures used in the collection of samples of environmental

media. Additionally, in consultation with other project personnel (geologist, hydrogeologist, etc.), the PM is responsible for selecting and detailing the specific sampling techniques, equipment to be used, and providing detailed input in this regard to the project planning documents. The PM has the overall responsibility for ensuring that sampling activities are properly conducted by appropriately trained staff.

Site Safety Officer (SSO) – The SSO (or a qualified designee) is responsible for providing the technical support necessary to implement the project HASP, AP or equivalent. The SSO or SSO designee may also be required to advise the Field Operations Leader (FOL) on safety-related matters regarding sampling, such as measures to mitigate potential hazards from hazardous objects or conditions. The SSO may be referred to as the Site Safety and Health Officer (SSHO).

Project Geologist/Sampler – The project geologist/sampler is responsible for the proper acquisition of samples in accordance with this SOP or other project-specific documents. In addition, this individual is responsible for the completion of all required paperwork (e.g., sample log sheets, field notebook, boring logs, container labels, custody seals, and chain-of-custody forms) associated with the collection of those samples.

Field Operations Leader (FOL) – This individual is primarily responsible for the execution of the field sampling program in accordance with the project planning documents. This is accomplished through management of a field sampling team for the proper acquisition of samples.

- General personnel qualifications for environmental media sample collection include the following:
- Occupational Safety and Health Administration (OSHA) 40-hour HAZWOPER and applicable refresher training.
- Ability to perform field work under the expected physical and environmental (i.e., weather) conditions
- Familiarity with appropriate procedures for sample documentation, handling, packaging, and shipping
- Familiarity with chemical-specific requirements for collection and handling of samples for PFAS analysis as described in this procedure.

- Personnel implementing this SOP must read and understand this SOP prior to collection of samples designated for PFAS analysis.

7.0 PROCEDURES

All personnel involved in sample acquisition must strive to prevent contact of sample media with potential sources of PFAS contamination. Given the widespread use of PFAS in products including those typically preferred for environmental sampling, all samples for PFAS analysis are to be collected using precautions to avoid inadvertent contamination of the sample media. These precautions are identified below for selection of sampling equipment and general field equipment, field personnel clothing and protective gear, sample containers and sample handling activities.

7.1 Selection of Equipment

It is important to research available equipment and materials at the planning stage to avoid last minute problems in the field; for example, ensuring compatibility of high-density polyethylene (HDPE) tubing with fittings for use in a peristaltic or other pump; or ensuring that equipment does not contain Teflon®.

Sampling Equipment:

- Avoid using any sampling equipment constructed of or containing polytetrafluoroethylene (PTFE) or Teflon® (DuPont brand name) or fluorinated ethylene propylene (FEP) during sample handling or mobilization/demobilization.
- Avoid using low-density polyethylene products (LDPE) if contamination from those products can be transferred to environmental samples or QC samples.
- Use sampling equipment made of stainless steel, acetate, silicone, high-density polyethylene (HDPE), or polypropylene. This applies to tubing, pumps and pump components, tape for plumbing fittings, trowels, mixing bowls or other equipment that could contact the sample media. Gasket and O-ring components of sampling equipment may contain fluoropolymers.

Non-Sampling Field Equipment:

- Avoid using waterproof field books or paper during sampling activities. Non-waterproof loose-leaf paper or notebooks are acceptable. Do not use plastic clipboards, binders, or

spiral hard cover notebooks that may be coated; use Masonite or aluminum clipboards instead.

- Avoid using Post-it® notes or similar removable notes during sample handling or mobilization/demobilization activities.
- Avoid using Sharpies® or similar indelible markers; do use ball-point pens or pencils for note taking and sample bottle labeling.

Field Personnel Clothing and Protective Gear:

- Avoid wearing new clothing due to the possible treating of fabric with PFAS for stain resistance. Wear clothing made from natural fibers (e.g. cotton) to the extent possible. Clothing should have been washed at least several times between time of purchase and time of first use during sampling activities. Avoid using fabric softener when laundering clothing to be worn during sample collection.
- During wet weather, use rain gear made from polyurethane or wax-coated materials.
- Avoid wearing water-resistant (e.g., Gore-Tex® or similar material) clothing or footwear (i.e., boots) immediately prior to or during sample collection and management.
- Avoid wearing cosmetics, shampoos, moisturizers, or other similar personal hygiene products on the day of sampling.
- Use sunscreens and insect repellants with 100% natural ingredients. The following items are acceptable for use, but the suitability of these items has not been independently verified:
    - Sunscreens - Alba Organics Natural Sunscreen, Yes To Cucumbers, Aubrey Organics, Jason Natural Sun Block, Kiss my face, Baby sunscreens that are “free” or “natural.”
    - Insect Repellents - Jason Natural Quit Bugging Me, Repel Lemon Eucalyptus Insect repellant, Herbal Armor, California Baby Natural Bug Spray, BabyGanics
    - Sunscreen and insect repellant - Avon Skin So Soft Bug Guard Plus – SPF 30 Lotion
- Avoid wearing Tyvek® suits.
- Wear un-powdered nitrile gloves at all times while collecting and handling samples and change gloves often.

- Avoid unnecessary contact with automobile upholstery that may have been treated with PFAS. If practical, cover clothing and skin that has been in contact with such upholstery within non-fluorinated clothing.

Sample Containers and Shipping Materials

- Avoid the use of glass sample containers, which are believed to result in loss of PFAS from samples through adsorption to the container.
- Collect samples in laboratory-supplied plastic bottles only, typically polypropylene or HDPE.
- Confirm that Teflon®-lined caps are not used in sample containers; unlined polypropylene screw caps must be used.
- Avoid using Blue Ice® or similar items to cool samples and avoid placing such items in sample coolers for shipping. Use commercially available (e.g., from convenience stores or supermarkets) double-bagged ice instead.

7.2 Other Precautions for Sample Handlin

- Avoid handling or bringing pre-wrapped food or snacks (e.g., fast food, candy bars, microwave popcorn, etc.) into the sampling area before or during sampling, because many food and snack products are packaged in wrappers treated with PFAS. Only water or hydrating drinks (e.g., Gatorade) should be brought onsite or allowed in vehicles used for PFAS sampling activities.
- Wash hands thoroughly after handling fast food, carryout food, or snacks, or other items that may contain PFAS.
- Assume that shipping tape used for securing coolers could contain PFAS; therefore, take care not to transfer PFAS from tape to samples.

These precautions should be observed during sampling activities, especially during water sample collection (groundwater and surface water), given the high solubility of PFAS in water. Examples of how these precautions may be applied to sampling of specific media are provided in the following sections.

7.3 Groundwater Sample Acquisition

The precautions and requirements identified in the previous sections must be observed for groundwater sampling. Do not proceed any further without reviewing each of those precautions and requirements.

- Collect groundwater samples for PFAS analyses in accordance with this SOP, and/or project- or client-specific requirements.
- If non-dedicated, non-disposable equipment is used between sampling locations, it should be decontaminated with Alconox® or Liquinox®, unless 1,4-dioxane (a potential component of these detergents) is also a contaminant of concern. In that case Liquinox® should not be used. Products such as Decon 90 should not be used.
- If samples are to be collected for analysis of PFAS and other analytes, determine whether the same equipment can be used for all sample analyses. If Teflon® or LDPE materials are required for the non-PFAS analytes, then use multiple sets of equipment and determine a suitable sample collection sequence and protocol for collecting the groundwater samples for the analyte groups of interest. For example, purge and sample a monitoring well for PFAS first using a peristaltic pump with HDPE and silicone tubing. Then use a bladder pump with Teflon® tape on air-line fittings to purge the well and sample for VOCs with Teflon tubing, if the VOC protocol requires it. Or use silicone tubing for all parameters, if appropriate. Protocols and order of sampling should be clearly identified in the SAPs. If the sampling sequence is unclear, consult the FOL or Project Manager and record the actual sequence in the field notes.
- If tasked to sample monitoring wells that have or had dedicated Teflon® or FEP tubing that potentially contained PFAS, after removing the tubing, evacuate at least one well volume prior to sampling using silicone or HDPE tubing. This will ensure that standing water that was in contact with the tubing is removed from the water column prior to sampling.

7.4 Soil Sample Acquisition

The precautions and requirements identified in Sections 7.1 and 7.2 must be observed for soil sampling. Do not proceed any further without reviewing each of those precautions and requirements.

- Collect soil samples for PFAS analyses in accordance with this SOP, and/or project- or client-specific requirements.
- Soil sampling equipment should not be constructed of or contain Teflon® materials. Acceptable materials for sampling include stainless steel, acetate, or polypropylene. If non-dedicated, non-disposable equipment is used between sample locations, it should be decontaminated with Alconox® or Liquinox®.
- Collect samples in laboratory-provided containers specifically designated for PFAS analysis. Do not use glass jars typically used for soil sample collection.

7.5 Surface Water and Sediment Sample Acquisition

The precautions and requirements identified in Sections 7.1 and 7.2 must be observed for surface water and sediment sampling. Do not proceed any further without reviewing each of those precautions and requirements.

- Collect surface water and sediment samples for PFAS analysis in accordance with this SOP, and/or project- or client-specific requirements.
- Surface water and sediment samples should be collected in laboratory-supplied bottleware specifically designated for PFAS analysis (not glass). If transfer bottles are required for collection of surface water samples, the transfer bottles used should be the same material as the containers designated for submission to the laboratory.
- Surface water and sediment sampling equipment should not be constructed of or contain Teflon® or LDPE materials. Acceptable materials for sampling include HDPE, silicone, stainless steel, acetate, or polypropylene. If non-dedicated, non-disposable equipment is used between sample locations, it should be decontaminated with Alconox® or Liquinox®.

7.6 Water Supply Sampling

This section applies to sampling from taps, spigots, faucets, or similar devices. The precautions and requirements identified in Sections 7.1 and 7.2 must be observed for water supply sampling. Do not proceed any further without reviewing each of those precautions and requirements.

- Collect water supply samples for PFAS analysis in accordance with applicable portions of this SOP, and/or project- or client-specific requirements.
- Water supply samples should be collected in laboratory-supplied bottleware specifically designated for PFAS analysis (not glass).

STANDARD OPERATING PROCEDURE
SAMPLE ACQUISITION FOR PERFLUORINATED COMPOUNDS (PFCs) AND OTHER POLYFLUOROALKYL SUBSTANCE ANALYSIS

- Ensure that sample bottles used to collect chlorinated water samples contain the proper preservative; non-chlorinated water does not require chemical preservatives designed to remove chlorine.
- Water supply sampling equipment (if needed) should not be constructed of or contain Teflon® or LDPE materials. Acceptable materials for sampling include HDPE, silicone, stainless steel, acetate, or polypropylene. If non-dedicated, non-disposable equipment is used between sample locations, it should be decontaminated with Alconox® or Liquinox®.
- Locate the sampling point. If a specific sampling point has already been designated (e.g., a kitchen tap), plan to collect the sample from that point; otherwise, identify a location in the water supply line that is as close as possible to the water's point of origination (e.g., a well or other water source) and upstream of any local water treatment unit(s) that could affect PFAS levels (e.g., water softeners, activated carbon, or reverse osmosis treatment units). If a treatment unit is in use, a post-treatment sample may also be required in some cases, per project requirements.

Note: If treatment that could affect PFAS levels (e.g., carbon filtration or reverse osmosis) is part of the water distribution system, often a spigot will be present in the plumbing line between the water source and the treatment unit and this spigot should be used

- Remove any aerator/diffuser from the faucet, if possible. If removal is not possible, record this observation in the field notes.
- Allow the water to run freely from the tap until parameter stabilization per project-specific requirements is achieved, or as otherwise required by project-specific requirements. This will often require purging for 3 to 5 minutes.
- Reduce the water flow rate to minimize aeration of the sample. The water stream should be no wider than the diameter of a pencil.
- Fill the sample bottle (typically 250 mL) directly from the tap to the bottom of the neck of the bottle and cap the bottle immediately.
- After collecting the sample, cap the bottle and, if preservative is included, agitate by hand until the preservative is dissolved.

7.7 Field Reagent Blank Collection

Note: EPA Method 537 and modifications thereof for PFAS analysis require an FRB to be handled along with each sample set. A sample set is described as samples collected from the same sample site and at the same time, but "sample site" and "same time" are not precisely defined. Therefore, it is important to verify that the correct number of FRBs will be collected. *Collection of an FRB at every sampling point may be required.*

- Verify the number of FRBs to be collected for the project and where those samples must be collected. This should be described in the project planning documents such as work plans or sampling and analysis plans. If it is not, consult the PM.
- At the sampling site, when ready to collect an FRB, open the bottle of chemically preserved FRB reagent water provided by the laboratory and a corresponding empty bottle, also provided by the laboratory.
- Pour the preserved FRB reagent water into the empty sample bottle, close the cap, and label this filled bottle as the FRB.
- Pack and ship the FRB along with site samples and the required documentation (e.g., chain of custody form) to the laboratory.

Note: Although chain of custody forms will indicate that FRBs must be analyzed for PFAS, analysis of an FRB will be required only if site samples contain PFAS above a certain concentration. *If an FRB is analyzed and any PFAS concentration in the FRB exceeds 1/3 the laboratory MRL, then all samples collected with that FRB may be considered invalid and may require recollection and analysis* of the recollected samples*. Consult the project planning documents governing sample collection for specifics as to whether resampling is necessary. Care in collection and handling of site samples and FRBs in a way that avoids contamination cannot be overemphasized.*

Attachment 2

Wisconsin DNR PFAS Updates

Wisconsin DNR PFAS Updates - effective March 1, 2021

Update to the Wisconsin DNR PFAS list

After careful consideration, the Wisconsin Department of Natural Resources (DNR) will no longer expect laboratories to report 10:2 FTS, PFHxDA or PFODA, as part of the WI DNR default PFAS list, at this time. This applies to new and existing projects, unless otherwise directed by the DNR. The DNR will continue to evaluate which PFAS are critical for reporting in Wisconsin as PFAS analysis and science continues to evolve. This decision was based on the exclusion of these compounds in the forthcoming EPA method. Therefore, the updated DNR PFAS list now consists of 33 PFAS and is provided on the third page of this document.

The remainder of this document clarifies the administrative rule requirements and general recommendations that the DNR has for the regulated community regarding PFAS sampling. Where guidance is provided, it is done so to assist the regulated community in submitting information to the DNR that it can use to make regulatory decisions with confidence.

Reporting PFAS results based on Wisconsin DHS recommended PFAS groundwater standards

The DNR expects laboratories to have PFAS method detection limits (MDLs) equal to or below the recommended groundwater enforcement standards (ES).

The DNR does not expect laboratories to have PFAS MDLs that are below the recommended groundwater preventative action limits (PAL) for all of the PFAS on the DNR PFAS list if the laboratory's routine method procedure does not generate MDLs below the PALs. Neutral PFAS are examples of PFAS for which laboratories may not have MDLs below the recommended PALs. The recommended groundwater ESs and PALs are provided for the updated DNR PFAS list on the third page of this document.

The DNR expects all sample results to be reported to the statistical MDL.

Certification requirements and expectations

The DNR's administrative rules require the analysis of drinking water samples submitted under s. NR 716.13 or s. NR 809.73 to be performed by a Wisconsin certified laboratory if one exists.

The DNR's administrative rules require the analysis of non-drinking water samples submitted under ss. NR 200.027 (except for those tests excluded in NR 219.037), NR 507.17, NR 664.0013 or NR 716.13 to be performed by a Wisconsin certified laboratory if one exists.

For samples that do not fall under ss. NR 200.027, NR 507.17, NR 664.0013, NR 716.13 or NR 809.73, the DNR recommends the analysis to be performed by a Wisconsin certified laboratory if one exists.

If a Wisconsin certified laboratory does not exist, the DNR recommends that the samples be performed by a laboratory that has applied for Wisconsin PFAS certification. The list of laboratories that have applied for Wisconsin PFAS certification can be found at https://dnr.wisconsin.gov/topic/Contaminants/Labs.html.

Analysis requirements and expectations

Laboratories perform PFAS analysis according to the instructions provided to them by their client. If the client does not provide instructions, the DNR expects drinking water and non-drinking water samples to be performed using the laboratory's isotope dilution method that utilizes the Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations guidance document.

In addition, unless otherwise instructed by the client, the DNR expects drinking water and non-drinking water samples to be tested for the 33 compounds on the DNR PFAS list.

Non-drinking water matrices field quality control samples requirements

For non-drinking water matrices, laboratories are not responsible for sending out instructions or supplies for collecting field quality control samples unless requested by their client.

Responsible parties as defined in ch. NR 716 and owners and operators of solid waste disposal facilities regulated under chs. NR 500 to 538 are obligated to ensure that field quality control samples (e.g. field blanks, field duplicates, equipment blanks) are collected as required by the administrative code sections presented below. These parties and agents acting on their behalf shall inform laboratories of the field quality control samples that must be collected in order for the laboratory to provide the proper sampling supplies for collection.

Groundwater: s. **NR 140.16 Monitoring and laboratory data requirements.**
(1)
(a) All groundwater quality samples collected to determine compliance with ch. 160, Stats., shall comply with this section except as noted.
(b) *Groundwater sampling requirements.* All groundwater quality samples shall be collected and handled in accordance with procedures specified by the applicable regulatory agency or, where no sampling procedures are specified by that agency, in accordance with the sampling procedures referenced in par. (c). The sampling procedures specified by a regulatory agency may include requirements for field filtration.
(c) Department groundwater sampling procedures.
1. If sampling procedures are not specified by the applicable regulatory agency pursuant to par. (b), all groundwater quality samples shall be collected and handled in accordance with the sampling procedures contained in the following publications:
a. Groundwater Sampling Desk Reference. Wisconsin Department of Natural Resources, PUBL−DG−037−96, September, 1996.
b. Groundwater Sampling Field Manual. Wisconsin Department of Natural Resources, PUBL−DG−038−96, September, 1996.

Landfills: s. **NR 507.16 Sampling plan.** The owner or operator shall submit a sampling plan for all monitoring devices at the facility for approval as part of the feasibility report. The sampling plan shall be implemented as approved in writing by the department. The sampling plan shall follow procedures and methodologies specified by the department and shall comply with the requirements in s. NR 140.16.

Site Investigations: s. **NR 716.13 Sampling and analysis requirements.**
(6)
Responsible parties shall provide for the following quality control and quality assurance procedures, at a minimum, when collecting samples for laboratory analysis for a field investigation conducted under this chapter:
(a) Chain of custody shall be documented from the time of sample collection to the receipt of the sample by the analytical laboratory. Chain of custody documentation shall be in compliance with ch. NR 149, and shall be submitted to the department with the sample results.
(b) For soil samples, one temperature blank for every shipping container of samples that require cooling for preservation, unless samples are received by the laboratory on ice, unless another temperature is required by the analytical method used.
(c) For water samples:
1. One replicate sample for every 10 or less samples.
2. One equipment blank for every 10 or less samples, unless dedicated sampling equipment is used to prevent cross−contamination.
3. One trip blank for each shipping container that contained volatile samples.
4. One temperature blank for every shipping container of samples that require cooling for preservation, unless samples are shipped on ice.
(d) Decontamination of all sampling instruments between each sampling event, unless dedicated or disposable sampling devices are used in a manner that prevents cross contamination or other unintended contamination of samples.

(10)
Responsible parties shall ensure that groundwater samples are collected and handled according to the procedures specified in s. NR 140.16 (1), unless the department approves the use of an alternative procedure.

Any questions contact Tom Trainor at tom.trainor@wisconsin.gov or 920.412.5970.

WISCONSIN DNR PFAS LIST - 1.1.21

#	Acronym (EPA)	Name [# carbons] (*trade name*)	CAS #	ES (ng/L) *	PAL (ng/L) *	Acronyms (other)
		Carboxylic Acids				
1	PFBA	Perfluorobutanoic acid [C4] (*FC 23, Fluorad FC 23*)	375-22-4	10,000	2,000	HFBA
2	PFPeA	Perfluoropentanoic acid [C5]	2706-90-3			
3	PFHxA	Perfluorohexanoic acid [C6]	307-24-4	150,000	30,000	
4	PFHpA	Perfluoroheptanoic acid [C7]	375-85-9			
5	PFOA	Perfluorooctanoic acid [C8]	335-67-1	20 [c]	2 [c]	8PF
6	PFNA	Perfluorononanoic acid [C9]	375-95-1	30	3	
7	PFDA	Perfluorodecanoic acid [C10]	335-76-2	300	60	Ndfda, PFDeA
8	PFUnA	Perfluoroundecanoic acid [C11]	2058-94-8	3,000	600	PFUdA, PFUnDA
9	PFDoA	Perfluorododecanoic acid [C12]	307-55-1	500	100	PFDoDA. PFDOA, PFDDA
10	PFTrDA	Perfluorotridecanoic acid [C13]	72629-94-8			PFTriA, PFTrA
11	PFTA	Perfluorotetradecanoic acid [C14]	376-06-7	10,000	2,000	PFTeDA, PFTDA, PFTeA, PFTetA, PFTreA
		Sulfonic Acids				
12	PFBS	Perfluorobutanesulfonic acid [C4] (*FC-98*)	375-73-5	450,000	90,000	PFBuS
13	PFPeS	Perfluoropentanesulfonic acid [C5]	2706-91-4			
14	PFHxS	Perfluorohexanesulfonic acid [C6]	355-46-4	40	4	PFHS
15	PFHpS	Perfluoroheptanesulfonic acid [C7]	375-92-8			
16	PFOS	Perfluorooctanesulfonic acid [C8] (*FC 95, Fluorad FC 95*)	1763-23-1	20 [c]	2 [c]	nPFOS, P8S
17	PFNS	Perfluorononanesulfonic acid [C9]	68259-12-1			
18	PFDS	Perfluorodecanesulfonic acid [C10]	335-77-3			
19	PFDoS	Perfluorododecanesulfonic acid [C12]	79780-39-5			PFDoDS, PFDOS
20	4:2 FTS	4:2 fluorotelomersulfonic acid [C6]	757124-72-4			4:2 FTSA, 4:2 FtS, FtS 4:2
21	6:2 FTS	6:2 fluorotelomersulfonic acid [C8]	27619-97-2			6:2 FTSA, 6:2 FtS, FtS 6:2, 6:2 PFOS, THPFOS
22	8:2 FTS	8:2 fluorotelomersulfonic acid [C10]	39108-34-4			8:2 FTSA, 8:2 FtS, FtS 8:2, 8:2 PFOS
		Sulfonamides, Sulfomidoacetic acids, Sulfonamidoethanols				
23	PFOSA	Perfluorooctanesulfonamide [C8]	754-91-6	20 [c]	2 [c]	FOSA, pfosa
24	NMeFOSA	N-Methylperfluorooctanesulfonamide [C9] (*Fluorad FX 12*)	31506-32-8			MeFOSA, N-MeFOSA, N-Me-FOSA
25	NEtFOSA	N-Ethylperfluorooctanesulfonamide [C10] *(Alstar, Finitron, Fluramin, FX 12, Mirex S, Sulfluramid, Volcano*)	4151-50-2	20 [c]	2 [c]	EtFOSA, N-EtFOSA
26	NMeFOSAA	N-Methylperfluorooctanesulfonamidoacetic acid [C11]	2355-31-9			MeFOSAA, N-MeFOSAA, NMe-PFOSA-AcOH
27	NEtFOSAA	N-Ethylperfluorooctanesulfonamidoacetic acid [C12]	2991-50-6	20 [c]	2 [c]	EtFOSAA, N-EtFOSAA, NEt-PFOSA-AcOH
28	NMeFOSE	N-Methylperfluorooctanesulfonamidoethanol [C11]	24448-09-7			MeFOSE, N-MeFOSE, MeFOSE Alcohol
29	NEtFOSE	N-Ethylperfluorooctanesulfonamidoethanol [C12] (*FC-10, Fluorad FC 10*)	1691-99-2	20 [c]	2 [c]	EtFOSE, N-EtFOSE, N-Et-FOSE
		Replacement Chemicals				
30	HFPO-DA	Hexafluoropropylene oxide dimer acid [C6] (*FRD-903, GenX*)	13252-13-6	300	30	PFPrOPrA
31	DONA	4,8-dioxa-3H-perfluorononanoic acid [C7]	919005-14-4	3,000	600	ADONA (sodium salt of DONA)
32	9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid [C8]	756426-58-1			F-53B Major, C8 Cl-PFESA
33	11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid [C10]	763051-92-9			F-53B Minor, C10 Cl-PFESA
		No recommended standard yet from cycle 11				

c = DHS recommends a combined ES of 20 ng/L and a combined PAL of 2 ng/L for PFOS, PFOA, PFOSA, NEtFOSA, NEtFOSAA, and NEtFOSE.

* The Enforcement Standard (ES) and Preventive Action Limit (PAL) listed in this table have been recommended by the Department of Health Services to the Department of Natural Resources. The Department of Natural Resources is in the rule making process to include these values into ch. NR 140. The standards presented in this table are not required on January 1, 2021 as the rule making process has not been completed yet.

Attachment 3

Soil Boring Log Information Forms

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Ashview Terrace Apartments PFAS Investigation	02-05-564043	SB-21-01

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Randy Radke Cascade Environmental	5/3/2021	5/3/2021	vibratory

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-21-01	628.3 Feet MSL	643.8 Feet MSL	6.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 558,055 N, 85,188 E S/Ⓒ/N
SE 1/4 of SE 1/4 of Section 4, T 23 N, R 20 E
Lat 44 ° 29 ' 22.1 "
Long 88 ° 4 ' 15.0 "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Brown	5	Ashwaubenon, WI

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
P-1 CU	60 60		0	TOPSOIL										
				Orangish brown, damp, fine SAND										
			1.5											
			3.0	Light brown, dry SAND, with Gravel, little Cobbles										
			4.5											
P-2 CU	60 60		6.0											
			7.5											
			9.0	Light gray, dry SILT with Sand and Gravel										
P-3 CU	60 60		10.5	Red, dry CLAY, little Silt, trace fine Sand										
				Brown, damp to moist, fine SAND, little Silt										
			12.0											
			13.5											
P-4 CU	60 60		15.0	Red, dry CLAY, little Silt, trace fine Sand										
				Brown, saturated, very fine SAND, some Silt										
			16.5											
			18.0	Red, damp CLAY, little Silt, trace fine Sand										
			19.5											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
Michael Sweet	Tetra Tech 710 Avis Drive, Suite 100 Ann Arbor, MI 48108	Tel: Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Ashview Terrace Apartments PFAS Investigation	02-05-564043	SB-21-02

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Randy Radke Cascade Environmental	5/4/2021	5/5/2021	vibratory

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-21-02	618.7 Feet MSL	638.7 Feet MSL	6.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 557,837 N, 85,072 E S/Ⓒ/N
SE 1/4 of SE 1/4 of Section 4, T 24 N, R 20 E
Lat 44 ° 29 ' 19.9 "
Long 88 ° 4 ' 16.6 "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Brown	5	Ashwaubenon, WI

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
HA AU	60 60		0 2.5	TOPSOIL Brown, moist, fine SAND and CLAY. (Gray soft Clay observed intermittently between 2.5' - 4.0', potential paper residuals)										Soil sample collected from 2' to 3'
P-1 CU	60 42		5.0	Red, damp CLAY, some fine Sand, trace Silt										
			7.5	Red, damp CLAY, with Sand, little Gravel										
			10.0	Brown, damp SAND, some Gravel, trace Silt										
P-2 CU	60 60		12.5	Light brown, damp, medium SAND, trace Gravel										
P-3 CU	60 60		15.0											
			17.5	Brown, damp, medium to coarse SAND, trace Gravel										
			20.0	Brown, damp, very fine to fine SAND										
P-4 CU	60 60			Brown, saturated, very fine to fine SAND										
			22.5	Brown, damp CLAY, with Silt										
				Dark brown, damp CLAY, little Silt										
P-5 CU	12 12		25.0	Dark brown, saturated, very fine SAND, some Silt										
				Dark brown, damp CLAY, little Silt										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
Michael Gaver	Tetra Tech 710 Avis Drive, Suite 100 Ann Arbor, MI 48108	Tel: Fax:

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Ashview Terrace Apartments PFAS Investigation	02-05-564043	SB-21-03

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Randy Radke Cascade Environmental	5/4/2021	5/4/2021	vibratory

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-21-03	618.0 Feet MSL	643.0 Feet MSL	6.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane 558,269 N, 84,720 E S/©/N
SE 1/4 of SE 1/4 of Section 4, T 24 N, R 20 E
Lat 44 ° 29 ' 24.2 "
Long 88 ° 4 ' 21.5 "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Brown	5	Ashwaubenon, WI

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
HA	60		0	TOPSOIL										
AU	60			Red, damp CLAY, little fine Sand										
			1.5											
			3.0	Light brown, damp, fine SAND										
			4.5											
P-1	60			Dark brown, moist, very fine SAND and SILT										
CU	26		6.0											
			7.5											
			9.0											
P-2	60		10.5	Brown, moist CLAY, with Silt, little very fine Sand										
CU	60		12.0											
			13.5	Brown, moist SILT, some very fine Sand, trace Clay										
P-3	60		15.0											
CU	60		16.5											
			18.0	Brown, damp, fine SAND										
				Brown, damp SAND, some Gravel										
			19.5											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	
Michael Sweet	Tetra Tech 710 Avis Drive, Suite 100 Ann Arbor, MI 48108	Tel: Fax:

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number SB-21-03 Use only as an attachment to Form 4400-122.

Sample									Soil Properties					
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
P-4 CU	60 60		21.0	Brown, damp, medium SAND										
			22.5											
			24.0	Brown, damp, medium to coarse SAND, trace Gravel										
				Brown, moist, very fine SAND, trace Silt										
P-5 CU	60 60		25.5	Brown, saturated, very fine SAND, trace Silt										
			27.0	Grayish brown, saturated GRAVEL, with Sand, trace Silt										
			28.5	Grayish brown, saturated, fine to medium SAND, little Gravel										
			30.0											

Attachment 4

Monitoring Well Construction Forms

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Ashview Terrace Apartments PFAS Investigation	Local Grid Location of Well: ____ft. ☐ N. ☐ S. ____ft. ☐ E. ☐ W.	Well Name: MW-21-01
Facility License, Permit or Monitoring No.: 02-05-564043	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. 44° 29' 22.1" Long. 88° 4' 15.0" or St. Plane 558,055 ft. N, 85,188 ft. E. S/Ⓒ/N	Wis. Unique Well No.:	DNR Well Number:
Facility ID:		Date Well Installed: 05/03/2021
Type of Well: Well Code 11/mw	Section Location of Waste/Source: SE 1/4 of SE 1/4 of Sec. 4, T. 23 N, R. 20 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Randy Radke, Cascade Environmental
Distance from Waste/Source ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number:

A. Protective pipe, top elevation 643.79 ft. MSL
B. Well casing, top elevation 643.38 ft. MSL
C. Land surface elevation 643.8 ft. MSL
D. Surface seal, bottom 642.8 ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

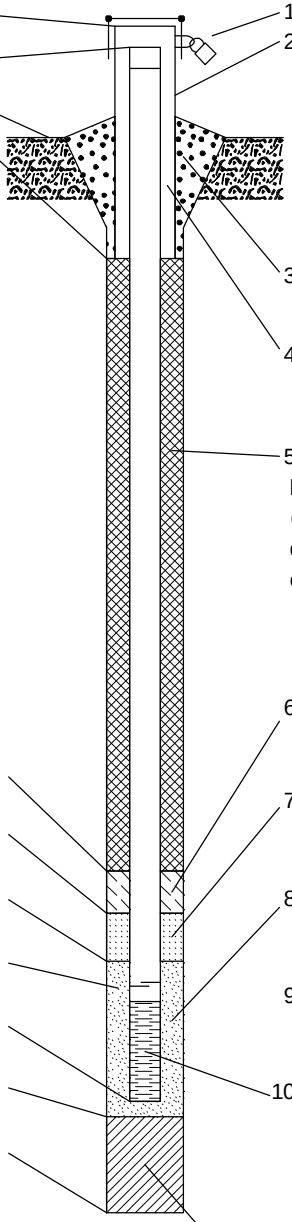
14. Drilling method used: Rotary ☐ 50 Hollow Stem Auger ☐ 41 Sonic Other ☒

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 642.8 ft. MSL or 1.0 ft.
F. Fine sand, top 634.8 ft. MSL or 9.0 ft.
G. Filter pack, top 632.8 ft. MSL or 11.0 ft.
H. Screen joint, top 630.8 ft. MSL or 13.0 ft.
I. Well bottom 625.8 ft. MSL or 18.0 ft.
J. Filter pack, bottom 625.3 ft. MSL or 18.5 ft.
K. Borehole, bottom 623.8 ft. MSL or 20.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe:
3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 30 #40 Red Flint Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____Lbs/gal mud weight . . .Bentonite-sand slurry ☐ 35
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 31
d. ____% Bentonite . . . Bentonite-cement grout ☐ 50
e. 8 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. #7 Red Flint
b. Volume added 2 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added 7.5 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐
b. Manufacturer Longyear
c. Slot size: 0.010 in.
d. Slotted length: 5.0 ft.
11. Backfill material (below filter pack): None ☐ 14 Other ☒

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Michael Savard
Firm: Tetra Tech, 710 Avis Drive, Suite 100 Ann Arbor, MI 48108
Tel:
Fax:

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Ashview Terrace Apartments PFAS Investigation	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: MW-21-02
Facility License, Permit or Monitoring No.: 02-05-564043	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. 44° 29' 19.9" Long. 88° 4' 16.6" or St. Plane 557,837 ft. N, 85,072 ft. E. S /Ⓒ/ N	Wis. Unique Well No.: ____ DNR Well Number: ____
Facility ID: ____		Date Well Installed: 05/04/2021
Type of Well: Well Code 11/mw	Section Location of Waste/Source: SE 1/4 of SE 1/4 of Sec. 4, T. 24 N, R. 20 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Randy Radke, Cascade Environmental
Distance from Waste/Source ____ ft. Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number: ____

A. Protective pipe, top elevation 638.72 ft. MSL
B. Well casing, top elevation 638.34 ft. MSL
C. Land surface elevation 638.7 ft. MSL
D. Surface seal, bottom 637.7 ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

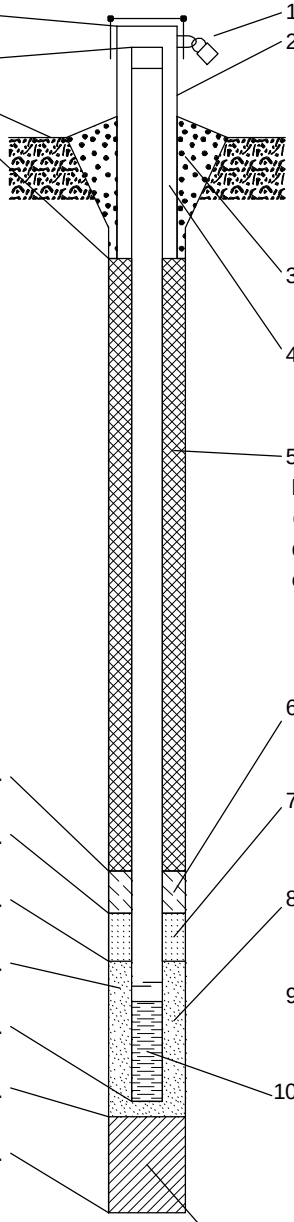
14. Drilling method used: Rotary ☐ 50 Hollow Stem Auger ☐ 41 Sonic Other ☒

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 **Drilling Mud** ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe ____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 637.7 ft. MSL or 1.0 ft.
F. Fine sand, top ____ ft. MSL or ____ ft.
G. Filter pack, top 616.2 ft. MSL or 22.5 ft.
H. Screen joint, top 615.7 ft. MSL or 23.0 ft.
I. Well bottom 612.7 ft. MSL or 26.0 ft.
J. Filter pack, bottom 612.2 ft. MSL or 26.5 ft.
K. Borehole, bottom 612.7 ft. MSL or 26.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 Other ☐ ____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____
3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐ ____
4. Material between well casing and protective pipe: Bentonite ☐ 30 #40 Red Flint Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . Bentonite-cement grout ☐ 50
e. 21.5 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. ____ Other ☐ ____
7. Fine sand material: Manufacturer, product name & mesh size
a. ____
b. Volume added 0 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added 4 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ ____
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ ____
b. Manufacturer Longyear
c. Slot size: 0.010 in.
d. Slotted length: 3.0 ft.
11. Backfill material (below filter pack): None ☐ 14 Other ☒ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Michael Sawyer
Firm: Tetra Tech, 710 Avis Drive, Suite 100 Ann Arbor, MI 48108
Tel:
Fax:

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Ashview Terrace Apartments PFAS Investigation	Local Grid Location of Well: ____ft. ☐ N. ☐ S. ____ft. ☐ E. ☐ W.	Well Name: MW-21-03
Facility License, Permit or Monitoring No.: 02-05-564043	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. 44° 29' 24.2" Long. 88° 4' 21.5" or St. Plane 558,269 ft. N, 84,720 ft. E. S/Ⓒ/N	Wis. Unique Well No.:	DNR Well Number:
Facility ID:		Date Well Installed: 05/04/2021
Type of Well: Well Code 11/mw	Section Location of Waste/Source: SE 1/4 of SE 1/4 of Sec. 4, T. 24 N, R. 20 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Randy Radke, Cascade Environmental
Distance from Waste/Source ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☒ Not Known	Gov. Lot Number:

A. Protective pipe, top elevation 642.96 ft. MSL
B. Well casing, top elevation 642.51 ft. MSL
C. Land surface elevation 643.0 ft. MSL
D. Surface seal, bottom 642.0 ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☒ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

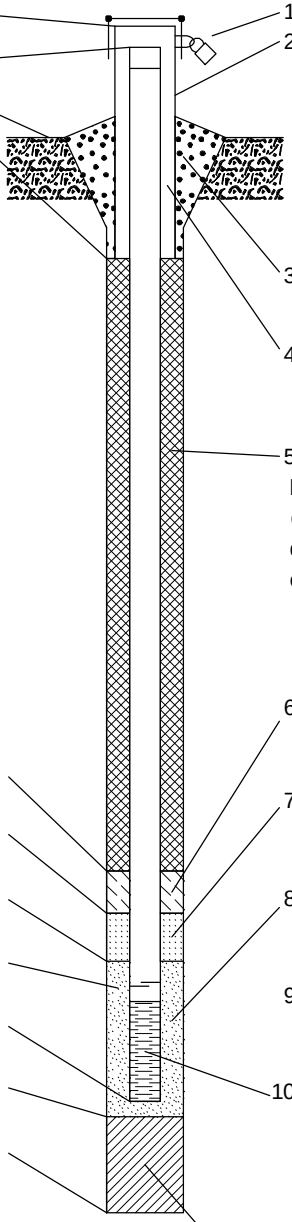
14. Drilling method used: Rotary ☐ 50 Hollow Stem Auger ☐ 41 Sonic Other ☒

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 **Drilling Mud** ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 642.0 ft. MSL or 1.0 ft.
F. Fine sand, top 624.0 ft. MSL or 19.0 ft.
G. Filter pack, top 622.0 ft. MSL or 21.0 ft.
H. Screen joint, top 620.0 ft. MSL or 23.0 ft.
I. Well bottom 615.0 ft. MSL or 28.0 ft.
J. Filter pack, bottom 615.0 ft. MSL or 28.0 ft.
K. Borehole, bottom 613.0 ft. MSL or 30.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.00 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 9.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe:
3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 30 #40 Red Flint Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____Lbs/gal mud weight . . .Bentonite-sand slurry ☐ 35
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 31
d. ____% Bentonite . . . Bentonite-cement grout ☐ 50
e. 18 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. #7 Red Flint
b. Volume added 2 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint
b. Volume added 9 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐
b. Manufacturer Longyear
c. Slot size: 0.010 in.
d. Slotted length: 5.0 ft.
11. Backfill material (below filter pack): None ☐ 14 Other ☒

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature | Firm: Tetra Tech, 710 Avis Drive, Suite 100 Ann Arbor, MI 48108 | Tel: | Fax:

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Attachment 5

Monitoring Well Development Forms

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
Ashview Terrace Apartments PFAS Investigation	Brown	MW-21-01

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
02-05-564043	5		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed, and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☒	51
pumped slowly	☐	50
other _____	☐	

3. Time spent developing well 135 min.

4. Depth of well (from top of well casing) 17.0 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 5.6 gal.

7. Volume of water removed from well 18.2 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	8.49 ft.	16.04 ft.
Date	b.	5/3/2021	5/4/2021
Time	c.	03:39 ☐ a.m. ☒ p.m.	05:00 ☐ a.m. ☒ p.m.
12. Sediment in well bottom		0.2 inches	0.0 inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15	Clear ☒ 20 Turbid ☐ 25
		(Describe) Milky Brown	(Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Randy Radke
Cascade Environmental

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: Michael Christopher
Firm: Georgia-Pacific LLC
Street: 133 Peach Tree Street NE
City/State/Zip: Atlanta, GA 30303

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Michael Savale
Print Name: Mike Savale
Firm: Tetra Tech

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
Ashview Terrace Apartments PFAS Investigation	Brown	MW-21-02

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
02-05-564043	5		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed, and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☒	51
pumped slowly	☐	50
other _____	☐	

3. Time spent developing well 129 min.

4. Depth of well (from top of well casing) 25.8 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 11.9 gal.

7. Volume of water removed from well 30.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	17.96 ft.	22.16 ft.
Date	b.	5/5/2021	5/5/2021
Time	c.	11:08 ☒ a.m. ☐ p.m.	01:17 ☐ a.m. ☒ p.m.
12. Sediment in well bottom		0.1 inches	0.0 inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15	Clear ☒ 20 Turbid ☐ 25
(Describe)		Brown	

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Randy Radke
Cascade Environmental

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: Michael Christopher
Firm: Georgia-Pacific LLC
Street: 133 Peach Tree Street NE
City/State/Zip: Atlanta, GA 30303

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Michael Savale
Print Name: Mike Savale
Firm: Tetra Tech

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	County	Well Name
Ashview Terrace Apartments PFAS Investigation	Brown	MW-21-03

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
02-05-564043	5		

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed, and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☒	51
pumped slowly	☐	50
other _____	☐	

3. Time spent developing well 46 min.

4. Depth of well (from top of well casing) 27.6 ft.

5. Inside diameter of well 2.00 in.

6. Volume of water in filter pack and well casing 9.4 gal.

7. Volume of water removed from well 18.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	24.50 ft.	24.55 ft.
Date	b.	5/4/2021	5/4/2021
Time	c.	05:00 ☐ a.m. ☒ p.m.	05:46 ☐ a.m. ☒ p.m.
12. Sediment in well bottom		0.1 inches	0.0 inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15	Clear ☒ 20 Turbid ☐ 25
		(Describe) Light Brown	(Describe) Slightly Turbid
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Person's Name and Firm
Randy Radke
Cascade Environmental

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: Michael Christopher
Firm: Georgia-Pacific LLC
Street: 133 Peach Tree Street NE
City/State/Zip: Atlanta, GA 30303

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Michael Savale
Print Name: Mike Savale
Firm: Tetra Tech

NOTE: See instructions for more information including a list of county codes and well type codes.

Attachment 6

Soil and Groundwater Analytical Reports

May 28, 2021

Vista Work Order No. 2105075

Mr. Michael Savale
Tetra Tech
710 Avis Drive, Suite 100
Ann Arbor, MI 48108

Dear Mr. Savale,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 07, 2021 under your Project Name 'Ashview Terrace Apt. PFAS'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

for

Martha Maier
Laboratory Director

Vista Work Order No. 2105075
Case Narrative

Sample Condition on Receipt:

Three aqueous samples and one soil sample were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. The samples were received in good condition and within the recommended temperature requirements.

Analytical Notes:

PFAS Isotope Dilution Method (Aqueous)

The samples were extracted and analyzed for a selected list of PFAS using Vista's PFAS Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries for all QC and field samples were within the acceptance criteria.

PFAS Isotope Dilution Method (Soil)

The soil sample was extracted and analyzed for a selected list of PFAS using Vista's Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The sample was extracted and analyzed within the hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the

preparation batch. No analytes were detected in the Method Blank above the Reporting Limit (RL). The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries for all QC and field samples were within the acceptance criteria.

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2105075-01	MW-21-01-210506	06-May-21 09:00	07-May-21 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2105075-02	MW-21-02-210506	06-May-21 10:00	07-May-21 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2105075-03	MW-21-03-210505	05-May-21 17:25	07-May-21 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2105075-04	SB-21-02-210504	04-May-21 11:00	07-May-21 09:33	HDPE Jar, 6 oz

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous

Laboratory Data

Lab Sample: B1E0111-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.715	0.715	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFPeA	2706-90-3	<0.980	0.980	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFBS	375-73-5	<0.770	0.770	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
4:2 FTS	757124-72-4	<1.08	1.08	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFHxA	307-24-4	<1.13	1.13	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFPeS	2706-91-4	<0.905	0.905	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
HFPO-DA	13252-13-6	<0.620	0.620	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFHpA	375-85-9	<0.885	0.885	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
ADONA	919005-14-4	<0.850	0.850	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFHxS	355-46-4	<1.08	1.08	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
6:2 FTS	27619-97-2	<0.965	0.965	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFOA	335-67-1	<1.09	1.09	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFHpS	375-92-8	<2.47	2.47	2.50		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFNA	375-95-1	<0.565	0.565	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFOSA	754-91-6	<1.35	1.35	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFOS	1763-23-1	<1.07	1.07	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
9Cl-PF3ONS	756426-58-1	<0.830	0.830	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFDA	335-76-2	<0.900	0.900	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
8:2 FTS	39108-34-4	<2.24	2.24	2.25		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFNS	68259-12-1	<1.41	1.41	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
MeFOSAA	2355-31-9	<0.945	0.945	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
EtFOSAA	2991-50-6	<2.54	2.54	2.63		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFUnA	2058-94-8	<1.35	1.35	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFDS	335-77-3	<2.71	2.71	2.75		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
11Cl-PF3OUdS	763051-92-9	<0.427	0.427	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFDoA	307-55-1	<0.785	0.785	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
MeFOSA	31506-32-8	<6.85	6.85	8.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFTrDA	72629-94-8	<1.11	1.11	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFDoS	79780-39-5	<1.59	1.59	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFTeDA	376-06-7	<0.815	0.815	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
EtFOSA	4151-50-2	<7.30	7.30	8.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
MeFOSE	24448-09-7	<8.00	8.00	8.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
EtFOSE	1691-99-2	<5.55	5.55	8.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	138	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C3-PFPeA	IS	87.9	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C3-PFBS	IS	86.2	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C3-HFPO-DA	IS	81.0	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech Matrix: Aqueous

Project: Ashview Terrace Apt. PFAS

Laboratory Data

Lab Sample: B1E0111-BLK1 Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-4:2 FTS	IS	88.0	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFHxA	IS	87.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C4-PFHpA	IS	91.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C3-PFHxS	IS	91.1	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-6:2 FTS	IS	96.5	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C5-PFNA	IS	89.5	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C8-PFOSA	IS	55.2	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFOA	IS	92.6	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C8-PFOS	IS	92.2	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFDA	IS	93.4	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-8:2 FTS	IS	87.6	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d3-MeFOSAA	IS	80.9	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFUnA	IS	89.4	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d5-EtFOSAA	IS	82.6	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFDoA	IS	82.5	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d3-MeFOSA	IS	28.1	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFTeDA	IS	72.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d5-EtFOSA	IS	27.2	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d7-MeFOSE	IS	48.3	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d9-EtFOSE	IS	48.3	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous

Laboratory Data

Lab Sample: B1E0111-BS1
Column: BEH C18

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	8.48	8.00	106	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFPeA	2706-90-3	8.23	8.00	103	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFBS	375-73-5	9.15	8.00	114	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
4:2 FTS	757124-72-4	7.89	8.00	98.6	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFHxA	307-24-4	8.56	8.00	107	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFPeS	2706-91-4	9.40	8.00	118	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
HFPO-DA	13252-13-6	8.69	8.00	109	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFHpA	375-85-9	7.65	8.00	95.6	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
ADONA	919005-14-4	8.10	8.00	101	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFHxS	355-46-4	8.03	8.00	100	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
6:2 FTS	27619-97-2	8.11	8.00	101	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFOA	335-67-1	8.41	8.00	105	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFHpS	375-92-8	7.52	8.00	94.0	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFNA	375-95-1	8.31	8.00	104	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFOSA	754-91-6	6.80	8.00	85.0	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFOS	1763-23-1	9.06	8.00	113	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
9Cl-PF3ONS	756426-58-1	8.36	8.00	105	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFDA	335-76-2	7.67	8.00	95.8	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
8:2 FTS	39108-34-4	9.67	8.00	121	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFNS	68259-12-1	8.24	8.00	103	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
MeFOSAA	2355-31-9	7.64	8.00	95.5	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
EtFOSAA	2991-50-6	7.94	8.00	99.2	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFUnA	2058-94-8	8.90	8.00	111	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFDS	335-77-3	7.16	8.00	89.5	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
11Cl-PF3OUdS	763051-92-9	8.88	8.00	111	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFDoA	307-55-1	7.63	8.00	95.4	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
MeFOSA	31506-32-8	7.57	8.00	94.6	50 - 150	J	B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFTrDA	72629-94-8	7.28	8.00	91.0	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFDoS	79780-39-5	7.42	8.08	91.9	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFTeDA	376-06-7	8.19	8.00	102	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
EtFOSA	4151-50-2	7.95	8.00	99.4	50 - 150	J	B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
MeFOSE	24448-09-7	7.54	8.00	94.2	50 - 150	J	B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
EtFOSE	1691-99-2	7.53	8.00	94.2	50 - 150	J	B1E0111	17-May-21	0.250 L	20-May-21 00:20	1

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution

Sample ID: OPR **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous

Laboratory Data

Lab Sample: B1E0111-BS1
Column: BEH C18

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	131	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C3-PFPeA	IS	85.4	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C3-PFBS	IS	80.0	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C3-HFPO-DA	IS	79.1	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-4:2 FTS	IS	85.0	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFHxA	IS	86.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C4-PFHpA	IS	90.8	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C3-PFHxS	IS	97.4	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-6:2 FTS	IS	87.2	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C5-PFNA	IS	82.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C8-PFOSA	IS	59.0	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFOA	IS	87.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C8-PFOS	IS	90.9	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFDA	IS	94.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-8:2 FTS	IS	81.1	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d3-MeFOSAA	IS	82.0	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFUnA	IS	84.5	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d5-EtFOSAA	IS	81.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFDoA	IS	85.1	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d3-MeFOSA	IS	34.8	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFTeDA	IS	75.3	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d5-EtFOSA	IS	33.8	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d7-MeFOSE	IS	50.2	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d9-EtFOSE	IS	51.8	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1

Sample ID: MW-21-01-210506 **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 06-May-21 09:00

Laboratory Data

Lab Sample: 2105075-01
Date Received: 07-May-21 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	18.8	0.731	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFPeA	2706-90-3	25.2	1.00	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFBS	375-73-5	169	0.787	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
4:2 FTS	757124-72-4	<1.10	1.10	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFHxA	307-24-4	15.7	1.15	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFPeS	2706-91-4	<0.925	0.925	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
HFPO-DA	13252-13-6	<0.634	0.634	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFHpA	375-85-9	8.43	0.905	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
ADONA	919005-14-4	<0.869	0.869	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFHxS	355-46-4	1.44	1.10	2.04	J, Q	B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
6:2 FTS	27619-97-2	1.81	0.986	2.04	J	B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFOA	335-67-1	12.1	1.11	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFHpS	375-92-8	<2.52	2.52	2.56		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFNA	375-95-1	<0.577	0.577	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFOSA	754-91-6	3.91	1.38	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFOS	1763-23-1	1.39	1.09	2.04	J, Q	B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
9Cl-PF3ONS	756426-58-1	<0.848	0.848	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFDA	335-76-2	<0.920	0.920	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
8:2 FTS	39108-34-4	<2.29	2.29	2.30		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFNS	68259-12-1	<1.44	1.44	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
MeFOSAA	2355-31-9	<0.966	0.966	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
EtFOSAA	2991-50-6	<2.59	2.59	2.68		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFUnA	2058-94-8	<1.37	1.37	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFDS	335-77-3	<2.76	2.76	2.81		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
11Cl-PF3OUdS	763051-92-9	<0.436	0.436	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFDoA	307-55-1	<0.802	0.802	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
MeFOSA	31506-32-8	<7.00	7.00	8.18		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFTrDA	72629-94-8	<1.13	1.13	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFDoS	79780-39-5	<1.63	1.63	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
PFTeDA	376-06-7	<0.833	0.833	2.04		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
EtFOSA	4151-50-2	<7.46	7.46	8.18		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
MeFOSE	24448-09-7	<8.18	8.18	8.18		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
EtFOSE	1691-99-2	<5.67	5.67	8.18		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	124	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C3-PFPeA	IS	87.4	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C3-PFBS	IS	84.0	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1

Sample ID: MW-21-01-210506

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 06-May-21 09:00

Laboratory Data

Lab Sample: 2105075-01
Date Received: 07-May-21 09:33
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-HFPO-DA	IS	82.9	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C2-4:2 FTS	IS	92.3	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C2-PFHxA	IS	85.6	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C4-PFHpA	IS	90.0	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C3-PFHxS	IS	87.8	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C2-6:2 FTS	IS	87.6	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C5-PFNA	IS	87.0	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C8-PFOSA	IS	64.4	10 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C2-PFOA	IS	87.6	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C8-PFOS	IS	85.0	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C2-PFDA	IS	87.9	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C2-8:2 FTS	IS	83.1	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
d3-MeFOSAA	IS	77.1	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C2-PFUnA	IS	82.2	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
d5-EtFOSAA	IS	79.1	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C2-PFDoA	IS	82.1	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
d3-MeFOSA	IS	40.8	10 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
13C2-PFTeDA	IS	76.1	25 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
d5-EtFOSA	IS	42.1	10 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
d7-MeFOSE	IS	59.0	10 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1
d9-EtFOSE	IS	60.0	10 - 150		B1E0111	17-May-21	0.245 L	21-May-21 17:49	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: MW-21-02-210506

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 06-May-21 10:00

Laboratory Data

Lab Sample: 2105075-02
Date Received: 07-May-21 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	3.69	0.754	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFPeA	2706-90-3	2.92	1.03	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFBS	375-73-5	3.64	0.812	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
4:2 FTS	757124-72-4	<1.14	1.14	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFHxA	307-24-4	1.89	1.19	2.11	J	B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFPeS	2706-91-4	<0.954	0.954	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
HFPO-DA	13252-13-6	<0.654	0.654	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFHpA	375-85-9	1.20	0.933	2.11	J	B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
ADONA	919005-14-4	<0.896	0.896	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFHxS	355-46-4	<1.13	1.13	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
6:2 FTS	27619-97-2	<1.02	1.02	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFOA	335-67-1	<1.15	1.15	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFHpS	375-92-8	<2.60	2.60	2.64		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFNA	375-95-1	<0.596	0.596	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFOSA	754-91-6	2.22	1.42	2.11	Q	B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFOS	1763-23-1	<1.12	1.12	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
9Cl-PF3ONS	756426-58-1	<0.875	0.875	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFDA	335-76-2	<0.949	0.949	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
8:2 FTS	39108-34-4	<2.36	2.36	2.37		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFNS	68259-12-1	<1.49	1.49	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
MeFOSAA	2355-31-9	<0.996	0.996	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
EtFOSAA	2991-50-6	<2.67	2.67	2.77		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFUnA	2058-94-8	<1.42	1.42	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFDS	335-77-3	<2.85	2.85	2.90		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
11Cl-PF3OUdS	763051-92-9	<0.450	0.450	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFDoA	307-55-1	<0.828	0.828	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
MeFOSA	31506-32-8	<7.22	7.22	8.44		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFTrDA	72629-94-8	<1.17	1.17	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFDoS	79780-39-5	<1.68	1.68	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
PFTeDA	376-06-7	<0.859	0.859	2.11		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
EtFOSA	4151-50-2	<7.70	7.70	8.44		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
MeFOSE	24448-09-7	<8.44	8.44	8.44		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
EtFOSE	1691-99-2	<5.85	5.85	8.44		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	148	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C3-PFPeA	IS	92.9	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C3-PFBS	IS	85.5	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1

Sample ID: MW-21-02-210506

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 06-May-21 10:00

Laboratory Data

Lab Sample: 2105075-02
Date Received: 07-May-21 09:33
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-HFPO-DA	IS	110	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C2-4:2 FTS	IS	92.3	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C2-PFHxA	IS	94.3	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C4-PFHpA	IS	101	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C3-PFHxS	IS	104	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C2-6:2 FTS	IS	92.1	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C5-PFNA	IS	90.0	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C8-PFOSA	IS	74.2	10 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C2-PFOA	IS	94.5	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C8-PFOS	IS	90.5	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C2-PFDA	IS	90.2	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C2-8:2 FTS	IS	85.0	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
d3-MeFOSAA	IS	84.8	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C2-PFUnA	IS	88.6	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
d5-EtFOSAA	IS	87.5	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C2-PFDoA	IS	88.5	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
d3-MeFOSA	IS	52.5	10 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
13C2-PFTeDA	IS	76.8	25 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
d5-EtFOSA	IS	52.9	10 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
d7-MeFOSE	IS	60.1	10 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1
d9-EtFOSE	IS	61.4	10 - 150		B1E0111	17-May-21	0.237 L	20-May-21 01:22	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: MW-21-03-210505 **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 05-May-21 17:25

Laboratory Data

Lab Sample: 2105075-03
Date Received: 07-May-21 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	15.2	0.778	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFPeA	2706-90-3	5.48	1.07	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFBS	375-73-5	122	0.838	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
4:2 FTS	757124-72-4	<1.17	1.17	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFHxA	307-24-4	3.97	1.23	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFPeS	2706-91-4	<0.984	0.984	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
HFPO-DA	13252-13-6	<0.674	0.674	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFHpA	375-85-9	3.37	0.963	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
ADONA	919005-14-4	<0.925	0.925	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFHxS	355-46-4	<1.17	1.17	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
6:2 FTS	27619-97-2	5.63	1.05	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFOA	335-67-1	23.4	1.19	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFHpS	375-92-8	<2.69	2.69	2.72		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFNA	375-95-1	0.687	0.615	2.18	J	B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFOSA	754-91-6	3.70	1.47	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFOS	1763-23-1	3.12	1.16	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
9Cl-PF3ONS	756426-58-1	<0.903	0.903	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFDA	335-76-2	<0.979	0.979	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
8:2 FTS	39108-34-4	<2.44	2.44	2.45		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFNS	68259-12-1	<1.53	1.53	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
MeFOSAA	2355-31-9	<1.03	1.03	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
EtFOSAA	2991-50-6	<2.76	2.76	2.86		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFUnA	2058-94-8	<1.46	1.46	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFDS	335-77-3	<2.94	2.94	2.99		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
11Cl-PF3OUdS	763051-92-9	<0.464	0.464	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFDoA	307-55-1	<0.854	0.854	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
MeFOSA	31506-32-8	<7.45	7.45	8.70		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFTrDA	72629-94-8	<1.20	1.20	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFDoS	79780-39-5	<1.73	1.73	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
PFTeDA	376-06-7	<0.886	0.886	2.18		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
EtFOSA	4151-50-2	<7.94	7.94	8.70		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
MeFOSE	24448-09-7	<8.70	8.70	8.70		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
EtFOSE	1691-99-2	<6.04	6.04	8.70		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	147	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C3-PFPeA	IS	92.5	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C3-PFBS	IS	85.6	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1

Sample ID: MW-21-03-210505

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 05-May-21 17:25

Laboratory Data

Lab Sample: 2105075-03
Date Received: 07-May-21 09:33
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-HFPO-DA	IS	79.8	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C2-4:2 FTS	IS	86.7	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C2-PFHxA	IS	90.7	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C4-PFHpA	IS	95.5	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C3-PFHxS	IS	100	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C2-6:2 FTS	IS	95.9	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C5-PFNA	IS	85.7	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C8-PFOSA	IS	68.7	10 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C2-PFOA	IS	92.2	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C8-PFOS	IS	93.8	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C2-PFDA	IS	96.1	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C2-8:2 FTS	IS	79.9	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
d3-MeFOSAA	IS	87.4	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C2-PFUnA	IS	89.5	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
d5-EtFOSAA	IS	90.1	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C2-PFDoA	IS	92.5	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
d3-MeFOSA	IS	50.5	10 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
13C2-PFTeDA	IS	79.4	25 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
d5-EtFOSA	IS	52.0	10 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
d7-MeFOSE	IS	61.1	10 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1
d9-EtFOSE	IS	62.9	10 - 150		B1E0111	17-May-21	0.230 L	20-May-21 01:33	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.266	0.266	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFPeA	2706-90-3	<0.252	0.252	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFBS	375-73-5	<0.438	0.438	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
4:2 FTS	757124-72-4	<0.416	0.416	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHxA	307-24-4	<0.638	0.638	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFPeS	2706-91-4	<0.324	0.324	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
HFPO-DA	13252-13-6	<0.548	0.548	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHpA	375-85-9	<0.332	0.332	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
ADONA	919005-14-4	<0.350	0.350	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHxS	355-46-4	<0.408	0.408	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
6:2 FTS	27619-97-2	<0.648	0.648	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFOA	335-67-1	<0.288	0.288	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHpS	375-92-8	<0.630	0.630	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFNA	375-95-1	<0.376	0.376	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFOSA	754-91-6	<0.452	0.452	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFOS	1763-23-1	<0.764	0.764	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
9Cl-PF3ONS	756426-58-1	<0.714	0.714	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDA	335-76-2	<0.652	0.652	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
8:2 FTS	39108-34-4	<0.538	0.538	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFNS	68259-12-1	<0.622	0.622	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
MeFOSAA	2355-31-9	<0.384	0.384	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
EtFOSAA	2991-50-6	<0.704	0.704	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFUnA	2058-94-8	<0.312	0.312	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDS	335-77-3	<0.752	0.752	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
11Cl-PF3OUdS	763051-92-9	<1.13	1.13	1.50		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDoA	307-55-1	<0.408	0.408	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
MeFOSA	31506-32-8	<3.16	3.16	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFTrDA	72629-94-8	<0.618	0.618	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDoS	79780-39-5	<1.01	1.01	1.50		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFTeDA	376-06-7	<0.608	0.608	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
EtFOSA	4151-50-2	<5.00	5.00	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
MeFOSE	24448-09-7	<3.08	3.08	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
EtFOSE	1691-99-2	<3.52	3.52	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	132	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-PFPeA	IS	82.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-PFBS	IS	87.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-HFPO-DA	IS	80.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BLK1
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-4:2 FTS	IS	85.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFHxA	IS	85.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C4-PFHpA	IS	90.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-PFHxS	IS	90.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-6:2 FTS	IS	79.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C5-PFNA	IS	81.0	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C8-PFOSA	IS	47.0	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFOA	IS	89.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C8-PFOS	IS	90.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFDA	IS	70.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-8:2 FTS	IS	81.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d3-MeFOSAA	IS	58.7	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFUnA	IS	58.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d5-EtFOSAA	IS	62.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFDoA	IS	61.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d3-MeFOSA	IS	18.0	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFTeDA	IS	66.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d5-EtFOSA	IS	18.1	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d7-MeFOSE	IS	34.4	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d9-EtFOSE	IS	37.4	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BS1
Column: BEH C18

Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	1.82	2.00	91.1	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFPeA	2706-90-3	1.95	2.00	97.7	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFBS	375-73-5	2.15	2.00	108	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
4:2 FTS	757124-72-4	2.27	2.00	113	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHxA	307-24-4	1.92	2.00	96.2	50 - 150	Q	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFPeS	2706-91-4	1.78	2.00	89.2	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
HFPO-DA	13252-13-6	2.03	2.00	102	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHpA	375-85-9	2.05	2.00	102	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
ADONA	919005-14-4	2.14	2.00	107	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHxS	355-46-4	1.75	2.00	87.3	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
6:2 FTS	27619-97-2	1.90	2.00	95.0	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFOA	335-67-1	2.02	2.00	101	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHpS	375-92-8	1.74	2.00	86.9	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFNA	375-95-1	1.97	2.00	98.5	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFOSA	754-91-6	2.16	2.00	108	50 - 150	Q	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFOS	1763-23-1	2.20	2.00	110	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
9Cl-PF3ONS	756426-58-1	1.86	2.00	92.8	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDA	335-76-2	2.08	2.00	104	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
8:2 FTS	39108-34-4	2.23	2.00	112	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFNS	68259-12-1	1.63	2.00	81.4	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
MeFOSAA	2355-31-9	1.66	2.00	83.2	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
EtFOSAA	2991-50-6	2.00	2.00	100	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFUnA	2058-94-8	2.17	2.00	109	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDS	335-77-3	1.64	2.00	81.9	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
11Cl-PF3OUdS	763051-92-9	2.37	2.00	119	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDoA	307-55-1	1.99	2.00	99.7	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
MeFOSA	31506-32-8	1.70	2.00	85.1	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFTrDA	72629-94-8	1.83	2.00	91.6	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDoS	79780-39-5	2.15	2.02	107	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFTeDA	376-06-7	1.95	2.00	97.6	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
EtFOSA	4151-50-2	1.86	2.00	92.8	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
MeFOSE	24448-09-7	1.67	2.00	83.3	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
EtFOSE	1691-99-2	2.07	2.00	104	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution

Sample ID: OPR — **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BS1
Column: BEH C18

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	127	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-PFPeA	IS	82.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-PFBS	IS	96.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-HFPO-DA	IS	75.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-4:2 FTS	IS	91.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFHxA	IS	84.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C4-PFHpA	IS	83.0	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-PFHxS	IS	97.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-6:2 FTS	IS	94.0	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C5-PFNA	IS	79.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C8-PFOSA	IS	44.0	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFOA	IS	86.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C8-PFOS	IS	94.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFDA	IS	76.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-8:2 FTS	IS	76.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d3-MeFOSAA	IS	65.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFUnA	IS	65.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d5-EtFOSAA	IS	64.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFDoA	IS	68.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d3-MeFOSA	IS	17.6	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFTeDA	IS	72.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d5-EtFOSA	IS	15.5	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d7-MeFOSE	IS	33.3	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d9-EtFOSE	IS	34.6	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1

Sample ID: SB-21-02-210504 **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Soil
Date Collected: 04-May-21 11:00

Laboratory Data

Lab Sample: 2105075-04
Date Received: 07-May-21 09:33
% Solids: 81.0
Column: BEH C18

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.261	0.261	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFPeA	2706-90-3	<0.247	0.247	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFBS	375-73-5	<0.429	0.429	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
4:2 FTS	757124-72-4	<0.408	0.408	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFHxA	307-24-4	<0.625	0.625	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFPeS	2706-91-4	<0.318	0.318	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
HFPO-DA	13252-13-6	<0.537	0.537	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFHpA	375-85-9	<0.325	0.325	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
ADONA	919005-14-4	<0.343	0.343	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFHxS	355-46-4	<0.400	0.400	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
6:2 FTS	27619-97-2	<0.635	0.635	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFOA	335-67-1	<0.282	0.282	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFHpS	375-92-8	<0.618	0.618	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFNA	375-95-1	<0.369	0.369	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFOSA	754-91-6	<0.443	0.443	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFOS	1763-23-1	1.69	0.749	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
9Cl-PF3ONS	756426-58-1	<0.700	0.700	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFDA	335-76-2	<0.639	0.639	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
8:2 FTS	39108-34-4	<0.527	0.527	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFNS	68259-12-1	<0.610	0.610	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
MeFOSAA	2355-31-9	<0.376	0.376	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
EtFOSAA	2991-50-6	<0.690	0.690	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFUnA	2058-94-8	<0.306	0.306	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFDS	335-77-3	<0.737	0.737	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
11Cl-PF3OUdS	763051-92-9	<1.11	1.11	1.47		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFDoA	307-55-1	<0.400	0.400	0.490		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
MeFOSA	31506-32-8	<3.10	3.10	9.80		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFTrDA	72629-94-8	<0.606	0.606	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFDoS	79780-39-5	<0.988	0.988	1.47		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
PFTeDA	376-06-7	<0.596	0.596	0.980		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
EtFOSA	4151-50-2	<4.90	4.90	9.80		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
MeFOSE	24448-09-7	<3.02	3.02	9.80		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
EtFOSE	1691-99-2	<3.45	3.45	9.80		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	145	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C3-PFPeA	IS	89.3	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C3-PFBS	IS	96.7	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1

Sample ID: SB-21-02-210504

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Soil
Date Collected: 04-May-21 11:00

Laboratory Data

Lab Sample: 2105075-04
Date Received: 07-May-21 09:33
% Solids: 81.0
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-HFPO-DA	IS	76.9	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C2-4:2 FTS	IS	102	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C2-PFHxA	IS	85.5	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C4-PFHpA	IS	88.6	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C3-PFHxS	IS	97.4	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C2-6:2 FTS	IS	103	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C5-PFNA	IS	83.9	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C8-PFOSA	IS	58.4	10 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C2-PFOA	IS	89.5	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C8-PFOS	IS	90.6	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C2-PFDA	IS	83.7	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C2-8:2 FTS	IS	110	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
d3-MeFOSAA	IS	74.5	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C2-PFUnA	IS	73.7	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
d5-EtFOSAA	IS	77.0	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C2-PFDoA	IS	74.8	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
d3-MeFOSA	IS	34.1	10 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
13C2-PFTeDA	IS	54.2	25 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
d5-EtFOSA	IS	34.6	10 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
d7-MeFOSE	IS	54.9	10 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1
d9-EtFOSE	IS	54.5	10 - 150		B1E0129	21-May-21	1.26 g	26-May-21 18:13	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection Limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
MDL	Method Detection Limit
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
RL	For 537.1, the reported RLs are the MRLs.
TEQ	Toxic Equivalency, sum of the toxic equivalency factors (TEF) multiplied by the sample concentrations.
TEQMax	TEQ calculation that uses the detection limit as the concentration for non-detects
TEQMin	TEQ calculation that uses zero as the concentration for non-detects
TEQRisk	TEQ calculation that uses ½ the detection limit as the concentration for non-detects
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	21-023-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-26
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2020018
Massachusetts Department of Environmental Protection	M-CA413
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1980678
New Hampshire Environmental Accreditation Program	207720
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Ohio Environmental Protection Agency	87778
Oregon Laboratory Accreditation Program	4042-016
Pennsylvania Department of Environmental Protection	017
Texas Commission on Environmental Quality	T104704189-21-12
Vermont Department of Health	VT-4042
Virginia Department of General Services	10769
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	**Method**
Determination of Polychlorinated p- Dioxins & Polychlorinated Dibenzofurans	EPA 23
Polychlorinated Dibenzodioxins in Ambient Air by GC/HRMS	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613/1613B
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537.1
Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry	EPA 533
Perfluorooctanesulonate (PFOS) and Perfluorooctanoate (PFOA) - Method for Unfiltered Samples Using Solid Phase Extraction and Liquid Chromatography/Mass Spectrometry	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	**Method**
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 2105075 Temp: 1.3 °C
Storage ID: R-13, WR-2 Storage Secured: Yes ☑ No ☐

Project ID: Ashview Terrace Apt. PFAS PO#: 117-4124161 Sampler: Andrea Gordon (name)

TAT (check one): Standard: ☒ 21 days Rush (surcharge may apply) ☐ 14 days ☐ 7 days Specify: _____

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Andrea Gordon	5-6-21	1200	FedEx	5-6-21	1200
Fedex	05/07/21	0933	Justin Briseno	05/07/21	0933

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 * Fax (916) 673-0106
ATTN: Sample Custodian

Method of Shipment: FedEx
Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/ Sample Description	Container(s) Quantity	Type	Matrix	PFAS by Isotope Dilution: PFOA/ PFOS	UCMR3 PFAS List:6	537.1 List: 14 or 18 (Circle One)	EPA Draft List of 24	OTHER: Please attach analyte list	EPA Method 537 (DW only): PFOA/ PFOS	UCMR3 PFAS List:6	537.1 List of 14	537.1 List of 18	Comments
MW-21-01-210506	5-6-21	0900		2	P	AQ					X					
MW-21-02-210506	5-6-21	1000		2	P	AQ					X					
MW-21-03-210505	5-5-21	1725		2	P	AQ					X					
SB-21-02-210504	5-4-21	1100		1	PJ	SO					X					

Special Instructions/Comment: Level III Data Package

SEND DOCUMENTATION AND RESULTS TO:

Name: Mike Savale
Company: Tetra Tech
Address: 710 Avis Dr Suite 100
City: Ann Arbor State: MI Zip: 48108
Phone: 810-923-9076
Email: michael.savale@tetratech.com

Container Types: P = HDPE, PJ = HDPE Jar, PY = Polypropylene, O= Other _____

Bottle Preservation Type: TZ= Trizma: _____

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other _____

Vista Analytical Laboratory

Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 2105075 TAT Std

Samples Arrival:	**Date/Time** 05/07/21 0933		**Initials:** (AJ)		**Location:** WR-2 **Shelf/Rack:** N/A		
Delivered By:	(FedEx)	UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	(Ice)		Blue Ice		Techni Ice	Dry Ice	None
Temp °C: 1.4 (uncorrected) **Temp °C:** 1.3 (corrected)			**Probe used: Y / (N)**		**Thermometer ID:** IR-3		

		YES	NO	NA
Shipping Container(s) Intact?		✓		
Shipping Custody Seals Intact?		✓		
Airbill ~	Trk # 786695192 7877	✓		
Shipping Documentation Present?		✓		
Shipping Container	(Vista) Client (Retain) Return Dispose			
Chain of Custody / Sample Documentation Present?		✓		
Chain of Custody / Sample Documentation Complete?		✓		
Holding Time Acceptable?		✓		

Logged In:	**Date/Time** 05/11/21 0923	**Initials:** WWS	**Location:** R-13, WR-2 **Shelf/Rack:** B-1, C-6, B-3
COC Anomaly/Sample Acceptance Form completed?			NO ✓ NA ✓

Comments:

CoC/Label Reconciliation Report WO# 2105075

LabNumber	CoC Sample ID	SampleAlias	Sample Date/Time	Container	BaseMatrix	Sample Comments
2105075-01	A MW-21-01-210506	☑	06-May-21 09:00 ☑	HDPE Bottle, 250 mL	Aqueous	
2105075-01	B MW-21-01-210506	☑	06-May-21 09:00 ☑	HDPE Bottle, 250 mL	Aqueous	
2105075-02	A MW-21-02-210506	☑	06-May-21 10:00 ☑	HDPE Bottle, 250 mL	Aqueous	
2105075-02	B MW-21-02-210506	☑	06-May-21 10:00 ☑	HDPE Bottle, 250 mL	Aqueous	
2105075-03	A MW-21-03-210505	☑	05-May-21 17:25 ☑	HDPE Bottle, 250 mL	Aqueous	
2105075-03	B MW-21-03-210505	☑	05-May-21 17:25 ☑	HDPE Bottle, 250 mL	Aqueous	
2105075-04	A SB-21-02-210504	☑	04-May-21 11:00 ☑	HDPE Jar, 6 oz	Solid	

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Container Type Appropriate for Analysis(es)	✓		

Comments:

Preservation Documented: Na2S2O3 Trizma NH4CH3CO2 None all Other

Verifed by/Date: WWS 05/11/21

May 28, 2021

Vista Work Order No. 2105073

Mr. Michael Savale
Tetra Tech
710 Avis Drive, Suite 100
Ann Arbor, MI 48108

Dear Mr. Savale,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 07, 2021 under your Project Name 'Ashview Terrace Apt. PFAS'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

for

Martha Maier
Laboratory Director

Vista Work Order No. 2105073
Case Narrative

Sample Condition on Receipt:

Four aqueous samples and one soil sample were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. The samples were received in good condition and within the recommended temperature requirements.

Analytical Notes:

PFAS Isotope Dilution Method (Aqueous)

The aqueous samples were extracted and analyzed for a selected list of PFAS using Vista's PFAS Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries for all QC and field samples were within the acceptance criteria.

PFAS Isotope Dilution Method (Soil)

The soil sample was extracted and analyzed for a selected list of PFAS using Vista's Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The sample was extracted and analyzed within the hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the

preparation batch. No analytes were detected in the Method Blank above the Reporting Limit (RL). The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
2105073-05	DUP-SB-01-210504	PFAS Isotope Dilution Method	13C2-PFTeDA	H	23.0

H = Recovery was outside laboratory acceptance criteria.

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2105073-01	EB-DR-01-210504	04-May-21 14:20	07-May-21 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2105073-02	EB-GW-01-210505	05-May-21 15:55	07-May-21 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2105073-03	FB-GW-01-210505	05-May-21 15:55	07-May-21 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2105073-04	DUP-GW-01-210505	05-May-21 00:00	07-May-21 09:33	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2105073-05	DUP-SB-01-210504	04-May-21 00:00	07-May-21 09:33	HDPE Jar, 6 oz

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous

Laboratory Data

Lab Sample: B1E0111-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.715	0.715	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFPeA	2706-90-3	<0.980	0.980	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFBS	375-73-5	<0.770	0.770	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
4:2 FTS	757124-72-4	<1.08	1.08	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFHxA	307-24-4	<1.13	1.13	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFPeS	2706-91-4	<0.905	0.905	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
HFPO-DA	13252-13-6	<0.620	0.620	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFHpA	375-85-9	<0.885	0.885	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
ADONA	919005-14-4	<0.850	0.850	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFHxS	355-46-4	<1.08	1.08	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
6:2 FTS	27619-97-2	<0.965	0.965	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFOA	335-67-1	<1.09	1.09	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFHpS	375-92-8	<2.47	2.47	2.50		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFNA	375-95-1	<0.565	0.565	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFOSA	754-91-6	<1.35	1.35	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFOS	1763-23-1	<1.07	1.07	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
9Cl-PF3ONS	756426-58-1	<0.830	0.830	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFDA	335-76-2	<0.900	0.900	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
8:2 FTS	39108-34-4	<2.24	2.24	2.25		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFNS	68259-12-1	<1.41	1.41	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
MeFOSAA	2355-31-9	<0.945	0.945	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
EtFOSAA	2991-50-6	<2.54	2.54	2.63		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFUnA	2058-94-8	<1.35	1.35	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFDS	335-77-3	<2.71	2.71	2.75		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
11Cl-PF3OUdS	763051-92-9	<0.427	0.427	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFDoA	307-55-1	<0.785	0.785	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
MeFOSA	31506-32-8	<6.85	6.85	8.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFTrDA	72629-94-8	<1.11	1.11	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFDoS	79780-39-5	<1.59	1.59	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
PFTeDA	376-06-7	<0.815	0.815	2.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
EtFOSA	4151-50-2	<7.30	7.30	8.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
MeFOSE	24448-09-7	<8.00	8.00	8.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
EtFOSE	1691-99-2	<5.55	5.55	8.00		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	138	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C3-PFPeA	IS	87.9	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C3-PFBS	IS	86.2	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C3-HFPO-DA	IS	81.0	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous

Laboratory Data

Lab Sample: B1E0111-BLK1
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-4:2 FTS	IS	88.0	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFHxA	IS	87.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C4-PFHpA	IS	91.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C3-PFHxS	IS	91.1	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-6:2 FTS	IS	96.5	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C5-PFNA	IS	89.5	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C8-PFOSA	IS	55.2	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFOA	IS	92.6	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C8-PFOS	IS	92.2	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFDA	IS	93.4	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-8:2 FTS	IS	87.6	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d3-MeFOSAA	IS	80.9	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFUnA	IS	89.4	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d5-EtFOSAA	IS	82.6	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFDoA	IS	82.5	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d3-MeFOSA	IS	28.1	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
13C2-PFTeDA	IS	72.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d5-EtFOSA	IS	27.2	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d7-MeFOSE	IS	48.3	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1
d9-EtFOSE	IS	48.3	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:10	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous

Laboratory Data

Lab Sample: B1E0111-BS1
Column: BEH C18

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	8.48	8.00	106	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFPeA	2706-90-3	8.23	8.00	103	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFBS	375-73-5	9.15	8.00	114	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
4:2 FTS	757124-72-4	7.89	8.00	98.6	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFHxA	307-24-4	8.56	8.00	107	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFPeS	2706-91-4	9.40	8.00	118	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
HFPO-DA	13252-13-6	8.69	8.00	109	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFHpA	375-85-9	7.65	8.00	95.6	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
ADONA	919005-14-4	8.10	8.00	101	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFHxS	355-46-4	8.03	8.00	100	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
6:2 FTS	27619-97-2	8.11	8.00	101	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFOA	335-67-1	8.41	8.00	105	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFHpS	375-92-8	7.52	8.00	94.0	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFNA	375-95-1	8.31	8.00	104	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFOSA	754-91-6	6.80	8.00	85.0	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFOS	1763-23-1	9.06	8.00	113	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
9Cl-PF3ONS	756426-58-1	8.36	8.00	105	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFDA	335-76-2	7.67	8.00	95.8	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
8:2 FTS	39108-34-4	9.67	8.00	121	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFNS	68259-12-1	8.24	8.00	103	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
MeFOSAA	2355-31-9	7.64	8.00	95.5	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
EtFOSAA	2991-50-6	7.94	8.00	99.2	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFUnA	2058-94-8	8.90	8.00	111	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFDS	335-77-3	7.16	8.00	89.5	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
11Cl-PF3OUdS	763051-92-9	8.88	8.00	111	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFDoA	307-55-1	7.63	8.00	95.4	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
MeFOSA	31506-32-8	7.57	8.00	94.6	50 - 150	J	B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFTrDA	72629-94-8	7.28	8.00	91.0	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFDoS	79780-39-5	7.42	8.08	91.9	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
PFTeDA	376-06-7	8.19	8.00	102	50 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
EtFOSA	4151-50-2	7.95	8.00	99.4	50 - 150	J	B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
MeFOSE	24448-09-7	7.54	8.00	94.2	50 - 150	J	B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
EtFOSE	1691-99-2	7.53	8.00	94.2	50 - 150	J	B1E0111	17-May-21	0.250 L	20-May-21 00:20	1

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution

Sample ID: OPR **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous

Laboratory Data

Lab Sample: B1E0111-BS1
Column: BEH C18

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	131	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C3-PFPeA	IS	85.4	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C3-PFBS	IS	80.0	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C3-HFPO-DA	IS	79.1	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-4:2 FTS	IS	85.0	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFHxA	IS	86.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C4-PFHpA	IS	90.8	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C3-PFHxS	IS	97.4	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-6:2 FTS	IS	87.2	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C5-PFNA	IS	82.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C8-PFOSA	IS	59.0	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFOA	IS	87.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C8-PFOS	IS	90.9	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFDA	IS	94.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-8:2 FTS	IS	81.1	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d3-MeFOSAA	IS	82.0	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFUnA	IS	84.5	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d5-EtFOSAA	IS	81.7	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFDoA	IS	85.1	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d3-MeFOSA	IS	34.8	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
13C2-PFTeDA	IS	75.3	25 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d5-EtFOSA	IS	33.8	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d7-MeFOSE	IS	50.2	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1
d9-EtFOSE	IS	51.8	10 - 150		B1E0111	17-May-21	0.250 L	20-May-21 00:20	1

Sample ID: EB-DR-01-210504

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 04-May-21 14:20

Laboratory Data

Lab Sample: 2105073-01
Date Received: 07-May-21 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	0.786	0.731	2.04	J	B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFPeA	2706-90-3	<1.00	1.00	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFBS	375-73-5	<0.787	0.787	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
4:2 FTS	757124-72-4	<1.10	1.10	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFHxA	307-24-4	<1.16	1.16	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFPeS	2706-91-4	<0.925	0.925	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
HFPO-DA	13252-13-6	<0.634	0.634	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFHpA	375-85-9	<0.905	0.905	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
ADONA	919005-14-4	<0.869	0.869	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFHxS	355-46-4	<1.10	1.10	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
6:2 FTS	27619-97-2	<0.987	0.987	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFOA	335-67-1	<1.11	1.11	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFHpS	375-92-8	<2.53	2.53	2.56		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFNA	375-95-1	<0.578	0.578	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFOSA	754-91-6	<1.38	1.38	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFOS	1763-23-1	<1.09	1.09	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
9Cl-PF3ONS	756426-58-1	<0.849	0.849	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFDA	335-76-2	<0.920	0.920	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
8:2 FTS	39108-34-4	<2.29	2.29	2.30		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFNS	68259-12-1	<1.44	1.44	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
MeFOSAA	2355-31-9	<0.966	0.966	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
EtFOSAA	2991-50-6	<2.59	2.59	2.68		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFUnA	2058-94-8	<1.38	1.38	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFDS	335-77-3	<2.77	2.77	2.81		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
11Cl-PF3OUdS	763051-92-9	<0.436	0.436	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFDoA	307-55-1	<0.803	0.803	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
MeFOSA	31506-32-8	<7.00	7.00	8.18		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFTrDA	72629-94-8	<1.13	1.13	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFDoS	79780-39-5	<1.63	1.63	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
PFTeDA	376-06-7	<0.833	0.833	2.04		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
EtFOSA	4151-50-2	<7.46	7.46	8.18		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
MeFOSE	24448-09-7	<8.18	8.18	8.18		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
EtFOSE	1691-99-2	<5.67	5.67	8.18		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	146	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C3-PFPeA	IS	91.1	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C3-PFBS	IS	91.0	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1

Sample ID: EB-DR-01-210504

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 04-May-21 14:20

Laboratory Data

Lab Sample: 2105073-01
Date Received: 07-May-21 09:33
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-HFPO-DA	IS	83.7	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C2-4:2 FTS	IS	89.7	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C2-PFHxA	IS	91.9	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C4-PFHpA	IS	96.8	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C3-PFHxS	IS	101	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C2-6:2 FTS	IS	99.1	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C5-PFNA	IS	87.0	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C8-PFOSA	IS	61.9	10 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C2-PFOA	IS	95.8	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C8-PFOS	IS	89.7	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C2-PFDA	IS	95.2	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C2-8:2 FTS	IS	86.4	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
d3-MeFOSAA	IS	84.2	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C2-PFUnA	IS	88.4	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
d5-EtFOSAA	IS	83.2	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C2-PFDoA	IS	82.8	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
d3-MeFOSA	IS	27.8	10 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
13C2-PFTeDA	IS	67.6	25 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
d5-EtFOSA	IS	28.9	10 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
d7-MeFOSE	IS	47.9	10 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1
d9-EtFOSE	IS	50.7	10 - 150		B1E0111	17-May-21	0.245 L	20-May-21 00:30	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: EB-GW-01-210505

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 05-May-21 15:55

Laboratory Data

Lab Sample: 2105073-02
Date Received: 07-May-21 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.742	0.742	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFPeA	2706-90-3	<1.02	1.02	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFBS	375-73-5	<0.799	0.799	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
4:2 FTS	757124-72-4	<1.12	1.12	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFHxA	307-24-4	<1.17	1.17	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFPeS	2706-91-4	<0.939	0.939	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
HFPO-DA	13252-13-6	<0.643	0.643	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFHpA	375-85-9	<0.918	0.918	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
ADONA	919005-14-4	<0.882	0.882	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFHxS	355-46-4	<1.12	1.12	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
6:2 FTS	27619-97-2	<1.00	1.00	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFOA	335-67-1	<1.13	1.13	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFHpS	375-92-8	<2.56	2.56	2.59		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFNA	375-95-1	<0.586	0.586	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFOSA	754-91-6	<1.40	1.40	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFOS	1763-23-1	<1.11	1.11	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
9Cl-PF3ONS	756426-58-1	<0.861	0.861	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFDA	335-76-2	<0.934	0.934	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
8:2 FTS	39108-34-4	<2.32	2.32	2.33		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFNS	68259-12-1	<1.46	1.46	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
MeFOSAA	2355-31-9	<0.981	0.981	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
EtFOSAA	2991-50-6	<2.63	2.63	2.72		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFUnA	2058-94-8	<1.40	1.40	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFDS	335-77-3	<2.81	2.81	2.85		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
11Cl-PF3OUdS	763051-92-9	<0.443	0.443	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFDoA	307-55-1	<0.815	0.815	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
MeFOSA	31506-32-8	<7.11	7.11	8.30		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFTrDA	72629-94-8	<1.15	1.15	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFDoS	79780-39-5	<1.65	1.65	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
PFTeDA	376-06-7	<0.846	0.846	2.08		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
EtFOSA	4151-50-2	<7.58	7.58	8.30		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
MeFOSE	24448-09-7	<8.30	8.30	8.30		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
EtFOSE	1691-99-2	<5.76	5.76	8.30		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	140	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C3-PFPeA	IS	88.5	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C3-PFBS	IS	87.9	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1

Sample ID: EB-GW-01-210505

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 05-May-21 15:55

Laboratory Data

Lab Sample: 2105073-02
Date Received: 07-May-21 09:33
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-HFPO-DA	IS	89.8	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C2-4:2 FTS	IS	95.0	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C2-PFHxA	IS	94.8	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C4-PFHpA	IS	100	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C3-PFHxS	IS	96.2	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C2-6:2 FTS	IS	97.8	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C5-PFNA	IS	87.9	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C8-PFOSA	IS	59.6	10 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C2-PFOA	IS	92.2	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C8-PFOS	IS	93.2	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C2-PFDA	IS	93.6	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C2-8:2 FTS	IS	87.4	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
d3-MeFOSAA	IS	83.4	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C2-PFUnA	IS	90.4	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
d5-EtFOSAA	IS	83.5	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C2-PFDoA	IS	88.8	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
d3-MeFOSA	IS	33.0	10 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
13C2-PFTeDA	IS	78.1	25 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
d5-EtFOSA	IS	32.2	10 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
d7-MeFOSE	IS	49.8	10 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1
d9-EtFOSE	IS	51.2	10 - 150		B1E0111	17-May-21	0.241 L	20-May-21 00:41	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: FB-GW-01-210505

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 05-May-21 15:55

Laboratory Data

Lab Sample: 2105073-03
Date Received: 07-May-21 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.740	0.740	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFPeA	2706-90-3	<1.01	1.01	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFBS	375-73-5	<0.797	0.797	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
4:2 FTS	757124-72-4	<1.12	1.12	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFHxA	307-24-4	<1.17	1.17	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFPeS	2706-91-4	<0.937	0.937	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
HFPO-DA	13252-13-6	<0.642	0.642	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFHpA	375-85-9	<0.916	0.916	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
ADONA	919005-14-4	<0.880	0.880	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFHxS	355-46-4	<1.11	1.11	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
6:2 FTS	27619-97-2	<0.999	0.999	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFOA	335-67-1	<1.13	1.13	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFHpS	375-92-8	<2.56	2.56	2.59		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFNA	375-95-1	<0.585	0.585	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFOSA	754-91-6	<1.40	1.40	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFOS	1763-23-1	<1.10	1.10	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
9Cl-PF3ONS	756426-58-1	<0.859	0.859	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFDA	335-76-2	<0.932	0.932	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
8:2 FTS	39108-34-4	<2.32	2.32	2.33		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFNS	68259-12-1	<1.46	1.46	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
MeFOSAA	2355-31-9	<0.978	0.978	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
EtFOSAA	2991-50-6	<2.62	2.62	2.72		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFUnA	2058-94-8	<1.39	1.39	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFDS	335-77-3	<2.80	2.80	2.85		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
11Cl-PF3OUdS	763051-92-9	<0.441	0.441	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFDoA	307-55-1	<0.813	0.813	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
MeFOSA	31506-32-8	<7.09	7.09	8.28		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFTrDA	72629-94-8	<1.14	1.14	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFDoS	79780-39-5	<1.65	1.65	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
PFTeDA	376-06-7	<0.844	0.844	2.07		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
EtFOSA	4151-50-2	<7.56	7.56	8.28		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
MeFOSE	24448-09-7	<8.28	8.28	8.28		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
EtFOSE	1691-99-2	<5.74	5.74	8.28		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	144	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C3-PFPeA	IS	91.2	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C3-PFBS	IS	89.7	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1

Sample ID: FB-GW-01-210505

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 05-May-21 15:55

Laboratory Data

Lab Sample: 2105073-03
Date Received: 07-May-21 09:33
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-HFPO-DA	IS	89.4	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C2-4:2 FTS	IS	91.8	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C2-PFHxA	IS	94.3	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C4-PFHpA	IS	101	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C3-PFHxS	IS	96.8	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C2-6:2 FTS	IS	95.7	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C5-PFNA	IS	90.4	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C8-PFOSA	IS	54.3	10 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C2-PFOA	IS	96.1	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C8-PFOS	IS	89.2	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C2-PFDA	IS	101	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C2-8:2 FTS	IS	92.8	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
d3-MeFOSAA	IS	82.8	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C2-PFUnA	IS	92.2	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
d5-EtFOSAA	IS	83.9	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C2-PFDoA	IS	88.8	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
d3-MeFOSA	IS	27.8	10 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
13C2-PFTeDA	IS	80.5	25 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
d5-EtFOSA	IS	28.3	10 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
d7-MeFOSE	IS	46.6	10 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1
d9-EtFOSE	IS	48.2	10 - 150		B1E0111	17-May-21	0.242 L	20-May-21 00:51	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: DUP-GW-01-210505

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 05-May-21 00:00

Laboratory Data

Lab Sample: 2105073-04
Date Received: 07-May-21 09:33
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	14.8	0.753	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFPeA	2706-90-3	5.49	1.03	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFBS	375-73-5	122	0.811	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
4:2 FTS	757124-72-4	<1.14	1.14	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFHxA	307-24-4	4.59	1.19	2.11	Q	B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFPeS	2706-91-4	<0.953	0.953	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
HFPO-DA	13252-13-6	<0.653	0.653	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFHpA	375-85-9	2.66	0.932	2.11	Q	B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
ADONA	919005-14-4	<0.895	0.895	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFHxS	355-46-4	<1.13	1.13	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
6:2 FTS	27619-97-2	4.48	1.02	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFOA	335-67-1	24.0	1.15	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFHpS	375-92-8	<2.60	2.60	2.63		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFNA	375-95-1	<0.595	0.595	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFOSA	754-91-6	3.83	1.42	2.11	Q	B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFOS	1763-23-1	3.65	1.12	2.11	Q	B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
9Cl-PF3ONS	756426-58-1	<0.874	0.874	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFDA	335-76-2	<0.948	0.948	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
8:2 FTS	39108-34-4	<2.36	2.36	2.37		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFNS	68259-12-1	<1.48	1.48	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
MeFOSAA	2355-31-9	<0.995	0.995	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
EtFOSAA	2991-50-6	<2.67	2.67	2.76		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFUnA	2058-94-8	<1.42	1.42	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFDS	335-77-3	<2.85	2.85	2.90		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
11Cl-PF3OUdS	763051-92-9	<0.449	0.449	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFDoA	307-55-1	<0.827	0.827	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
MeFOSA	31506-32-8	<7.21	7.21	8.42		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFTrDA	72629-94-8	<1.16	1.16	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFDoS	79780-39-5	<1.67	1.67	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
PFTeDA	376-06-7	<0.858	0.858	2.11		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
EtFOSA	4151-50-2	<7.69	7.69	8.42		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
MeFOSE	24448-09-7	<8.42	8.42	8.42		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
EtFOSE	1691-99-2	<5.84	5.84	8.42		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	128	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C3-PFPeA	IS	85.8	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C3-PFBS	IS	83.9	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1

Sample ID: DUP-GW-01-210505

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Aqueous
Date Collected: 05-May-21 00:00

Laboratory Data

Lab Sample: 2105073-04
Date Received: 07-May-21 09:33
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-HFPO-DA	IS	98.3	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C2-4:2 FTS	IS	93.6	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C2-PFHxA	IS	87.8	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C4-PFHpA	IS	90.7	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C3-PFHxS	IS	84.7	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C2-6:2 FTS	IS	90.0	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C5-PFNA	IS	90.5	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C8-PFOSA	IS	65.7	10 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C2-PFOA	IS	91.2	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C8-PFOS	IS	84.2	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C2-PFDA	IS	84.8	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C2-8:2 FTS	IS	85.7	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
d3-MeFOSAA	IS	83.1	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C2-PFUnA	IS	82.1	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
d5-EtFOSAA	IS	83.3	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C2-PFDoA	IS	79.2	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
d3-MeFOSA	IS	36.8	10 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
13C2-PFTeDA	IS	77.6	25 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
d5-EtFOSA	IS	35.9	10 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
d7-MeFOSE	IS	62.1	10 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1
d9-EtFOSE	IS	62.8	10 - 150		B1E0111	17-May-21	0.237 L	21-May-21 17:38	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.266	0.266	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFPeA	2706-90-3	<0.252	0.252	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFBS	375-73-5	<0.438	0.438	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
4:2 FTS	757124-72-4	<0.416	0.416	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHxA	307-24-4	<0.638	0.638	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFPeS	2706-91-4	<0.324	0.324	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
HFPO-DA	13252-13-6	<0.548	0.548	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHpA	375-85-9	<0.332	0.332	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
ADONA	919005-14-4	<0.350	0.350	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHxS	355-46-4	<0.408	0.408	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
6:2 FTS	27619-97-2	<0.648	0.648	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFOA	335-67-1	<0.288	0.288	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHpS	375-92-8	<0.630	0.630	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFNA	375-95-1	<0.376	0.376	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFOSA	754-91-6	<0.452	0.452	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFOS	1763-23-1	<0.764	0.764	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
9Cl-PF3ONS	756426-58-1	<0.714	0.714	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDA	335-76-2	<0.652	0.652	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
8:2 FTS	39108-34-4	<0.538	0.538	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFNS	68259-12-1	<0.622	0.622	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
MeFOSAA	2355-31-9	<0.384	0.384	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
EtFOSAA	2991-50-6	<0.704	0.704	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFUnA	2058-94-8	<0.312	0.312	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDS	335-77-3	<0.752	0.752	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
11Cl-PF3OUdS	763051-92-9	<1.13	1.13	1.50		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDoA	307-55-1	<0.408	0.408	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
MeFOSA	31506-32-8	<3.16	3.16	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFTrDA	72629-94-8	<0.618	0.618	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDoS	79780-39-5	<1.01	1.01	1.50		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFTeDA	376-06-7	<0.608	0.608	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
EtFOSA	4151-50-2	<5.00	5.00	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
MeFOSE	24448-09-7	<3.08	3.08	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
EtFOSE	1691-99-2	<3.52	3.52	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	132	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-PFPeA	IS	82.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-PFBS	IS	87.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-HFPO-DA	IS	80.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BLK1
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-4:2 FTS	IS	85.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFHxA	IS	85.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C4-PFHpA	IS	90.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-PFHxS	IS	90.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-6:2 FTS	IS	79.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C5-PFNA	IS	81.0	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C8-PFOSA	IS	47.0	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFOA	IS	89.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C8-PFOS	IS	90.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFDA	IS	70.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-8:2 FTS	IS	81.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d3-MeFOSAA	IS	58.7	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFUnA	IS	58.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d5-EtFOSAA	IS	62.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFDoA	IS	61.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d3-MeFOSA	IS	18.0	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFTeDA	IS	66.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d5-EtFOSA	IS	18.1	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d7-MeFOSE	IS	34.4	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d9-EtFOSE	IS	37.4	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BS1
Column: BEH C18

Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	1.82	2.00	91.1	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFPeA	2706-90-3	1.95	2.00	97.7	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFBS	375-73-5	2.15	2.00	108	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
4:2 FTS	757124-72-4	2.27	2.00	113	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHxA	307-24-4	1.92	2.00	96.2	50 - 150	Q	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFPeS	2706-91-4	1.78	2.00	89.2	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
HFPO-DA	13252-13-6	2.03	2.00	102	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHpA	375-85-9	2.05	2.00	102	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
ADONA	919005-14-4	2.14	2.00	107	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHxS	355-46-4	1.75	2.00	87.3	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
6:2 FTS	27619-97-2	1.90	2.00	95.0	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFOA	335-67-1	2.02	2.00	101	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHpS	375-92-8	1.74	2.00	86.9	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFNA	375-95-1	1.97	2.00	98.5	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFOSA	754-91-6	2.16	2.00	108	50 - 150	Q	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFOS	1763-23-1	2.20	2.00	110	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
9Cl-PF3ONS	756426-58-1	1.86	2.00	92.8	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDA	335-76-2	2.08	2.00	104	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
8:2 FTS	39108-34-4	2.23	2.00	112	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFNS	68259-12-1	1.63	2.00	81.4	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
MeFOSAA	2355-31-9	1.66	2.00	83.2	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
EtFOSAA	2991-50-6	2.00	2.00	100	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFUnA	2058-94-8	2.17	2.00	109	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDS	335-77-3	1.64	2.00	81.9	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
11Cl-PF3OUdS	763051-92-9	2.37	2.00	119	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDoA	307-55-1	1.99	2.00	99.7	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
MeFOSA	31506-32-8	1.70	2.00	85.1	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFTrDA	72629-94-8	1.83	2.00	91.6	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDoS	79780-39-5	2.15	2.02	107	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFTeDA	376-06-7	1.95	2.00	97.6	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
EtFOSA	4151-50-2	1.86	2.00	92.8	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
MeFOSE	24448-09-7	1.67	2.00	83.3	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
EtFOSE	1691-99-2	2.07	2.00	104	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution

Sample ID: OPR **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BS1
Column: BEH C18

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	127	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-PFPeA	IS	82.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-PFBS	IS	96.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-HFPO-DA	IS	75.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-4:2 FTS	IS	91.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFHxA	IS	84.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C4-PFHpA	IS	83.0	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-PFHxS	IS	97.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-6:2 FTS	IS	94.0	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C5-PFNA	IS	79.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C8-PFOSA	IS	44.0	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFOA	IS	86.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C8-PFOS	IS	94.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFDA	IS	76.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-8:2 FTS	IS	76.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d3-MeFOSAA	IS	65.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFUnA	IS	65.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d5-EtFOSAA	IS	64.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFDoA	IS	68.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d3-MeFOSA	IS	17.6	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFTeDA	IS	72.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d5-EtFOSA	IS	15.5	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d7-MeFOSE	IS	33.3	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d9-EtFOSE	IS	34.6	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1

Sample ID: DUP-SB-01-210504

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Soil
Date Collected: 04-May-21 00:00

Laboratory Data

Lab Sample: 2105073-05
Date Received: 07-May-21 09:33
% Solids: 80.3
Column: BEH C18

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.261	0.261	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFPeA	2706-90-3	<0.247	0.247	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFBS	375-73-5	<0.429	0.429	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
4:2 FTS	757124-72-4	<0.408	0.408	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFHxA	307-24-4	<0.625	0.625	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFPeS	2706-91-4	<0.318	0.318	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
HFPO-DA	13252-13-6	<0.537	0.537	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFHpA	375-85-9	<0.325	0.325	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
ADONA	919005-14-4	<0.343	0.343	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFHxS	355-46-4	<0.400	0.400	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
6:2 FTS	27619-97-2	<0.635	0.635	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFOA	335-67-1	<0.282	0.282	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFHpS	375-92-8	<0.617	0.617	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFNA	375-95-1	<0.368	0.368	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFOSA	754-91-6	<0.443	0.443	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFOS	1763-23-1	2.30	0.749	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
9Cl-PF3ONS	756426-58-1	<0.700	0.700	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFDA	335-76-2	<0.639	0.639	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
8:2 FTS	39108-34-4	<0.527	0.527	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFNS	68259-12-1	<0.610	0.610	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
MeFOSAA	2355-31-9	<0.376	0.376	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
EtFOSAA	2991-50-6	<0.690	0.690	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFUnA	2058-94-8	<0.306	0.306	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFDS	335-77-3	<0.737	0.737	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
11Cl-PF3OUdS	763051-92-9	<1.11	1.11	1.47		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFDoA	307-55-1	<0.400	0.400	0.490		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
MeFOSA	31506-32-8	<3.10	3.10	9.80		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFTrDA	72629-94-8	<0.606	0.606	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFDoS	79780-39-5	<0.988	0.988	1.47		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
PFTeDA	376-06-7	<0.596	0.596	0.980		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
EtFOSA	4151-50-2	<4.90	4.90	9.80		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
MeFOSE	24448-09-7	<3.02	3.02	9.80		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
EtFOSE	1691-99-2	<3.45	3.45	9.80		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	131	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C3-PFPeA	IS	81.8	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C3-PFBS	IS	89.6	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1

Sample ID: DUP-SB-01-210504

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Soil
Date Collected: 04-May-21 00:00

Laboratory Data

Lab Sample: 2105073-05
Date Received: 07-May-21 09:33
% Solids: 80.3
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-HFPO-DA	IS	71.2	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C2-4:2 FTS	IS	109	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C2-PFHxA	IS	76.8	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C4-PFHpA	IS	77.2	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C3-PFHxS	IS	86.6	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C2-6:2 FTS	IS	103	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C5-PFNA	IS	66.4	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C8-PFOSA	IS	52.0	10 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C2-PFOA	IS	75.2	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C8-PFOS	IS	77.9	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C2-PFDA	IS	55.4	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C2-8:2 FTS	IS	80.7	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
d3-MeFOSAA	IS	46.4	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C2-PFUnA	IS	45.3	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
d5-EtFOSAA	IS	44.2	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C2-PFDoA	IS	40.7	25 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
d3-MeFOSA	IS	19.6	10 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
13C2-PFTeDA	IS	23.0	25 - 150	H	B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
d5-EtFOSA	IS	16.4	10 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
d7-MeFOSE	IS	47.6	10 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1
d9-EtFOSE	IS	45.9	10 - 150		B1E0129	21-May-21	1.27 g	26-May-21 18:03	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection Limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
MDL	Method Detection Limit
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
RL	For 537.1, the reported RLs are the MRLs.
TEQ	Toxic Equivalency, sum of the toxic equivalency factors (TEF) multiplied by the sample concentrations.
TEQMax	TEQ calculation that uses the detection limit as the concentration for non-detects
TEQMin	TEQ calculation that uses zero as the concentration for non-detects
TEQRisk	TEQ calculation that uses ½ the detection limit as the concentration for non-detects
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	21-023-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-26
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2020018
Massachusetts Department of Environmental Protection	M-CA413
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1980678
New Hampshire Environmental Accreditation Program	207720
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Ohio Environmental Protection Agency	87778
Oregon Laboratory Accreditation Program	4042-016
Pennsylvania Department of Environmental Protection	017
Texas Commission on Environmental Quality	T104704189-21-12
Vermont Department of Health	VT-4042
Virginia Department of General Services	10769
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	**Method**
Determination of Polychlorinated p- Dioxins & Polychlorinated Dibenzofurans	EPA 23
Polychlorinated Dibenzodioxins in Ambient Air by GC/HRMS	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613/1613B
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537.1
Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry	EPA 533
Perfluorooctanesulonate (PFOS) and Perfluorooctanoate (PFOA) - Method for Unfiltered Samples Using Solid Phase Extraction and Liquid Chromatography/Mass Spectrometry	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	**Method**
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 2105073 Temp: 1.3 °C
Storage ID: R-13, WR-2 Storage Secured: Yes ☑ No ☐

Ashview Terrace Apts PFAS
Project ID:

PO#: 117-4174161

Sampler: Andrea Gordon (name)

TAT (check one): Standard: ☒ 21 days; Rush (surcharge may apply): ☐ 14 days ☐ 7 days Specify:

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Andrea Gordon	5-6-21	1200	FedEx	5-6-21	1200
Fedex	~~05-06-21~~ 05-07-21	0933	Justin Briseno	05/07/21	0933

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 * Fax (916) 673-0106

ATTN: Sample Custodian

Method of Shipment: Fed Ex

Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/ Sample Description	Container(s) Quantity	Type	Matrix	PFAS by Isotope Dilution: PFOA/PFOS	UCMR3 PFAS List:6	537.1 List: 14 or 18 (Circle One)	EPA Draft List of 24	OTHER: Please attach analyte list (Vision Air DW PFAS List)	EPA Method 537 (DW only): PFOA/PFOS	UCMR3 PFAS List:6	537.1 List of 14	537.1 List of 18	Comments
EB-DR-01-210504	5-4-21	1420		2	P	AQ					X					
EB-GW-01-210505	5-5-21	1555		2	P	AQ					X					
FB-GW-01-210505	5-5-21	1555		2	P	AQ					X					
DUP-GW-01-210505	5-5-21			2	P	AQ					X					
DUP-SB-01-210504	5-4-21			1	PJ	SO					X					

Special Instructions/Comment
Level II Data package

SEND DOCUMENTATION AND RESULTS TO:

Name: Mike Savale
Company: Tetra Tech
Address: 710 Avis Dr Suite 100
City: Ann Arbor State: MI Zip: 48103
Phone: 810-923-8076
Email: michael.savale@tetratech.com

Container Types: P = HDPE, PJ = HDPE Jar, PY = Polypropylene, O= Other

Bottle Preservation Type: TZ= Trizma:

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other

Vista Analytical Laboratory

Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 2105073 TAT std

Samples Arrival:	**Date/Time** 05/07/21 0933		**Initials:**		**Location:** WR-2 **Shelf/Rack:** N/A		
Delivered By:	(FedEx)	UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	(Ice)		Blue Ice		Techni Ice	Dry Ice	None
Temp °C: 1.4 (uncorrected) **Temp °C:** 1.3 (corrected)			**Probe used: Y / (N)**		**Thermometer ID:** IR-3		

	YES	NO	NA
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Airbill ~ Trk # 786685192 7877	✓		
Shipping Documentation Present?	✓		
Shipping Container: (Vista) Client (Retain) Return Dispose			
Chain of Custody / Sample Documentation Present?	✓		
Chain of Custody / Sample Documentation Complete?	✓		
Holding Time Acceptable?			

Logged In:	**Date/Time** 05/11/21 0854	**Initials:** WWS	**Location:** R-13, WR-2 **Shelf/Rack:** B-1, E-6, B-3	
COC Anomaly/Sample Acceptance Form completed?			✓	✓

Comments:

CoC/Label Reconciliation Report WO# 2105073

LabNumber	CoC Sample ID		SampleAlias	Sample Date/Time		Container	BaseMatrix	Sample Comments
2105073-01	A EB-DR-01-210504	☑		04-May-21 14:20	☑	HDPE Bottle, 250 mL	Aqueous	
2105073-01	B EB-DR-01-210504	☑		04-May-21 14:20	☑	HDPE Bottle, 250 mL	Aqueous	
2105073-02	A EB-GW-01-210505	☑		05-May-21 15:55	☑	HDPE Bottle, 250 mL	Aqueous	
2105073-02	B EB-GW-01-210505	☐ (a)		05-May-21 15:55	☑	HDPE Bottle, 250 mL	Aqueous	
2105073-03	A FB-GW-01-210505	☑		05-May-21 15:55	☑	HDPE Bottle, 250 mL	Aqueous	
2105073-03	B FB-GW-01-210505	☑		05-May-21 15:55	☑	HDPE Bottle, 250 mL	Aqueous	
2105073-04	A DUP-GW-01-210505	☑		05-May-21 00:00	☐ (B)	HDPE Bottle, 250 mL	Aqueous	
2105073-04	B DUP-GW-01-210505	☑		05-May-21 00:00	☐	HDPE Bottle, 250 mL	Aqueous	
2105073-05	A DUP-SB-01-210504	☑		04-May-21 00:00	☐ (C)	HDPE Jar, 6 oz	Solid	

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Container Type Appropriate for Analysis(es)	✓		

Preservation Documented: Na2S2O3 Trizma NH4CH3CO2 (None) Other
all

Comments: (a) sample label: EE-GW-01-210505
(B) date/time not listed on sample label. Used 0000 for time
(C) no time listed on COC or sample label. Used 0000

Verifed by/Date: WWS 05/11/21

Attachment 7

Investigation Derived Waste Analytical Reports

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

May 17, 2021

Mike Savale
TetraTech
710 Avis Drive
Suite 100
Ann Arbor, MI 48108

RE: Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

Dear Mike Savale:

Enclosed are the analytical results for sample(s) received by the laboratory on May 06, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tod Noltemeyer

Tod Noltemeyer
tod.noltemeyer@pacelabs.com
(920)469-2436
Project Manager

Enclosures

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

Pace Analytical Services Green Bay
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40226418001	**WC-WATER-210505**	Water	05/05/21 14:45	05/06/21 12:05
40226418002	**WC-SOIL-210505**	Solid	05/05/21 14:45	05/06/21 12:05
40226418003	**TB**	Water	05/05/21 00:00	05/06/21 12:05

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40226418001	**WC-WATER-210505**	EPA 8082	BLM	10
		EPA 6010D	TXW	7
		EPA 7470	AJT	1
		EPA 8270E	RJN	18
		EPA 8260	MDS	13
40226418002	**WC-SOIL-210505**	EPA 8082	BLM	10
		EPA 6010D	TXW	7
		EPA 7470	AJT	1
		EPA 8270E	RJN	16
		EPA 8260	LAP	13
		ASTM D2974-87	AH	1
40226418003	**TB**	EPA 8260	MDS	13

PASI-G = Pace Analytical Services - Green Bay

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

Sample: WC-WATER-210505 **Lab ID: 40226418001** Collected: 05/05/21 14:45 Received: 05/06/21 12:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
PCB-1016 (Aroclor 1016)	**<0.11**	ug/L	0.50	0.11	1	05/07/21 11:09	05/10/21 11:21	12674-11-2	
PCB-1221 (Aroclor 1221)	**<0.11**	ug/L	0.50	0.11	1	05/07/21 11:09	05/10/21 11:21	11104-28-2	
PCB-1232 (Aroclor 1232)	**<0.11**	ug/L	0.50	0.11	1	05/07/21 11:09	05/10/21 11:21	11141-16-5	
PCB-1242 (Aroclor 1242)	**<0.11**	ug/L	0.50	0.11	1	05/07/21 11:09	05/10/21 11:21	53469-21-9	
PCB-1248 (Aroclor 1248)	**<0.11**	ug/L	0.50	0.11	1	05/07/21 11:09	05/10/21 11:21	12672-29-6	
PCB-1254 (Aroclor 1254)	**<0.11**	ug/L	0.50	0.11	1	05/07/21 11:09	05/10/21 11:21	11097-69-1	
PCB-1260 (Aroclor 1260)	**<0.11**	ug/L	0.50	0.11	1	05/07/21 11:09	05/10/21 11:21	11096-82-5	
PCB, Total	**<0.11**	ug/L	0.50	0.11	1	05/07/21 11:09	05/10/21 11:21	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	87	%	28-124		1	05/07/21 11:09	05/10/21 11:21	877-09-8	
Decachlorobiphenyl (S)	29	%	10-73		1	05/07/21 11:09	05/10/21 11:21	2051-24-3	
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Green Bay								
Silver	**<3.2**	ug/L	10.0	3.2	1	05/13/21 07:57	05/13/21 16:53	7440-22-4	
Arsenic	**8.7J**	ug/L	25.0	8.3	1	05/13/21 07:57	05/13/21 16:53	7440-38-2	
Barium	**309**	ug/L	5.0	1.5	1	05/13/21 07:57	05/13/21 16:53	7440-39-3	
Cadmium	**<1.3**	ug/L	5.0	1.3	1	05/13/21 07:57	05/13/21 16:53	7440-43-9	
Chromium	**8.1J**	ug/L	10.0	2.5	1	05/13/21 07:57	05/13/21 16:53	7440-47-3	
Lead	**<5.9**	ug/L	20.0	5.9	1	05/13/21 07:57	05/13/21 16:53	7439-92-1	
Selenium	**<12.2**	ug/L	40.0	12.2	1	05/13/21 07:57	05/13/21 16:53	7782-49-2	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	05/07/21 09:50	05/10/21 10:50	7439-97-6	
8270E MSSV Semivolatile Org	Analytical Method: EPA 8270E Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
1,4-Dichlorobenzene	**<1.4**	ug/L	4.9	1.4	1	05/10/21 11:39	05/11/21 14:28	106-46-7	
2-Methylphenol(o-Cresol)	**<0.90**	ug/L	4.9	0.90	1	05/10/21 11:39	05/11/21 14:28	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<0.59**	ug/L	4.9	0.59	1	05/10/21 11:39	05/11/21 14:28		
Hexachloroethane	**<1.4**	ug/L	4.9	1.4	1	05/10/21 11:39	05/11/21 14:28	67-72-1	
Nitrobenzene	**<1.0**	ug/L	4.9	1.0	1	05/10/21 11:39	05/11/21 14:28	98-95-3	
Hexachloro-1,3-butadiene	**<1.1**	ug/L	5.3	1.1	1	05/10/21 11:39	05/11/21 14:28	87-68-3	
2,4,6-Trichlorophenol	**<0.77**	ug/L	4.9	0.77	1	05/10/21 11:39	05/11/21 14:28	88-06-2	
2,4,5-Trichlorophenol	**<0.63**	ug/L	4.9	0.63	1	05/10/21 11:39	05/11/21 14:28	95-95-4	
2,4-Dinitrotoluene	**<1.0**	ug/L	4.9	1.0	1	05/10/21 11:39	05/11/21 14:28	121-14-2	
Hexachlorobenzene	**<1.6**	ug/L	4.9	1.6	1	05/10/21 11:39	05/11/21 14:28	118-74-1	
Pentachlorophenol	**<4.4**	ug/L	14.8	4.4	1	05/10/21 11:39	05/11/21 14:28	87-86-5	
Pyridine	**<1.5**	ug/L	4.9	1.5	1	05/10/21 11:39	05/11/21 14:28	110-86-1	
Surrogates									
Nitrobenzene-d5 (S)	83	%	41-118		1	05/10/21 11:39	05/11/21 14:28	4165-60-0	
2-Fluorobiphenyl (S)	80	%	54-107		1	05/10/21 11:39	05/11/21 14:28	321-60-8	
Terphenyl-d14 (S)	94	%	51-129		1	05/10/21 11:39	05/11/21 14:28	1718-51-0	
Phenol-d6 (S)	30	%	12-120		1	05/10/21 11:39	05/11/21 14:28	13127-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

Sample: WC-WATER-210505 **Lab ID: 40226418001** Collected: 05/05/21 14:45 Received: 05/06/21 12:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV Semivolatile Org	Analytical Method: EPA 8270E Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Surrogates									
2-Fluorophenol (S)	51	%	23-69		1	05/10/21 11:39	05/11/21 14:28	367-12-4	
2,4,6-Tribromophenol (S)	90	%	62-172		1	05/10/21 11:39	05/11/21 14:28	118-79-6	
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**0.35J**	ug/L	1.0	0.30	1		05/11/21 22:04	71-43-2	
2-Butanone (MEK)	**<6.5**	ug/L	25.0	6.5	1		05/11/21 22:04	78-93-3	
Carbon tetrachloride	**<0.37**	ug/L	1.0	0.37	1		05/11/21 22:04	56-23-5	
Chlorobenzene	**<0.86**	ug/L	1.0	0.86	1		05/11/21 22:04	108-90-7	
Chloroform	**1.7J**	ug/L	5.0	1.2	1		05/11/21 22:04	67-66-3	
1,2-Dichloroethane	**<0.29**	ug/L	1.0	0.29	1		05/11/21 22:04	107-06-2	
1,1-Dichloroethene	**<0.58**	ug/L	1.0	0.58	1		05/11/21 22:04	75-35-4	
Tetrachloroethene	**<0.41**	ug/L	1.0	0.41	1		05/11/21 22:04	127-18-4	
Trichloroethene	**<0.32**	ug/L	1.0	0.32	1		05/11/21 22:04	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		05/11/21 22:04	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		05/11/21 22:04	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		05/11/21 22:04	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		05/11/21 22:04	2037-26-5	

Sample: WC-SOIL-210505 **Lab ID: 40226418002** Collected: 05/05/21 14:45 Received: 05/06/21 12:05 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541 Pace Analytical Services - Green Bay								
PCB-1016 (Aroclor 1016)	**<17.3**	ug/kg	56.7	17.3	1	05/06/21 16:48	05/07/21 10:47	12674-11-2	
PCB-1221 (Aroclor 1221)	**<17.3**	ug/kg	56.7	17.3	1	05/06/21 16:48	05/07/21 10:47	11104-28-2	
PCB-1232 (Aroclor 1232)	**<17.3**	ug/kg	56.7	17.3	1	05/06/21 16:48	05/07/21 10:47	11141-16-5	
PCB-1242 (Aroclor 1242)	**<17.3**	ug/kg	56.7	17.3	1	05/06/21 16:48	05/07/21 10:47	53469-21-9	
PCB-1248 (Aroclor 1248)	**24.4J**	ug/kg	56.7	17.3	1	05/06/21 16:48	05/07/21 10:47	12672-29-6	
PCB-1254 (Aroclor 1254)	**<17.3**	ug/kg	56.7	17.3	1	05/06/21 16:48	05/07/21 10:47	11097-69-1	
PCB-1260 (Aroclor 1260)	**<17.3**	ug/kg	56.7	17.3	1	05/06/21 16:48	05/07/21 10:47	11096-82-5	
PCB, Total	**24.4J**	ug/kg	56.7	17.3	1	05/06/21 16:48	05/07/21 10:47	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	67-102		1	05/06/21 16:48	05/07/21 10:47	877-09-8	
Decachlorobiphenyl (S)	78	%	47-114		1	05/06/21 16:48	05/07/21 10:47	2051-24-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

Sample: WC-SOIL-210505 **Lab ID: 40226418002** Collected: 05/05/21 14:45 Received: 05/06/21 12:05 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP, TCLP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Leachate Method/Date: EPA 1311; 05/06/21 14:00 Pace Analytical Services - Green Bay								
Arsenic	**<0.0084**	mg/L	0.025	0.0084	1	05/10/21 07:01	05/10/21 17:02	7440-38-2	
Barium	**0.18**	mg/L	0.0050	0.0015	1	05/10/21 07:01	05/10/21 17:02	7440-39-3	
Cadmium	**<0.0013**	mg/L	0.0050	0.0013	1	05/10/21 07:01	05/10/21 17:02	7440-43-9	
Chromium	**<0.0025**	mg/L	0.010	0.0025	1	05/10/21 07:01	05/10/21 17:02	7440-47-3	
Lead	**<0.0059**	mg/L	0.020	0.0059	1	05/10/21 07:01	05/10/21 17:02	7439-92-1	
Selenium	**<0.012**	mg/L	0.040	0.012	1	05/10/21 07:01	05/10/21 17:02	7782-49-2	
Silver	**<0.0032**	mg/L	0.010	0.0032	1	05/10/21 07:01	05/10/21 17:02	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Leachate Method/Date: EPA 1311; 05/06/21 14:00 Pace Analytical Services - Green Bay								
Mercury	**<0.066**	ug/L	0.20	0.066	1	05/07/21 09:50	05/10/21 09:45	7439-97-6	
8270E MSSV TCLP Sep Funnel	Analytical Method: EPA 8270E Preparation Method: EPA 3510 Leachate Method/Date: EPA 1311; 05/06/21 14:00 Pace Analytical Services - Green Bay								
1,4-Dichlorobenzene	**<14.4**	ug/L	50.0	14.4	1	05/10/21 11:39	05/11/21 13:45	106-46-7	
2,4-Dinitrotoluene	**<10.6**	ug/L	50.0	10.6	1	05/10/21 11:39	05/11/21 13:45	121-14-2	
Hexachloro-1,3-butadiene	**<16.5**	ug/L	50.0	16.5	1	05/10/21 11:39	05/11/21 13:45	87-68-3	
Hexachlorobenzene	**<11.5**	ug/L	55.0	11.5	1	05/10/21 11:39	05/11/21 13:45	118-74-1	
Hexachloroethane	**<14.2**	ug/L	50.0	14.2	1	05/10/21 11:39	05/11/21 13:45	67-72-1	
2-Methylphenol(o-Cresol)	**<9.3**	ug/L	50.0	9.3	1	05/10/21 11:39	05/11/21 13:45	95-48-7	
3&4-Methylphenol(m&p Cresol)	**<6.1**	ug/L	50.0	6.1	1	05/10/21 11:39	05/11/21 13:45		
Nitrobenzene	**<10.7**	ug/L	50.0	10.7	1	05/10/21 11:39	05/11/21 13:45	98-95-3	
Pentachlorophenol	**<45.5**	ug/L	152	45.5	1	05/10/21 11:39	05/11/21 13:45	87-86-5	
Pyridine	**<15.1**	ug/L	50.0	15.1	1	05/10/21 11:39	05/11/21 13:45	110-86-1	
2,4,5-Trichlorophenol	**<6.4**	ug/L	50.0	6.4	1	05/10/21 11:39	05/11/21 13:45	95-95-4	
2,4,6-Trichlorophenol	**<8.0**	ug/L	50.0	8.0	1	05/10/21 11:39	05/11/21 13:45	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	87	%	41-118		1	05/10/21 11:39	05/11/21 13:45	4165-60-0	
2-Fluorobiphenyl (S)	78	%	54-107		1	05/10/21 11:39	05/11/21 13:45	321-60-8	
2,4,6-Tribromophenol (S)	106	%	62-172		1	05/10/21 11:39	05/11/21 13:45	118-79-6	
Phenol-d6 (S)	38	%	12-120		1	05/10/21 11:39	05/11/21 13:45	13127-88-3	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 05/11/21 13:45 Pace Analytical Services - Green Bay								
Benzene	**<3.0**	ug/L	10.0	3.0	10		05/12/21 15:44	71-43-2	
2-Butanone (MEK)	**<65.2**	ug/L	250	65.2	10		05/12/21 15:44	78-93-3	
Carbon tetrachloride	**<3.7**	ug/L	10.0	3.7	10		05/12/21 15:44	56-23-5	
Chlorobenzene	**<8.6**	ug/L	10.0	8.6	10		05/12/21 15:44	108-90-7	
Chloroform	**<11.8**	ug/L	50.0	11.8	10		05/12/21 15:44	67-66-3	
1,2-Dichloroethane	**<2.9**	ug/L	10.0	2.9	10		05/12/21 15:44	107-06-2	
1,1-Dichloroethene	**<5.8**	ug/L	10.0	5.8	10		05/12/21 15:44	75-35-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

Sample: WC-SOIL-210505 **Lab ID: 40226418002** Collected: 05/05/21 14:45 Received: 05/06/21 12:05 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 05/11/21 13:45								
	Pace Analytical Services - Green Bay								
Tetrachloroethene	**<4.1**	ug/L	10.0	4.1	10		05/12/21 15:44	127-18-4	
Trichloroethene	**<3.2**	ug/L	10.0	3.2	10		05/12/21 15:44	79-01-6	
Vinyl chloride	**<1.7**	ug/L	10.0	1.7	10		05/12/21 15:44	75-01-4	
Surrogates									
Toluene-d8 (S)	97	%	70-130		10		05/12/21 15:44	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		10		05/12/21 15:44	460-00-4	
1,2-Dichlorobenzene-d4 (S)	101	%	70-130		10		05/12/21 15:44	2199-69-1	
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**11.8**	%	0.10	0.10	1		05/07/21 09:13		

Sample: TB **Lab ID: 40226418003** Collected: 05/05/21 00:00 Received: 05/06/21 12:05 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
	Pace Analytical Services - Green Bay								
Benzene	**<0.30**	ug/L	1.0	0.30	1		05/11/21 19:27	71-43-2	
2-Butanone (MEK)	**<6.5**	ug/L	25.0	6.5	1		05/11/21 19:27	78-93-3	
Carbon tetrachloride	**<0.37**	ug/L	1.0	0.37	1		05/11/21 19:27	56-23-5	
Chlorobenzene	**<0.86**	ug/L	1.0	0.86	1		05/11/21 19:27	108-90-7	
Chloroform	**<1.2**	ug/L	5.0	1.2	1		05/11/21 19:27	67-66-3	
1,2-Dichloroethane	**<0.29**	ug/L	1.0	0.29	1		05/11/21 19:27	107-06-2	
1,1-Dichloroethene	**<0.58**	ug/L	1.0	0.58	1		05/11/21 19:27	75-35-4	
Tetrachloroethene	**<0.41**	ug/L	1.0	0.41	1		05/11/21 19:27	127-18-4	
Trichloroethene	**<0.32**	ug/L	1.0	0.32	1		05/11/21 19:27	79-01-6	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		05/11/21 19:27	75-01-4	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		05/11/21 19:27	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		1		05/11/21 19:27	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		05/11/21 19:27	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

QC Batch: 384567
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury TCLP
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40226418002

METHOD BLANK: 2218384 Matrix: Water
Associated Lab Samples: 40226418002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.066	0.20	05/10/21 09:26	

METHOD BLANK: 2217772 Matrix: Water
Associated Lab Samples: 40226418002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.066	0.20	05/10/21 09:47	

METHOD BLANK: 2217773 Matrix: Water
Associated Lab Samples: 40226418002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.066	0.20	05/10/21 09:54	

LABORATORY CONTROL SAMPLE: 2218385

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2218386 2218387

Parameter	Units	40226327001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.066	5	5	5.4	4.9	106	98	85-115	8	20	

MATRIX SPIKE SAMPLE: 2218388

Parameter	Units	40226337001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	<0.000066 mg/L	5	5.3	105	85-115	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

QC Batch: 384570
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40226418001

METHOD BLANK: 2218393 Matrix: Water
Associated Lab Samples: 40226418001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.066	0.20	05/10/21 09:57	

LABORATORY CONTROL SAMPLE: 2218394

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.3	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2218395 2218396

Parameter	Units	40226033016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.066	5	5	4.9	4.7	98	94	85-115	5	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

QC Batch: 384655
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET TCLP
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40226418002

METHOD BLANK: 2219394 Matrix: Water
Associated Lab Samples: 40226418002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0084	0.025	05/10/21 16:37	
Barium	mg/L	<0.0015	0.0050	05/10/21 16:37	
Cadmium	mg/L	<0.0013	0.0050	05/10/21 16:37	
Chromium	mg/L	<0.0025	0.010	05/10/21 16:37	
Lead	mg/L	<0.0059	0.020	05/10/21 16:37	
Selenium	mg/L	<0.012	0.040	05/10/21 16:37	
Silver	mg/L	<0.0032	0.010	05/10/21 16:37	

METHOD BLANK: 2217760 Matrix: Solid
Associated Lab Samples: 40226418002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0084	0.025	05/10/21 17:05	
Barium	mg/L	<0.0015	0.0050	05/10/21 17:05	
Cadmium	mg/L	<0.0013	0.0050	05/10/21 17:05	
Chromium	mg/L	<0.0025	0.010	05/10/21 17:05	
Lead	mg/L	<0.0059	0.020	05/10/21 17:05	
Selenium	mg/L	<0.012	0.040	05/10/21 17:05	
Silver	mg/L	<0.0032	0.010	05/10/21 17:05	

METHOD BLANK: 2217761 Matrix: Solid
Associated Lab Samples: 40226418002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	<0.0084	0.025	05/10/21 17:23	
Barium	mg/L	0.0017J	0.0050	05/10/21 17:23	
Cadmium	mg/L	<0.0013	0.0050	05/10/21 17:23	
Chromium	mg/L	<0.0025	0.010	05/10/21 17:23	
Lead	mg/L	<0.0059	0.020	05/10/21 17:23	
Selenium	mg/L	<0.012	0.040	05/10/21 17:23	
Silver	mg/L	<0.0032	0.010	05/10/21 17:23	

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QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

LABORATORY CONTROL SAMPLE: 2219395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.5	0.47	94	80-120	
Barium	mg/L	0.5	0.47	93	80-120	
Cadmium	mg/L	0.5	0.47	94	80-120	
Chromium	mg/L	0.5	0.49	98	80-120	
Lead	mg/L	0.5	0.48	96	80-120	
Selenium	mg/L	0.5	0.47	95	80-120	
Silver	mg/L	0.25	0.24	96	80-120	

MATRIX SPIKE SAMPLE: 2219396

Parameter	Units	40226186001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	<0.0084	0.5	0.53	106	75-125	
Barium	mg/L	0.25	0.5	0.75	98	75-125	
Cadmium	mg/L	0.0025J	0.5	0.53	105	75-125	
Chromium	mg/L	0.0048J	0.5	0.51	101	75-125	
Lead	mg/L	<0.0059	0.5	0.48	96	75-125	
Selenium	mg/L	<0.012	0.5	0.53	106	75-125	
Silver	mg/L	<0.0032	0.25	0.28	112	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2219397 2219398

Parameter	Units	40226290001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	<0.084	0.5	0.5	0.52	0.51	102	100	75-125	2	20	
Barium	mg/L	1.0	0.5	0.5	1.5	1.5	101	97	75-125	1	20	
Cadmium	mg/L	<0.013	0.5	0.5	0.49	0.48	98	95	75-125	3	20	
Chromium	mg/L	<0.025	0.5	0.5	0.50	0.48	99	97	75-125	2	20	
Lead	mg/L	<0.059	0.5	0.5	0.51	0.51	101	101	75-125	0	20	
Selenium	mg/L	<0.12	0.5	0.5	0.52	0.50	104	99	75-125	5	20	
Silver	mg/L	<0.032	0.25	0.25	0.26	0.26	99	100	75-125	1	20	

MATRIX SPIKE SAMPLE: 2219399

Parameter	Units	40226337001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	<0.042	0.5	0.49	98	75-125	
Barium	mg/L	0.023J	0.5	0.49	93	75-125	
Cadmium	mg/L	<0.0066	0.5	0.48	95	75-125	
Chromium	mg/L	0.77	0.5	1.2	93	75-125	
Lead	mg/L	<0.030	0.5	0.48	95	75-125	
Selenium	mg/L	<0.061	0.5	0.51	99	75-125	
Silver	mg/L	<0.016	0.25	0.26	102	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

QC Batch: 385095
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40226418001

METHOD BLANK: 2221788 Matrix: Water
Associated Lab Samples: 40226418001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<8.3	25.0	05/13/21 16:44	
Barium	ug/L	<1.5	5.0	05/13/21 16:44	
Cadmium	ug/L	<1.3	5.0	05/13/21 16:44	
Chromium	ug/L	<2.5	10.0	05/13/21 16:44	
Lead	ug/L	<5.9	20.0	05/13/21 16:44	
Selenium	ug/L	<12.2	40.0	05/13/21 16:44	
Silver	ug/L	<3.2	10.0	05/13/21 16:44	

LABORATORY CONTROL SAMPLE: 2221789

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	475	95	80-120	
Barium	ug/L	500	503	101	80-120	
Cadmium	ug/L	500	464	93	80-120	
Chromium	ug/L	500	514	103	80-120	
Lead	ug/L	500	473	95	80-120	
Selenium	ug/L	500	466	93	80-120	
Silver	ug/L	250	233	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2221790 2221791

Parameter	Units	40226418001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	8.7J	500	500	491	491	97	97	75-125	0	20	
Barium	ug/L	309	500	500	847	833	108	105	75-125	2	20	
Cadmium	ug/L	<1.3	500	500	470	471	94	94	75-125	0	20	
Chromium	ug/L	8.1J	500	500	525	514	103	101	75-125	2	20	
Lead	ug/L	<5.9	500	500	458	459	91	91	75-125	0	20	
Selenium	ug/L	<12.2	500	500	474	474	95	95	75-125	0	20	
Silver	ug/L	<3.2	250	250	249	245	99	97	75-125	1	20	

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QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

QC Batch: 384963
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV TCLP
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40226418002

METHOD BLANK: 2220842 Matrix: Water
Associated Lab Samples: 40226418002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	<0.58	1.0	05/12/21 13:34	
1,2-Dichloroethane	ug/L	<0.29	1.0	05/12/21 13:34	
2-Butanone (MEK)	ug/L	<6.5	25.0	05/12/21 13:34	
Benzene	ug/L	<0.30	1.0	05/12/21 13:34	
Carbon tetrachloride	ug/L	<0.37	1.0	05/12/21 13:34	
Chlorobenzene	ug/L	<0.86	1.0	05/12/21 13:34	
Chloroform	ug/L	<1.2	5.0	05/12/21 13:34	
Tetrachloroethene	ug/L	<0.41	1.0	05/12/21 13:34	
Trichloroethene	ug/L	<0.32	1.0	05/12/21 13:34	
Vinyl chloride	ug/L	<0.17	1.0	05/12/21 13:34	
1,2-Dichlorobenzene-d4 (S)	%	102	70-130	05/12/21 13:34	
4-Bromofluorobenzene (S)	%	100	70-130	05/12/21 13:34	
Toluene-d8 (S)	%	98	70-130	05/12/21 13:34	

METHOD BLANK: 2220361 Matrix: Solid
Associated Lab Samples: 40226418002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	<5.8	10.0	05/12/21 15:25	
1,2-Dichloroethane	ug/L	<2.9	10.0	05/12/21 15:25	
2-Butanone (MEK)	ug/L	<65.2	250	05/12/21 15:25	
Benzene	ug/L	<3.0	10.0	05/12/21 15:25	
Carbon tetrachloride	ug/L	<3.7	10.0	05/12/21 15:25	
Chlorobenzene	ug/L	<8.6	10.0	05/12/21 15:25	
Chloroform	ug/L	<11.8	50.0	05/12/21 15:25	
Tetrachloroethene	ug/L	<4.1	10.0	05/12/21 15:25	
Trichloroethene	ug/L	<3.2	10.0	05/12/21 15:25	
Vinyl chloride	ug/L	<1.7	10.0	05/12/21 15:25	
1,2-Dichlorobenzene-d4 (S)	%	103	70-130	05/12/21 15:25	
4-Bromofluorobenzene (S)	%	101	70-130	05/12/21 15:25	
Toluene-d8 (S)	%	99	70-130	05/12/21 15:25	

LABORATORY CONTROL SAMPLE: 2220843

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	49.6	99	85-126	
1,2-Dichloroethane	ug/L	50	48.0	96	70-130	

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QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

LABORATORY CONTROL SAMPLE: 2220843

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	49.4	99	70-132	
Carbon tetrachloride	ug/L	50	52.3	105	70-130	
Chlorobenzene	ug/L	50	49.8	100	70-130	
Chloroform	ug/L	50	49.1	98	80-122	
Tetrachloroethene	ug/L	50	52.1	104	70-130	
Trichloroethene	ug/L	50	49.6	99	70-130	
Vinyl chloride	ug/L	50	49.2	98	63-142	
1,2-Dichlorobenzene-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2221160 2221161

Parameter	Units	40226418002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	<5.8	500	500	532	531	106	106	76-132	0	20	
1,2-Dichloroethane	ug/L	<2.9	500	500	500	507	100	101	70-130	1	20	
Benzene	ug/L	<3.0	500	500	513	517	103	103	70-132	1	20	
Carbon tetrachloride	ug/L	<3.7	500	500	543	546	109	109	70-132	1	20	
Chlorobenzene	ug/L	<8.6	500	500	503	513	101	103	70-130	2	20	
Chloroform	ug/L	<11.8	500	500	503	510	101	102	80-122	1	20	
Tetrachloroethene	ug/L	<4.1	500	500	508	521	102	104	70-130	2	20	
Trichloroethene	ug/L	<3.2	500	500	512	514	102	103	70-130	0	20	
Vinyl chloride	ug/L	<1.7	500	500	557	559	111	112	61-143	0	20	
1,2-Dichlorobenzene-d4 (S)	%						99	98	70-130			
4-Bromofluorobenzene (S)	%						102	100	70-130			
Toluene-d8 (S)	%						99	99	70-130			

MATRIX SPIKE SAMPLE: 2221162

Parameter	Units	40226631002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	<0.0058 mg/L	500	528	106	76-132	
1,2-Dichloroethane	ug/L	<0.0029 mg/L	500	468	94	70-130	
Benzene	ug/L	<0.0030 mg/L	500	515	103	70-132	
Carbon tetrachloride	ug/L	<0.0037 mg/L	500	552	110	70-132	
Chlorobenzene	ug/L	<0.0086 mg/L	500	503	101	70-130	
Chloroform	ug/L	<0.012 mg/L	500	508	102	80-122	
Tetrachloroethene	ug/L	<0.0041 mg/L	500	512	102	70-130	
Trichloroethene	ug/L	<0.0032 mg/L	500	511	102	70-130	
Vinyl chloride	ug/L	<0.0017 mg/L	500	554	111	61-143	
1,2-Dichlorobenzene-d4 (S)	%				99	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				99	70-130	

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QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

QC Batch: 384664
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40226418001, 40226418003

METHOD BLANK: 2219424 Matrix: Water
Associated Lab Samples: 40226418001, 40226418003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	<0.58	1.0	05/11/21 17:34	
1,2-Dichloroethane	ug/L	<0.29	1.0	05/11/21 17:34	
2-Butanone (MEK)	ug/L	<6.5	25.0	05/11/21 17:34	
Benzene	ug/L	<0.30	1.0	05/11/21 17:34	
Carbon tetrachloride	ug/L	<0.37	1.0	05/11/21 17:34	
Chlorobenzene	ug/L	<0.86	1.0	05/11/21 17:34	
Chloroform	ug/L	<1.2	5.0	05/11/21 17:34	
Tetrachloroethene	ug/L	<0.41	1.0	05/11/21 17:34	
Trichloroethene	ug/L	<0.32	1.0	05/11/21 17:34	
Vinyl chloride	ug/L	<0.17	1.0	05/11/21 17:34	
4-Bromofluorobenzene (S)	%	97	70-130	05/11/21 17:34	
Dibromofluoromethane (S)	%	108	70-130	05/11/21 17:34	
Toluene-d8 (S)	%	96	70-130	05/11/21 17:34	

LABORATORY CONTROL SAMPLE: 2219425

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	57.3	115	85-126	
1,2-Dichloroethane	ug/L	50	55.1	110	70-130	
Benzene	ug/L	50	51.7	103	70-132	
Carbon tetrachloride	ug/L	50	59.6	119	70-130	
Chlorobenzene	ug/L	50	52.1	104	70-130	
Chloroform	ug/L	50	54.5	109	80-122	
Tetrachloroethene	ug/L	50	53.3	107	70-130	
Trichloroethene	ug/L	50	56.3	113	70-130	
Vinyl chloride	ug/L	50	57.2	114	63-142	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			104	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2220705 2220706

Parameter	Units	40226543001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1-Dichloroethene	ug/L	<0.58	50	50	56.3	56.0	113	112	76-132	0	20	
1,2-Dichloroethane	ug/L	<0.29	50	50	54.1	55.0	108	110	70-130	2	20	
Benzene	ug/L	<0.30	50	50	51.2	51.0	102	102	70-132	0	20	

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QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2220705 2220706

Parameter	Units	40226543001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Carbon tetrachloride	ug/L	<0.37	50	50	58.2	57.9	116	116	70-132	1	20	
Chlorobenzene	ug/L	<0.86	50	50	52.1	52.3	104	105	70-130	0	20	
Chloroform	ug/L	<1.2	50	50	54.0	53.9	108	108	80-122	0	20	
Tetrachloroethene	ug/L	1.0	50	50	54.6	54.8	107	108	70-130	0	20	
Trichloroethene	ug/L	1.8	50	50	57.7	57.8	112	112	70-130	0	20	
Vinyl chloride	ug/L	<0.17	50	50	56.6	56.8	113	114	61-143	0	20	
4-Bromofluorobenzene (S)	%						102	103	70-130			
Dibromofluoromethane (S)	%						103	102	70-130			
Toluene-d8 (S)	%						96	98	70-130			

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QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

QC Batch: 384527
QC Batch Method: EPA 3541
Analysis Method: EPA 8082
Analysis Description: 8082 GCS PCB
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40226418002

METHOD BLANK: 2218195 Matrix: Solid
Associated Lab Samples: 40226418002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<15.2	50.0	05/07/21 08:14	
PCB-1221 (Aroclor 1221)	ug/kg	<15.2	50.0	05/07/21 08:14	
PCB-1232 (Aroclor 1232)	ug/kg	<15.2	50.0	05/07/21 08:14	
PCB-1242 (Aroclor 1242)	ug/kg	<15.2	50.0	05/07/21 08:14	
PCB-1248 (Aroclor 1248)	ug/kg	<15.2	50.0	05/07/21 08:14	
PCB-1254 (Aroclor 1254)	ug/kg	<15.2	50.0	05/07/21 08:14	
PCB-1260 (Aroclor 1260)	ug/kg	<15.2	50.0	05/07/21 08:14	
Decachlorobiphenyl (S)	%	90	47-114	05/07/21 08:14	
Tetrachloro-m-xylene (S)	%	90	67-102	05/07/21 08:14	

LABORATORY CONTROL SAMPLE: 2218196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<15.2			
PCB-1221 (Aroclor 1221)	ug/kg		<15.2			
PCB-1232 (Aroclor 1232)	ug/kg		<15.2			
PCB-1242 (Aroclor 1242)	ug/kg		<15.2			
PCB-1248 (Aroclor 1248)	ug/kg		<15.2			
PCB-1254 (Aroclor 1254)	ug/kg		<15.2			
PCB-1260 (Aroclor 1260)	ug/kg	500	417	83	69-115	
Decachlorobiphenyl (S)	%			88	47-114	
Tetrachloro-m-xylene (S)	%			90	67-102	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2218197 2218198

Parameter	Units	40226418002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<17.3			<17.2	<17.2					20	
PCB-1221 (Aroclor 1221)	ug/kg	<17.3			<17.2	<17.2					20	
PCB-1232 (Aroclor 1232)	ug/kg	<17.3			<17.2	<17.2					20	
PCB-1242 (Aroclor 1242)	ug/kg	<17.3			<17.2	<17.2					20	
PCB-1248 (Aroclor 1248)	ug/kg	24.4J			54.4J	41.3J					20	
PCB-1254 (Aroclor 1254)	ug/kg	<17.3			<17.2	<17.2					20	
PCB-1260 (Aroclor 1260)	ug/kg	<17.3	566	566	447	496	79	88	45-120	10	20	
Decachlorobiphenyl (S)	%						79	90	47-114			
Tetrachloro-m-xylene (S)	%						82	89	67-102			

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QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

QC Batch: 384578
QC Batch Method: EPA 3510
Analysis Method: EPA 8082
Analysis Description: 8082 GCS PCB
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40226418001

METHOD BLANK: 2218419 Matrix: Water
Associated Lab Samples: 40226418001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	<0.11	0.50	05/10/21 10:21	
PCB-1221 (Aroclor 1221)	ug/L	<0.11	0.50	05/10/21 10:21	
PCB-1232 (Aroclor 1232)	ug/L	<0.11	0.50	05/10/21 10:21	
PCB-1242 (Aroclor 1242)	ug/L	<0.11	0.50	05/10/21 10:21	
PCB-1248 (Aroclor 1248)	ug/L	<0.11	0.50	05/10/21 10:21	
PCB-1254 (Aroclor 1254)	ug/L	<0.11	0.50	05/10/21 10:21	
PCB-1260 (Aroclor 1260)	ug/L	<0.11	0.50	05/10/21 10:21	
Decachlorobiphenyl (S)	%	41	10-73	05/10/21 10:21	
Tetrachloro-m-xylene (S)	%	83	28-124	05/10/21 10:21	

LABORATORY CONTROL SAMPLE & LCSD: 2218420 2218421

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L		<0.11	<0.11					20	
PCB-1221 (Aroclor 1221)	ug/L		<0.11	<0.11					20	
PCB-1232 (Aroclor 1232)	ug/L		<0.11	<0.11					20	
PCB-1242 (Aroclor 1242)	ug/L		<0.11	<0.11					20	
PCB-1248 (Aroclor 1248)	ug/L		<0.11	<0.11					20	
PCB-1254 (Aroclor 1254)	ug/L		<0.11	<0.11					20	
PCB-1260 (Aroclor 1260)	ug/L	5	4.1	4.7	82	95	64-115	14	20	
Decachlorobiphenyl (S)	%				25	28	10-73			
Tetrachloro-m-xylene (S)	%				75	86	28-124			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

QC Batch: 384688
QC Batch Method: EPA 3510
Analysis Method: EPA 8270E
Analysis Description: 8270E TCLP MSSV
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40226418002

METHOD BLANK: 2219497 Matrix: Water
Associated Lab Samples: 40226418002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/L	<2.9	10.0	05/11/21 11:11	
2,4,5-Trichlorophenol	ug/L	<1.3	10.0	05/11/21 11:11	
2,4,6-Trichlorophenol	ug/L	<1.6	10.0	05/11/21 11:11	
2,4-Dinitrotoluene	ug/L	<2.1	10.0	05/11/21 11:11	
2-Methylphenol(o-Cresol)	ug/L	<1.9	10.0	05/11/21 11:11	
3&4-Methylphenol(m&p Cresol)	ug/L	<1.2	10.0	05/11/21 11:11	
Hexachloro-1,3-butadiene	ug/L	<3.3	10.0	05/11/21 11:11	
Hexachlorobenzene	ug/L	<2.3	11.0	05/11/21 11:11	
Hexachloroethane	ug/L	<2.8	10.0	05/11/21 11:11	
Nitrobenzene	ug/L	<2.1	10.0	05/11/21 11:11	
Pentachlorophenol	ug/L	<9.1	30.4	05/11/21 11:11	
Pyridine	ug/L	<3.0	10.0	05/11/21 11:11	
2,4,6-Tribromophenol (S)	%	104	62-172	05/11/21 11:11	
2-Fluorobiphenyl (S)	%	85	54-107	05/11/21 11:11	
Nitrobenzene-d5 (S)	%	93	41-118	05/11/21 11:11	
Phenol-d6 (S)	%	36	12-120	05/11/21 11:11	

METHOD BLANK: 2217774 Matrix: Water
Associated Lab Samples: 40226418002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/L	<14.4	50.0	05/11/21 14:06	
2,4,5-Trichlorophenol	ug/L	<6.4	50.0	05/11/21 14:06	
2,4,6-Trichlorophenol	ug/L	<8.0	50.0	05/11/21 14:06	
2,4-Dinitrotoluene	ug/L	<10.6	50.0	05/11/21 14:06	
2-Methylphenol(o-Cresol)	ug/L	<9.3	50.0	05/11/21 14:06	
3&4-Methylphenol(m&p Cresol)	ug/L	<6.1	50.0	05/11/21 14:06	
Hexachloro-1,3-butadiene	ug/L	<16.5	50.0	05/11/21 14:06	
Hexachlorobenzene	ug/L	<11.5	55.0	05/11/21 14:06	
Hexachloroethane	ug/L	<14.2	50.0	05/11/21 14:06	
Nitrobenzene	ug/L	<10.7	50.0	05/11/21 14:06	
Pentachlorophenol	ug/L	<45.5	152	05/11/21 14:06	
Pyridine	ug/L	<15.1	50.0	05/11/21 14:06	
2,4,6-Tribromophenol (S)	%	85	62-172	05/11/21 14:06	
2-Fluorobiphenyl (S)	%	66	54-107	05/11/21 14:06	
Nitrobenzene-d5 (S)	%	61	41-118	05/11/21 14:06	
Phenol-d6 (S)	%	28	12-120	05/11/21 14:06	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

LABORATORY CONTROL SAMPLE: 2219498

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	50	32.4	65	46-89	
2,4,5-Trichlorophenol	ug/L	50	50.3	101	60-122	
2,4,6-Trichlorophenol	ug/L	50	51.6	103	59-119	
2,4-Dinitrotoluene	ug/L	50	52.6	105	70-130	
2-Methylphenol(o-Cresol)	ug/L	50	43.5	87	47-130	
3&4-Methylphenol(m&p Cresol)	ug/L	50	40.2	80	43-130	
Hexachloro-1,3-butadiene	ug/L	50	33.6	67	51-103	
Hexachlorobenzene	ug/L	50	50.1	100	70-130	
Hexachloroethane	ug/L	50	26.8	54	35-102	
Nitrobenzene	ug/L	50	48.9	98	70-130	
Pentachlorophenol	ug/L	50	44.5	89	53-101	
Pyridine	ug/L	50	31.4	63	10-130	
2,4,6-Tribromophenol (S)	%			105	62-172	
2-Fluorobiphenyl (S)	%			94	54-107	
Nitrobenzene-d5 (S)	%			97	41-118	
Phenol-d6 (S)	%			42	12-120	

MATRIX SPIKE SAMPLE: 2219499

Parameter	Units	40226418002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	<14.4	250	169	68	46-99	
2,4,5-Trichlorophenol	ug/L	<6.4	250	275	110	24-139	
2,4,6-Trichlorophenol	ug/L	<8.0	250	257	103	18-131	
2,4-Dinitrotoluene	ug/L	<10.6	250	283	113	22-158	
2-Methylphenol(o-Cresol)	ug/L	<9.3	250	235	94	29-130	
3&4-Methylphenol(m&p Cresol)	ug/L	<6.1	250	215	86	19-130	
Hexachloro-1,3-butadiene	ug/L	<16.5	250	174	70	51-113	
Hexachlorobenzene	ug/L	<11.5	250	246	98	70-130	
Hexachloroethane	ug/L	<14.2	250	141	56	35-102	
Nitrobenzene	ug/L	<10.7	250	251	100	51-130	
Pentachlorophenol	ug/L	<45.5	250	174	69	10-200	
Pyridine	ug/L	<15.1	250	159	64	10-130	
2,4,6-Tribromophenol (S)	%				108	62-172	
2-Fluorobiphenyl (S)	%				96	54-107	
Nitrobenzene-d5 (S)	%				99	41-118	
Phenol-d6 (S)	%				42	12-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

QC Batch: 384689
QC Batch Method: EPA 3510
Analysis Method: EPA 8270E
Analysis Description: 8270E Water MSSV
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40226418001

METHOD BLANK: 2219500 Matrix: Water
Associated Lab Samples: 40226418001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/L	<1.4	5.0	05/11/21 11:11	
2,4,5-Trichlorophenol	ug/L	<0.64	5.0	05/11/21 11:11	
2,4,6-Trichlorophenol	ug/L	<0.80	5.0	05/11/21 11:11	
2,4-Dinitrotoluene	ug/L	<1.1	5.0	05/11/21 11:11	
2-Methylphenol(o-Cresol)	ug/L	<0.93	5.0	05/11/21 11:11	
3&4-Methylphenol(m&p Cresol)	ug/L	<0.61	5.0	05/11/21 11:11	
Hexachloro-1,3-butadiene	ug/L	<1.1	5.5	05/11/21 11:11	
Hexachlorobenzene	ug/L	<1.7	5.0	05/11/21 11:11	
Hexachloroethane	ug/L	<1.4	5.0	05/11/21 11:11	
Nitrobenzene	ug/L	<1.1	5.0	05/11/21 11:11	
Pentachlorophenol	ug/L	<4.6	15.2	05/11/21 11:11	
Pyridine	ug/L	<1.5	5.0	05/11/21 11:11	
2,4,6-Tribromophenol (S)	%	104	62-172	05/11/21 11:11	
2-Fluorobiphenyl (S)	%	85	54-107	05/11/21 11:11	
2-Fluorophenol (S)	%	60	23-69	05/11/21 11:11	
Nitrobenzene-d5 (S)	%	93	41-118	05/11/21 11:11	
Phenol-d6 (S)	%	36	12-120	05/11/21 11:11	
Terphenyl-d14 (S)	%	99	51-129	05/11/21 11:11	

LABORATORY CONTROL SAMPLE & LCSD: 2219501 2219502

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,4-Dichlorobenzene	ug/L	50	32.4	35.2	65	70	46-89	8	20	
2,4,5-Trichlorophenol	ug/L	50	50.3	50.3	101	101	60-122	0	28	
2,4,6-Trichlorophenol	ug/L	50	51.6	50.9	103	102	59-119	1	29	
2,4-Dinitrotoluene	ug/L	50	52.6	53.8	105	108	70-130	2	20	
2-Methylphenol(o-Cresol)	ug/L	50	43.5	42.9	87	86	47-130	1	31	
3&4-Methylphenol(m&p Cresol)	ug/L	50	40.2	38.7	80	77	43-130	4	28	
Hexachloro-1,3-butadiene	ug/L	50	33.6	31.5	67	63	51-103	7	20	
Hexachlorobenzene	ug/L	50	50.1	51.1	100	102	70-130	2	20	
Hexachloroethane	ug/L	50	26.8	29.8	54	60	35-102	11	22	
Nitrobenzene	ug/L	50	48.9	48.6	98	97	70-130	1	20	
Pentachlorophenol	ug/L	50	44.5	43.3	89	87	53-101	3	24	
Pyridine	ug/L	50	31.4	28.6	63	57	10-130	9	50	
2,4,6-Tribromophenol (S)	%				105	101	62-172			
2-Fluorobiphenyl (S)	%				94	90	54-107			
2-Fluorophenol (S)	%				66	67	23-69			
Nitrobenzene-d5 (S)	%				97	99	41-118			
Phenol-d6 (S)	%				42	41	12-120			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

LABORATORY CONTROL SAMPLE & LCSD: 2219501 2219502

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Terphenyl-d14 (S)	%				99	102	51-129			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

QC Batch: 384576
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40226418002

SAMPLE DUPLICATE: 2218404

Parameter	Units	40226362001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	<0.10	<0.10		10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 384638

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 384797

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 117-4124161 ASHVIEW TERRACE AP
Pace Project No.: 40226418

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40226418002	**WC-SOIL-210505**	EPA 3541	384527	EPA 8082	384529
40226418001	**WC-WATER-210505**	EPA 3510	384578	EPA 8082	384638
40226418002	**WC-SOIL-210505**	EPA 3010A	384655	EPA 6010D	384754
40226418001	**WC-WATER-210505**	EPA 3010A	385095	EPA 6010D	385187
40226418002	**WC-SOIL-210505**	EPA 7470	384567	EPA 7470	384622
40226418001	**WC-WATER-210505**	EPA 7470	384570	EPA 7470	384623
40226418002	**WC-SOIL-210505**	EPA 3510	384688	EPA 8270E	384796
40226418001	**WC-WATER-210505**	EPA 3510	384689	EPA 8270E	384797
40226418002	**WC-SOIL-210505**	EPA 8260	384963		
40226418001	**WC-WATER-210505**	EPA 8260	384664		
40226418003	**TB**	EPA 8260	384664		
40226418002	**WC-SOIL-210505**	ASTM D2974-87	384576		

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

40226418

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	Tetra Tech
Branch/Location:	Ann Arbor
Project Contact:	Mike Savale
Phone:	9109239076
Project Number:	117-4124161
Project Name:	Ashview Terrace Apts PFAs
Project State:	WI
Sampled By (Print):	Andrew Gordon
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	Mike Savale
Invoice To Company:	Tetra Tech
Invoice To Address:	710 Avis Dr. Suite 100 Ann Arbor MI 48103
Invoice To Phone:	

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: TCL P, VOCs, SVOCs, metals, Total PCBs	Analyses Requested: ## VOCs, SVOCs, metals, Total PCBs
001	WC-Water-210505	5-5-21	1445	GW				✓
002	WC-Soil-210505	5-5-21	1445	S			✓	
003	DTB							

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
	DTB received in Shipment, labadded to COC 5/6/21 TP	

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Andrew Gordon	5-6-21 1205		
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.: 40226418

Receipt Temp = 4.5 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal: Present / Not Present; Intact / Not Intact

ORIGINAL

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: Tetra Tech Project # 40226418

All containers needing preservation have been checked and noted below: ☒Yes ☐No ☐N/A 5/6/21

Lab Lot# of pH paper: 100301 Lab Std #ID of preservation (if pH adjusted):

Initial when completed: LP Date/ Time:

Pace Lab #	Glass: AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	Plastic: BP1U	BP3U	BP3B	BP3N	BP3S	Vials: VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	Jars: JGFU	JG9U	WGFU	WPFU	General: SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001	3											1					3														X		2.5 / 5 / 10
002																				3													2.5 / 5 / 10
003																	2																2.5 / 5 / 10
004																																	2.5 / 5 / 10
005																																	2.5 / 5 / 10
006																																	2.5 / 5 / 10
007																																	2.5 / 5 / 10
008																																	2.5 / 5 / 10
009																																	2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																													5/6/21 LP				2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

Exceptions to preservation check: (VOA) Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:_____ Headspace in VOA Vials (>6mm) : ☐Yes ☒No ☐N/A ***If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	

Pace Analytical® 1241 Bellevue Street, Green Bay, WI 54302	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: 26Mar2020
	Document No.: **ENV-FRM-GBAY-0014-Rev.00**	Author: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO# : 40226418

40226418

Client Name: TetraTech

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☒ Client ☐ Pace Other: _____

Tracking #: ✓

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used SR - 90 **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 5.0 /Corr: 4.5

Temp Blank Present: ☒ yes ☐ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 5/6/21 /Initials: LP

Labeled By Initials: LP

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☐Yes ☒No ☐N/A	2. mail 5/6/21 LP
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD:	☐Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☐Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: _____		
Trip Blank Present:	☒Yes ☐No ☐N/A	13. DTB received in shipment, lab added to COC. 5/6/21 LP
Trip Blank Custody Seals Present	☒Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 463		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Page 2 of 2

May 28, 2021

Vista Work Order No. 2105076

Mr. Michael Savale
Tetra Tech
710 Avis Drive, Suite 100
Ann Arbor, MI 48108

Dear Mr. Savale,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 07, 2021 under your Project Name 'Ashview Terrace Apt. PFAS'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

for

Martha Maier
Laboratory Director

Vista Work Order No. 2105076
Case Narrative

Sample Condition on Receipt:

One soil sample was received and stored securely in accordance with Vista standard operating procedures and EPA methodology. The sample was received in good condition and within the recommended temperature requirements.

Analytical Notes:

PFAS Isotope Dilution Method

The sample was extracted and analyzed for a selected list of PFAS using Vista's Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The sample was extracted and analyzed within the hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit (RL). The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries for all QC and field samples were within the acceptance criteria.

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2105076-01	WC-Soil-210505	05-May-21 14:45	07-May-21 09:33	HDPE Jar, 6 oz

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.266	0.266	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFPeA	2706-90-3	<0.252	0.252	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFBS	375-73-5	<0.438	0.438	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
4:2 FTS	757124-72-4	<0.416	0.416	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHxA	307-24-4	<0.638	0.638	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFPeS	2706-91-4	<0.324	0.324	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
HFPO-DA	13252-13-6	<0.548	0.548	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHpA	375-85-9	<0.332	0.332	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
ADONA	919005-14-4	<0.350	0.350	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHxS	355-46-4	<0.408	0.408	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
6:2 FTS	27619-97-2	<0.648	0.648	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFOA	335-67-1	<0.288	0.288	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFHpS	375-92-8	<0.630	0.630	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFNA	375-95-1	<0.376	0.376	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFOSA	754-91-6	<0.452	0.452	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFOS	1763-23-1	<0.764	0.764	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
9Cl-PF3ONS	756426-58-1	<0.714	0.714	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDA	335-76-2	<0.652	0.652	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
8:2 FTS	39108-34-4	<0.538	0.538	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFNS	68259-12-1	<0.622	0.622	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
MeFOSAA	2355-31-9	<0.384	0.384	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
EtFOSAA	2991-50-6	<0.704	0.704	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFUnA	2058-94-8	<0.312	0.312	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDS	335-77-3	<0.752	0.752	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
11Cl-PF3OUdS	763051-92-9	<1.13	1.13	1.50		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDoA	307-55-1	<0.408	0.408	0.500		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
MeFOSA	31506-32-8	<3.16	3.16	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFTrDA	72629-94-8	<0.618	0.618	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFDoS	79780-39-5	<1.01	1.01	1.50		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
PFTeDA	376-06-7	<0.608	0.608	1.00		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
EtFOSA	4151-50-2	<5.00	5.00	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
MeFOSE	24448-09-7	<3.08	3.08	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
EtFOSE	1691-99-2	<3.52	3.52	10.0		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	132	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-PFPeA	IS	82.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-PFBS	IS	87.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-HFPO-DA	IS	80.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1

Sample ID: Method Blank — **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BLK1
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-4:2 FTS	IS	85.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFHxA	IS	85.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C4-PFHpA	IS	90.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C3-PFHxS	IS	90.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-6:2 FTS	IS	79.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C5-PFNA	IS	81.0	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C8-PFOSA	IS	47.0	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFOA	IS	89.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C8-PFOS	IS	90.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFDA	IS	70.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-8:2 FTS	IS	81.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d3-MeFOSAA	IS	58.7	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFUnA	IS	58.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d5-EtFOSAA	IS	62.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFDoA	IS	61.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d3-MeFOSA	IS	18.0	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
13C2-PFTeDA	IS	66.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d5-EtFOSA	IS	18.1	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d7-MeFOSE	IS	34.4	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1
d9-EtFOSE	IS	37.4	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:42	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BS1
Column: BEH C18

Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	1.82	2.00	91.1	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFPeA	2706-90-3	1.95	2.00	97.7	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFBS	375-73-5	2.15	2.00	108	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
4:2 FTS	757124-72-4	2.27	2.00	113	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHxA	307-24-4	1.92	2.00	96.2	50 - 150	Q	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFPeS	2706-91-4	1.78	2.00	89.2	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
HFPO-DA	13252-13-6	2.03	2.00	102	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHpA	375-85-9	2.05	2.00	102	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
ADONA	919005-14-4	2.14	2.00	107	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHxS	355-46-4	1.75	2.00	87.3	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
6:2 FTS	27619-97-2	1.90	2.00	95.0	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFOA	335-67-1	2.02	2.00	101	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFHpS	375-92-8	1.74	2.00	86.9	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFNA	375-95-1	1.97	2.00	98.5	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFOSA	754-91-6	2.16	2.00	108	50 - 150	Q	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFOS	1763-23-1	2.20	2.00	110	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
9Cl-PF3ONS	756426-58-1	1.86	2.00	92.8	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDA	335-76-2	2.08	2.00	104	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
8:2 FTS	39108-34-4	2.23	2.00	112	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFNS	68259-12-1	1.63	2.00	81.4	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
MeFOSAA	2355-31-9	1.66	2.00	83.2	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
EtFOSAA	2991-50-6	2.00	2.00	100	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFUnA	2058-94-8	2.17	2.00	109	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDS	335-77-3	1.64	2.00	81.9	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
11Cl-PF3OUdS	763051-92-9	2.37	2.00	119	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDoA	307-55-1	1.99	2.00	99.7	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
MeFOSA	31506-32-8	1.70	2.00	85.1	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFTrDA	72629-94-8	1.83	2.00	91.6	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFDoS	79780-39-5	2.15	2.02	107	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
PFTeDA	376-06-7	1.95	2.00	97.6	50 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
EtFOSA	4151-50-2	1.86	2.00	92.8	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
MeFOSE	24448-09-7	1.67	2.00	83.3	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
EtFOSE	1691-99-2	2.07	2.00	104	50 - 150	J	B1E0129	21-May-21	1.00 g	26-May-21 17:53	1

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Solid

Laboratory Data

Lab Sample: B1E0129-BS1
Column: BEH C18

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	127	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-PFPeA	IS	82.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-PFBS	IS	96.1	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-HFPO-DA	IS	75.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-4:2 FTS	IS	91.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFHxA	IS	84.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C4-PFHpA	IS	83.0	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C3-PFHxS	IS	97.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-6:2 FTS	IS	94.0	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C5-PFNA	IS	79.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C8-PFOSA	IS	44.0	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFOA	IS	86.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C8-PFOS	IS	94.5	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFDA	IS	76.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-8:2 FTS	IS	76.2	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d3-MeFOSAA	IS	65.4	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFUnA	IS	65.9	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d5-EtFOSAA	IS	64.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFDoA	IS	68.8	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d3-MeFOSA	IS	17.6	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
13C2-PFTeDA	IS	72.6	25 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d5-EtFOSA	IS	15.5	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d7-MeFOSE	IS	33.3	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1
d9-EtFOSE	IS	34.6	10 - 150		B1E0129	21-May-21	1.00 g	26-May-21 17:53	1

Sample ID: WC-Soil-210505 **PFAS Isotope Dilution Method**

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Soil
Date Collected: 05-May-21 14:45

Laboratory Data

Lab Sample: 2105076-01
Date Received: 07-May-21 09:33
% Solids: 85.0
Column: BEH C18

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.261	0.261	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFPeA	2706-90-3	<0.247	0.247	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFBS	375-73-5	<0.429	0.429	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
4:2 FTS	757124-72-4	<0.408	0.408	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFHxA	307-24-4	<0.626	0.626	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFPeS	2706-91-4	<0.318	0.318	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
HFPO-DA	13252-13-6	<0.537	0.537	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFHpA	375-85-9	<0.326	0.326	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
ADONA	919005-14-4	<0.343	0.343	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFHxS	355-46-4	<0.400	0.400	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
6:2 FTS	27619-97-2	<0.635	0.635	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFOA	335-67-1	<0.282	0.282	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFHpS	375-92-8	<0.618	0.618	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFNA	375-95-1	<0.369	0.369	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFOSA	754-91-6	<0.443	0.443	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFOS	1763-23-1	<0.749	0.749	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
9Cl-PF3ONS	756426-58-1	<0.700	0.700	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFDA	335-76-2	<0.639	0.639	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
8:2 FTS	39108-34-4	<0.528	0.528	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFNS	68259-12-1	<0.610	0.610	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
MeFOSAA	2355-31-9	<0.377	0.377	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
EtFOSAA	2991-50-6	<0.690	0.690	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFUnA	2058-94-8	<0.306	0.306	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFDS	335-77-3	<0.737	0.737	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
11Cl-PF3OUdS	763051-92-9	<1.11	1.11	1.47		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFDoA	307-55-1	<0.400	0.400	0.490		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
MeFOSA	31506-32-8	<3.10	3.10	9.81		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFTrDA	72629-94-8	<0.606	0.606	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFDoS	79780-39-5	<0.988	0.988	1.47		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
PFTeDA	376-06-7	<0.596	0.596	0.981		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
EtFOSA	4151-50-2	<4.90	4.90	9.81		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
MeFOSE	24448-09-7	<3.02	3.02	9.81		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
EtFOSE	1691-99-2	<3.45	3.45	9.81		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	131	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C3-PFPeA	IS	83.5	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C3-PFBS	IS	86.1	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1

Sample ID: WC-Soil-210505

PFAS Isotope Dilution Method

Client Data

Name: Tetra Tech
Project: Ashview Terrace Apt. PFAS
Matrix: Soil
Date Collected: 05-May-21 14:45

Laboratory Data

Lab Sample: 2105076-01
Date Received: 07-May-21 09:33
% Solids: 85.0
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-HFPO-DA	IS	86.4	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C2-4:2 FTS	IS	89.3	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C2-PFHxA	IS	80.9	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C4-PFHpA	IS	88.6	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C3-PFHxS	IS	90.7	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C2-6:2 FTS	IS	83.3	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C5-PFNA	IS	74.4	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C8-PFOSA	IS	60.2	10 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C2-PFOA	IS	83.3	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C8-PFOS	IS	89.3	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C2-PFDA	IS	73.5	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C2-8:2 FTS	IS	70.1	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
d3-MeFOSAA	IS	68.2	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C2-PFUnA	IS	68.4	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
d5-EtFOSAA	IS	67.9	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C2-PFDoA	IS	69.8	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
d3-MeFOSA	IS	24.2	10 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
13C2-PFTeDA	IS	73.2	25 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
d5-EtFOSA	IS	24.9	10 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
d7-MeFOSE	IS	46.8	10 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1
d9-EtFOSE	IS	49.9	10 - 150		B1E0129	21-May-21	1.20 g	26-May-21 18:24	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection Limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
MDL	Method Detection Limit
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
RL	For 537.1, the reported RLs are the MRLs.
TEQ	Toxic Equivalency, sum of the toxic equivalency factors (TEF) multiplied by the sample concentrations.
TEQMax	TEQ calculation that uses the detection limit as the concentration for non-detects
TEQMin	TEQ calculation that uses zero as the concentration for non-detects
TEQRisk	TEQ calculation that uses ½ the detection limit as the concentration for non-detects
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	21-023-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-26
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2020018
Massachusetts Department of Environmental Protection	M-CA413
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1980678
New Hampshire Environmental Accreditation Program	207720
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Ohio Environmental Protection Agency	87778
Oregon Laboratory Accreditation Program	4042-016
Pennsylvania Department of Environmental Protection	017
Texas Commission on Environmental Quality	T104704189-21-12
Vermont Department of Health	VT-4042
Virginia Department of General Services	10769
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	**Method**
Determination of Polychlorinated p- Dioxins & Polychlorinated Dibenzofurans	EPA 23
Polychlorinated Dibenzodioxins in Ambient Air by GC/HRMS	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613/1613B
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537.1
Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry	EPA 533
Perfluorooctanesulonate (PFOS) and Perfluorooctanoate (PFOA) - Method for Unfiltered Samples Using Solid Phase Extraction and Liquid Chromatography/Mass Spectrometry	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	**Method**
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 2105076 Temp: 1.3 °C
Storage ID: WR-2 Storage Secured: Yes ☑ No ☐

Ashview Terrace Apt. PFAS
Project ID:

PO#: 117-4124161

Sampler: Andrea Gordon
(name)

TAT (check one): Standard: ☑ 21 days
Rush (surcharge may apply)
☐ 14 days ☐ 7 days Specify:

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Andrea Gordon	5-6-21	1200	FedEx	5-6-21	1200
Fedex	05-07-21	0933	Justin Briseno	05-07-21	0933

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 * Fax (916) 673-0106

ATTN: Sample Custodian

Method of Shipment: FedEx
Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/ Sample Description	Container(s) Quantity	Type	Matrix	PFAS by Isotope Dilution: PFOA/ PFOS	UCMR3 PFAS List:6	537.1 List: 14 or 18 (Circle One)	EPA Draft List of 24	OTHER: Please attach analyte list (PFAS by EPA 537 List)	EPA Method 537 (DW only): PFOA/ PFOS	UCMR3 PFAS List:6	537.1 List of 14	537.1 List of 18	Comments
WC-Soil-210505	5-5-21	1445		1	PJ	SO					X					

Special Instructions/Comment

SEND DOCUMENTATION AND RESULTS TO:

Name: Michael Savale
Company: Tetra Tech
Address: 710 Avis Dr. Suite 100
City: Ann Arbor State: MI Zip: 48109
Phone: 810-923-9076
Email: michael.savale@tetratech.com

Container Types: P = HDPE, PJ = HDPE Jar
PY = Polypropylene, O= Other

Bottle Preservation Type:
TZ= Trizma:

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other

Vista Analytical Laboratory

Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 2105076 TAT Std

Samples Arrival:	**Date/Time** 05/07/21 0933		**Initials:**		**Location:** WR-2 **Shelf/Rack:** N/A		
Delivered By:	(FedEx)	UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	(Ice)		Blue Ice		Techni Ice	Dry Ice	None
Temp °C: 1.4 (uncorrected) **Temp °C:** 1.3 (corrected)			**Probe used: Y / (N)**		**Thermometer ID:** IR-3		

	YES	NO	NA
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Airbill ~ Trk # 786685192 7877	✓		
Shipping Documentation Present?	✓		
Shipping Container: (Vista) Client (Retain) Return Dispose			
Chain of Custody / Sample Documentation Present?	✓		
Chain of Custody / Sample Documentation Complete?	✓		
Holding Time Acceptable?	✓		

Logged In:	**Date/Time** 05/11/21 0923	**Initials:** WS	**Location:** WR-2 **Shelf/Rack:** 2-3
COC Anomaly/Sample Acceptance Form completed?		✓	✓

Comments:

CoC/Label Reconciliation Report WO# 2105076

LabNumber	CoC Sample ID	SampleAlias	Sample Date/Time	Container	BaseMatrix	Sample Comments
2105076-01	A WC-Soil-210505 ☑		05-May-21 14:45 ☑	HDPE Jar, 6 oz	Solid	

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Container Type Appropriate for Analysis(es)	✓		

Comments:

Preservation Documented: Na2S2O3 Trizma NH4CH3CO2 (None) Other

Verifed by/Date: VMS 05/11/21