2024 PFAS Characterization

Evaluation of PFAS Sampling Results from Madison Metropolitan Sewerage District's Nine Springs Wastewater Treatment Plant

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ACRONYM LIST

AFFF	aqueous film-forming foam
CSM	conceptual site model
EGLE	Michigan Department of Environment, Great Lakes, and Energy
FTSs	fluorotelomer sulfonic acids
HPLC	high performance liquid chromatography
LDPE	low-density polyethylene
NELAP	National Environmental Laboratory Accreditation Program
ng/L	nanograms per liter
PFAAs	perfluoroalkyl acids
PFAS	per- and polyfluoroalkyl substances
PFCAs	perfluorocarboxylic acids
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
PFSAs	perfluorosulfonic acids
ppb	parts per billion
ppt	parts per trillion
PVC	polyvinyl chloride
SM	Standard Methods
SOP	standard operating procedure
TOP	total oxidizable precursor
TSS	total suspended solids
ug/kg	micrograms per kilogram
USEPA	United States Environmental Protection Agency
WAC	Wisconsin Administrative Code
WDNR	Wisconsin Department of Natural Resources
WPDES	Wisconsin Pollution Discharge Elimination System
WWTP	wastewater treatment plant

Note, a list of PFAS compound names and acronyms are included in Section 2.2.

EXECUTIVE SUMMARY

The Madison Metropolitan Sewerage District (District) operates the Nine Springs Wastewater Treatment Plant (WWTP), which provides wastewater collection and treatment for over 435,000 people, 27 significant industrial users, numerous commercial and other (non-significant) industrial operations, and several landfills in a 190-square-mile service area. Significant industrial sources of per- and polyfluoroalkyl substances (PFAS) have not been identified in the District's service area based on an internal review.

TRC Environmental Corporation (TRC) and the District completed an initial phase of PFAS sampling in May and July 2021, which included sampling of influent, effluent, polymers, biosolids, and struvite. In general, the 2021 sampling results indicated that PFAS were present in the WWTP influent, effluent, and biosolids at concentrations similar to those observed in other municipal WWTPs that service urbanized areas without significant industrial sources. Results from the 2021 sampling are summarized in the Phase 1: Initial PFAS Characterization report (TRC, 2021).

Following the initial characterization sampling in 2021, the District and TRC performed additional PFAS characterization activities, including monthly sampling events that started in March 2022 and have continued through the present. Results from prior monitoring in 2022 and 2023 were summarized in the Phase 2: Additional PFAS Characterization (2022) report (TRC, 2023) and the 2023 PFAS Characterization Report (TRC, 2024).

Results from the 2024 sampling indicate that PFAS were detected in the WWTP influent, effluent, and biosolids at concentrations generally similar to the 2021-2023 results and consistent with a large municipal WWTP that does not receive highly concentrated PFAS from industrial dischargers. The 2024 effluent results for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were below the NR 102 surface water standards with the exception of one PFOS result in November 2024. The Class B biosolids results for the sum of PFOA and PFOS were below 20 micrograms per kilogram (ug/kg), corresponding with a recommendation for land applying per normal approach based on the Wisconsin Department of Natural Resources (WDNR) Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS guidance document (WDNR, 2024), which is advisory only at this time. The Class A biosolids results for the median sum of PFOA and PFOS were over 20 ug/kg but below 50 ug/kg, for which the advisory WDNR Interim Strategy recommends implementing PFAS source investigation and reduction efforts as well as effluent sampling and other actions, as described in this report.

1.0 Introduction

1.1 Overview of Plant Operations

The Madison Metropolitan Sewerage District (District) operates the Nine Springs Wastewater Treatment Plant (WWTP), which provides wastewater collection and treatment for over 435,000 people, 27 significant industrial users, numerous commercial and other (non-significant) industrial operations, and several landfills in a 190-square-mile service area. Significant industrial sources of PFAS have not been identified in the District's service area based on an internal review. A majority (approximately 99%) of the influent to Nine Springs WWTP enters through five force mains, and the remainder arrives as hauled waste.

The five force mains that route to the Nine Springs WWTP receive wastewater from other force mains within the collection system. Depending on operational needs, the District may alter how flow is routed between some force mains (for example, in April 2024, the flow from pump station 10 was changed from being split between pump station 7 and pump station 18 to flowing only to pump station 18).

Wastewater received by the District proceeds through an advanced treatment process. Outputs from the Nine Springs WWTP include liquid effluent, biosolids, and struvite. District effluent is currently discharged to Badfish Creek. Previously, a smaller portion of effluent was discharged to Badger Mill Creek, which was ceased in August 2024. Biosolids include Class A cake, which can be used directly by farmers as fertilizer and soil conditioner; and Class B liquid biosolids (Metrogro), also referred to as Class B sludge, which is recycled to agricultural land in the fall and spring as fertilizer and soil conditioner. The Class A cake is around 25% solids and the Class B liquid is around 5% solids. Struvite is an inorganic nutrient (magnesium ammonium phosphate) that is harvested from liquid filtrates from the treatment processes and sold as a slow-release fertilizer. Refer to the PFAS Fate and Transport Report (TRC, 2020a) for a more detailed description of the Nine Springs WWTP treatment processes and a discussion of environmental cycling.

1.2 Previous PFAS Investigation and Research

The District previously retained TRC to develop a PFAS Fate and Transport report (TRC, 2020a), conceptual site model (CSM), and PFAS Sampling and Analysis Blueprint (TRC, 2020b) to support their PFAS action plan, all of which were completed in early 2020.

TRC and the District completed an initial phase of PFAS sampling in May and July 2021, which included sampling of influent, effluent, polymers, biosolids, and struvite. In general, the 2021 sampling results indicated that PFAS were present in the WWTP influent, effluent, and biosolids at concentrations similar to those observed in other municipal WWTPs that service urbanized areas without significant industrial sources. Results from the 2021 sampling are summarized in the Phase 1: Initial PFAS Characterization report (TRC, 2021). Prior to the sampling, TRC prepared a standard operating procedure (SOP) for PFAS sampling at the District's Nine Springs WWTP, which was included as an appendix in the Phase 1 report (TRC, 2021).

Following the initial sampling in 2021, the District and TRC performed additional PFAS characterization activities, including monthly sampling events starting in March 2022. Results from sampling performed in 2022 and 2023 were summarized in the Phase 2: Additional PFAS

Characterization (2022) report (TRC, 2023) and the 2023 PFAS Characterization Report (TRC, 2024), respectively.

1.3 Scope and Purpose

PFAS monitoring activities were continued throughout 2024, as described in this report. The purpose of this report is to summarize the results of the 2024 sampling in the context of the current regulatory landscape, the CSM, and the previous PFAS sampling results from 2021–2023.

2.0 Sampling and Analysis Program

2.1 Sampling Scope, Schedule, Methods, and Rationale

Monthly sampling events were completed between January and December 2024, with sampling performed by the District. A general overview of the 2024 PFAS sampling schedule is provided in Table 1. Sample collection methods, sample naming methods, and sampling rationale for each type of media are summarized in Table 2. The sampling included monthly sampling of composite influent and composite effluent; quarterly sampling of the individual influent force mains, Class B liquid biosolids, and the Class A cake biosolids piles initially generated in 2022 and 2023; and four sampling events for the Class A cake biosolids pile that was generated in 2024. (Note, the piles of Class A cake are sometimes referred to based on the year in which they were generated. For example, the pile generated in 2023 may be referred to as the 2023 Class A cake.) Additionally, grab samples of effluent were collected monthly for six months during March through August 2024.

Note that the sampling methods used for the Class A cake pile that was initially generated in 2022 are different than the sampling methods for the Class A cake piles generated in 2023 and 2024, as summarized in Table 2 and described here. The samples for the 2022 Class A cake were composited from approximately six to seven shallow grab samples taken from beneath the crust of the pile (approximately 1 foot deep), consistent with how samples were collected for this pile in previous years after it was generated for the purpose of better comparison over time. The composite samples collected during 2024 that came from either the Class A cake generated in 2023 and 2024 were composited from seven grab samples consisting of approximately four to five shallow samples from beneath the crust and two deeper samples. This sampling method was chosen in part to be consistent with the anticipated permit guidelines for biosolids sampling, which involve collecting a composite sample using multiple grab samples from various areas and depths within the pile, and based on the grab sampling results in 2023 that showed variation between samples (TRC, 2024).

Influent flow rates were recorded by the District for each of the five force mains on each day that influent samples were collected, as summarized in Table 3. These flow rates were used for the flow-weighted influent composite sampling.

2.2 Laboratory Analysis

Samples were shipped under chain-of-custody to the analytical laboratory. The samples were analyzed by Eurofins. The analyses of samples for Wisconsin's 33 PFAS and total oxidizable precursor (TOP) assay were performed by Eurofins in West Sacramento, California. The analyses of samples for total suspended solids (TSS) were performed by Eurofins in West Sacramento, California in January and in Chicago, Illinois from February through December.

Samples were analyzed using the following analytical methods:

- Influent, effluent, and biosolids samples were analyzed for the 33 PFAS compounds included in the Wisconsin Method Criteria established by the WDNR (EA-19-0001). Eurofins used their NR 149 certified SOP to analyze the samples.
- Influent and effluent samples were analyzed for TSS using Standard Methods (SM) 2540D.

- Biosolids samples were analyzed for total solids using ASTM Method D2216. PFAS results are reported on a dry weight basis in biosolids samples, meaning that the results represent a concentration that has been corrected for percent solids. The laboratory does not hold National Environmental Laboratory Accreditation Program (NELAP) accreditation for total solids.
- Select samples were analyzed for TOP assay using the laboratory's proprietary SOP and included reporting of the 33 PFAS compounds in the Wisconsin Method Criteria.

The WDNR 33 PFAS list includes the following groupings of PFAS; the full list of compounds is detailed in the table below:

- 19 perfluoroalkyl acids (PFAAs), including 11 perfluorocarboxylic acids (PFCAs) and 8 perfluorosulfonic acids (PFSAs), which are terminal PFAS, meaning they do not further transform or degrade under typical environmental conditions.
- 3 fluorotelomer sulfonic acids (FTSs), which have the potential to undergo transformation and/or degradation to form other PFAS including PFCAs.
- 7 perfluorooctane sulfonamido moieties (sulfonamides, sulfonamidoacetic acids, and sulfonamidoethanols), which have the potential to transform to other PFAS such as PFOS; and
- 4 modern replacement chemicals such as HFPO-DA (also known by trade name GenX).

WDNR 33 PFAS List

CAS RN	Analyte	Analyte Acronym
Carboxylic Acids		
375-22-4	Perfluorobutanoic acid	PFBA
2706-90-3	Perfluoropentanoic acid	PFPeA
307-24-4	Perfluorohexanoic acid	PFHxA
375-85-9	Perfluoroheptanoic acid	PFHpA
335-67-1	Perfluorooctanoic acid	PFOA
375-95-1	Perfluorononanoic acid	PFNA
335-76-2	Perfluorodecanoic acid	PFDA
2058-94-8	Perfluoroundecanoic acid	PFUnA
307-55-1	Perfluorododecanoic acid	PFDoA
72629-94-8	Perfluorotridecanoic acid	PFTrDA
376-06-7	Perfluorotetradecanoic acid	PFTA (PFTeA)
Sulfonic Acids		
375-73-5	Perfluorobutane sulfonic acid	PFBS
2706-91-4	Perfluoropentane sulfonic acid	PFPeS
355-46-4	Perfluorohexane sulfonic acid	PFHxS
375-92-8	Perfluoroheptane sulfonic acid	PFHpS
1763-23-1	Perfluorooctane sulfonic acid	PFOS
68259-12-1	Perfluorononane sulfonic acid	PFNS
335-77-3	Perfluorodecane sulfonic acid	PFDS
79780-39-5	Perfluorododecane sulfonic acid	PFDoS
757124-72-4	4:2 Fluorotelomer sulfonic acid	4:2 FTS
27619-97-2	6:2 Fluorotelomer sulfonic acid	6:2 FTS
39108-34-4	8:2 Fluorotelomer sulfonic acid	8:2 FTS

WDNR 33 PFAS List

CAS RN	Analyte	Analyte Acronym
Sulfonamides, Sulfonamidoacetic acids, Sulfonamidoethanols		
754-91-6	Perfluorooctanesulfonamide	PFOSA
31506-32-8	N-Methylperfluorooctanesulfonamide	NMeFOSA
4151-50-2	N-Ethylperfluorooctanesulfonamide	NEtFOSA
2355-31-9	N-Methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA
2991-50-6	N-Ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA
24448-09-7	N-Methylperfluorooctanesulfonamidoethanol	NMeFOSE
1691-99-2	N-Ethylperfluorooctanesulfonamidoethanol	NEtFOSE
Replacement Chemicals		
13252-13-6	Hexafluoropropylene oxide-dimer acid	HFPO-DA (GenX)
919005-14-4	4,8-Dioxa-3H-perfluorononanoic acid	DONA
756426-58-1	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9Cl-PF3ONS
763051-92-9	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS

2.3 Deviations from Sampling SOP

A copy of the SOP for PFAS sampling at the District's Nine Spring's WWTP was included as an appendix in the Phase 1 report (TRC, 2021).

In place of laboratory-provided PFAS-free water, Fisher Chemical's W7-4 Optima™ for high performance liquid chromatography (HPLC) water was used for the equipment blank during the May 2024 sampling event and was also used for the final rinse step of decontamination during several sampling events. Per Fisher Chemical, the W7-4 water is not analyzed for PFAS. A sample of this water was submitted to Eurofins for analysis of PFAS in August 2024 and PFAS were not detected in the sample, as discussed in Section 4.7.

As previously included in the Phase 1 report (TRC, 2021), the Phase 2 (2022) report (TRC, 2023), and the 2023 PFAS Characterization Report (TRC, 2024), the following deviations from the Sampling SOP also pertain to the 2024 PFAS sampling:

- The SOP states that the sample containers in the dedicated composite samplers should be evaluated to ensure that they are PFAS-free and should be replaced with PFAS-free containers if they are not. It also states certain materials including low-density polyethylene (LDPE) should not be in contact with samples unless known to be PFAS-free. The composite sampler carboys are made of LDPE. An equipment blank was collected as a rinsate sample of one of the carboys during the 2021 sampling to assess the potential for contamination of the sample from the LDPE carboy. PFAS were not detected in the equipment blank.
- The SOP states that specific components of the dedicated composite samplers should be decontaminated or replaced prior to sampling in order to prevent potential contamination from the dedicated samplers, as follows: the strainer should be decontaminated or replaced between each sampling event and the suction line, distribution nozzle and sample bottle should be replaced between each sampling event. The composite sampler suction line tubing, strainers, and distribution nozzles were not decontaminated or replaced prior to PFAS sample collection. The suction line tubing used within the

composite samplers was confirmed to be polyvinyl chloride (PVC) and silicone, which are approved materials for PFAS sampling.

2.4 Modifications to Sampling Plan

Modifications to the sampling plan included the following, as reflected in Table 1:

- May 2024: The TOP assay was cancelled due to missed holding times at the laboratory.
- June 2024: The TOP assay was cancelled due to missed holding times at the laboratory.
- August 2024: A sample of HPLC grade water was submitted for laboratory analysis because it had been used for the May equipment blank and during several events for decontamination.
- June, September, and December 2024: An extra equipment blank for the Class A cake was collected.

3.0 Regulatory Landscape

3.1 WDNR Surface Water Standards and Effluent Discharge Limits

Revisions to several chapters in Wisconsin Administrative Code (WAC) related to the regulation of PFOA and PFOS in surface water and effluent were made effective August 1, 2022. These revisions included the addition of surface water quality criteria for PFOA and PFOS and the revision of the Wisconsin Pollution Discharge Elimination System (WPDES) permitting program to include PFOA and PFOS monitoring, reporting, and pollutant minimization plan requirements, as described below.

The surface water criteria for PFOA and PFOS per WAC ch. NR 102.04(8)(d) are summarized as follows:

- PFOS: 8 nanograms per liter (ng/L) for all waters except those that cannot naturally support fish and do not have downstream waters that support fish.
- PFOA: 20 ng/L in waters classified as public water supplies under WAC ch. NR 104, and 95 ng/L for other surface waters.

Permit requirements for PFOS and PFOA wastewater effluent discharges to surface water are outlined under NR 106 Subchapter VIII, which include "procedures for determining when a permitted discharge has the reasonable potential to cause or contribute to an exceedance of the PFOS or PFOA" surface water criteria and determination of the need for a PFOS and PFOA minimization plan.

Permit requirements for monitoring and reporting PFOS and PFOA will be included upon first reissuance of a WPDES permit after August 1, 2022 for up to 2 years, as specified in WAC ch. NR 106.98(2), except if a waiver has been granted or reduced frequency is approved. The District's WPDES permit (WI-0024597-09-2) was renewed May 1, 2020, and expired on March 31, 2025. The District applied to renew its WPDES permit in October 2024 and is currently awaiting permit reissuance by WDNR. Currently, the District's WPDES permit does not include monitoring requirements for PFOS or PFOA. For the purpose of this report, effluent results are compared directly to the surface water criteria noted above. The effluent from the Nine Springs WWTP is discharged into waters that are not classified as a public water supply; therefore, the relevant PFOA surface water criterion is 95 ng/L. The relevant criterion for PFOS is 8 ng/L.

Protocols for determination of a need for a PFOS and PFOA minimization plan are specified in WAC ch. NR 106.98(4), which states that if "at least 11 daily discharge concentrations of the substance are greater than the limit of detection, a PFOS and PFOA minimization plan is required for a permitted facility if the upper 99th percentile of the 30-day average discharge concentrations for PFOS and PFOA exceeds the applicable water quality based effluent limitation calculated under this subsection." The upper 99th percentile of the 30-day average discharge concentrations were not calculated for this report because PFOS and PFOA monitoring requirements are not currently included in the District's WPDES permit.

3.2 WDNR Interim Biosolids Strategy

The WDNR published an Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS (WDNR, revised March 1, 2024), referred to here as the WDNR Interim Biosolids Strategy. This document is intended to provide guidance to permitted land spreaders to "limit land application of municipal biosolids and industrial sludges that are significantly impacted by PFAS compounds" as the WDNR awaits finalization of United States Environmental Protection Agency's (USEPA's) risk assessment for PFOS and PFOA in biosolids. USEPA released the *Draft Sewage Sludge Risk Assessment for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS)* for public comment on January 14, 2025. The public comment period ended on August 14, 2025.

The WDNR Interim Biosolids Strategy was developed using a similar approach as the Michigan Department of Environment, Great Lakes, and Energy (EGLE's) Interim Strategy for Land Application of Biosolids Containing PFAS, which was finalized in March 2021 and updated most recently on January 1, 2024 (EGLE, 2024). The EGLE guidance established recommendations for actions based on non-risk-based tiers of PFOS or PFOA concentrations in biosolids. The WDNR Interim Biosolids Strategy adopted a similar tiered approach; however, the criteria for the tiers and other details vary between the WDNR and EGLE guidance. For example, the WDNR guidance defines thresholds based on the sum of PFOS + PFOA, whereas the EGLE guidance thresholds are based on concentrations of either PFOS or PFOA. Additionally, the WDNR Interim Biosolids Strategy notes that "these target thresholds are approximate values to be used by the department in conjunction with site-specific knowledge of the characteristics of the biosolids, the proposed disposal option, the characteristics of any proposed land application site (e.g., soil type, depth to groundwater, proximity to sensitive receptors like drinking water wells or surface water, etc.), type of method and equipment used for land application, etc." (WDNR, 2024).

The approach from the WDNR Interim Strategy is summarized below:

- Sum of PFOS + PFOA generally ≥150 ug/kg: Considered to be at levels of "significant concern" and should not be approved for new or transfer land application sites. Notify WDNR staff immediately. Sample effluent and investigate potential PFAS sources to develop a source reduction program if not done already. Arrange alternative treatment or disposal of biosolids besides land application.
- Sum of PFOS + PFOA generally >50 ug/kg but <150 ug/kg: Reduce land application rates to no more than 1.5 dry tons per acre (or get WDNR approval of an alternative strategy). Notify WDNR staff immediately. Sample effluent and investigate potential PFAS sources to develop a source reduction program, if not done already. Notify landowner/farmer of PFAS results prior to initial land application and track application rates for each site.
- Sum of PFOS + PFOA generally >20 ug/kg but <50 ug/kg: If over a median concentration of 20 ug/kg but below 50 ug/kg, implement PFAS source investigation and reduction efforts as well as effluent sampling. Notify landowner/farmer of PFAS results prior to initial land application and track application rates for each site. If the proposed application rate is greater than or equal to 8 tons per acre, consult with the WDNR to detail concentrations and recommended tonnages per acre.
- Sum of PFOS + PFOA generally <20 ug/kg: Land apply per normal approach consistent with WAC ch. NR 204.

The WDNR Interim Biosolids Strategy outlines the next steps identified by the WDNR, which include requiring biosolids and/or industrial sludge sampling in WPDES permit applications and including PFAS monitoring for biosolids and industrial sludges in WPDES permits if needed to supplement the permit application sampling.

For the purpose of this report, biosolids results were compared to the tiered approach outlined in the WDNR Interim Biosolids Strategy, although it is advisory only at this time.

4.0 Results and Discussion

Sample results from the 2024 sampling are summarized in Tables 4 through 12. Laboratory reports from the 2024 sampling are included in Appendix A. Graphs of select results are included as Figures 1 through 8. Most of the graphs include data collected from the previous sampling performed during 2021–2023 along with the data collected in 2024 for the purpose of comparison. Results for the sampling performed in previous years, including laboratory reports, can be found in the reports summarizing the 2021 sampling (TRC, 2021), 2022 sampling (TRC, 2023), and 2023 sampling (TRC, 2024).

Results for influent and effluent are reported in ng/L, which are equivalent to parts per trillion (ppt). Results for biosolids are reported in ug/kg, which are equivalent to parts per billion (ppb). PFAS results are reported on a dry weight basis in biosolids samples, meaning that the results represent a concentration that has been corrected for percent solids. Graphs include column charts and time series graphs of concentration vs. time data. On the graphs, sample results are labeled using identifiers based on the sample type (e.g., INF-CALC = calculated influent, INF-COMP = composite influent, EFF = effluent composite, EFF-G = effluent grab, BIO-A-22 = Class A cake [2022 pile], BIO-A-23 = Class A cake [2023 pile], BIO-A-24 = Class A cake [2024 pile], BIO-B = Class B biosolids, etc.) and the sampling event date (formatted as YYYY-MM). Results associated with influent force mains are labeled as INF- followed by the number corresponding to the appropriate force main. Column charts show only detected concentrations of PFAS; nondetect results are not included. Nondetect results are shown on concentration vs. time graphs using hollow symbols. The color coding for the column charts uses blue for PFCAs and orange for PFSAs, where increasing chain lengths are depicted using increasingly darker shades; red to black for the FTSs; blues, greens, pinks, and purples for the sulfonamides, sulfonamidoacetic acids, and sulfonamidoethanols; and grays for the replacement chemicals; as shown in the graph legends.

4.1 Data Review

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document #EA 19 0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data in non-drinking water matrices. Data quality and usability review summaries and Qualified Form 1s for each monthly sampling event are provided in Appendix B.

4.2 Influent

Influent sampling included monthly collection of flow-weighted composite influent samples and quarterly collection of influent samples from the five individual force mains.

At this time, there are no regulatory criteria for PFAS that apply to the District influent.

4.2.1 Calculated and Composite Influent Results

Flow-weighted composite influent samples were collected monthly and are referred to here as "Composite Influent" or "Influent Comp." Influent samples were also collected from the five individual force mains on a quarterly basis. The results from the individual force main samples were used to calculate flow-weighted averages for the purpose of comparing to the Composite Influent samples. The flow-weighted averages are referred to as "Calculated Influent" and are calculated as an average of the results from the five influent force main samples weighted by their respective flow rates, with nondetect results represented by concentrations of zero for the purpose of the calculation.

Results for the Composite Influent and Calculated Influent are provided in Table 4 and shown as column charts on Figure 1 and Figure 5. The 2024 Composite Influent and Calculated Influent results were generally similar to the results from 2021-2023 (Figure 1). As was noted for the 2023 results, the individual PFAS compounds that consistently had the highest concentrations in the Composite Influent in 2024 included several PFCAs (PFBA, PFPeA, PFHxA, and PFOA) and PFSAs (PFBS, PFHxS, and PFOS), which were typically detected at concentrations below 10 ng/L (Figure 5).

Atypical or notable results for the Composite Influent included:

- In June 2024, the PFBA result was higher than typical, at an estimated concentration of 21 ng/L.
- In June 2024, the PFDS result was higher than typical, at an estimated concentration of 11 ng/L; however, this result was also qualified as having an ion transition ratio that did not meet acceptance limits.
- In November 2024, the Composite Influent result for PFOS was higher than typical, at a concentration of 19 ng/L, and the effluent sample from November also had a higher than typical PFOS concentration, at 17 ng/L. A specific possible source (or sources) of PFOS in the November 2024 wastewater has not been identified. The November 2024 sampling did not include sampling of the individual influent force mains, so it is unknown whether one or more of the individual force mains also had a higher than typical PFOS concentration.

Results for the Calculated Influent were generally similar to the Composite Influent.

Based on results from 2024, the Composite Influent concentrations for PFOS ranged from not detected (<0.51 ng/L) to 19 ng/L and concentrations for PFOA ranged from 3.1 to 7.0 ng/L.

4.2.2 Individual Force Mains

Influent results from the individual force mains are included in Table 5. The types of PFAS regularly detected are generally similar between the five individual force mains. However, higher concentrations of PFAS are generally detected in samples from Influent-07 and Influent-18 relative to the other force mains, as observed in previous sampling.

Time series graphs of PFOA and PFOS for influent from individual force mains are shown on Figures 2a and 2b, respectively. Individual force main results from 2024 indicate PFOA concentrations ranging from 1.2 ng/L (estimated concentration) to 11 ng/L (estimated

concentration) and PFOS concentrations ranging from not detected to 13 ng/L (estimated concentration). In general, PFOA and PFOS concentrations were higher in the Influent-07 and Influent-18 samples relative to the other force mains, as observed in previous years.

4.3 Effluent

During 2024, composite effluent samples were collected monthly from January through December, and effluent grab samples were collected monthly from March through August. Effluent sample results are provided in Table 6. Results for detected PFAS are shown as column charts in Figure 3 and Figure 5. Time series graphs for PFOA and PFOS are shown on Figures 4a and 4b, respectively.

The effluent PFAS results indicated generally consistent individual PFAS concentrations over time, except PFOS and PFHxS in November 2024, as discussed below. The individual PFAS regularly detected at the highest concentrations in the effluent samples were generally similar to those in the influent samples (Figure 5), which included several PFCAs (PFBA, PFPeA, PFHxA, and PFOA) and PFSAs (PFBS, PFHxS, and PFOS). As noted in the Influent results section, the November 2024 influent sample also had a higher than typical concentration of PFOS and PFHxS detected. The effluent PFOA and PFOS results for 2024 were generally similar to results from 2021–2023 (Figures 4a and 4b). The PFAS results from the effluent grab sampling were generally similar to the results from the effluent composite sampling (Figure 3).

4.3.1 Comparison of Effluent Results to WDNR Surface Water Standards

The only effluent result from 2024 that was greater than the WDNR's applicable surface water criteria was the November 2024 result for PFOS of 17 ng/L, compared to the surface water criterion of 8 ng/L. (As discussed in Section 3.1, the protocols for determining a need for a PFOS and PFOA minimization plan specified in WAC ch. NR 106.98(4) are based on the upper 99th percentile of the 30-day average effluent concentrations, not individual effluent concentrations. As such, a single sample with a concentration exceeding the surface water criterion does not necessarily indicate that a PFOS or PFOA minimization plan will be required.) The 2024 effluent results for PFOA were less than the WDNR's applicable surface water criterion for PFOA (95 ng/L). Effluent PFOS results from 2024 generally ranged from 3.2 ng/L to 7.3 ng/L except the November 2024 result of 17 ng/L. Effluent PFOA concentrations from 2024 ranged from 6.5 ng/L to 10 ng/L (Figures 4a and 4b).

4.4 Class B Biosolids

Class B biosolids were sampled quarterly during the March, June, September, and December 2024 sampling events. Class B biosolids sample results are included in Table 7. Class B biosolids PFAS results are shown in column chart form on Figure 6, and time series graphs of PFOA and PFOS detected in Class B biosolids samples are shown on Figure 7a.

The Class B biosolids sample PFAS results from 2024 were generally similar to the samples from 2021–2023 in terms of the types of PFAS detected and the magnitude of the concentrations detected. The types of PFAS detected in the 2024 Class B biosolids samples included PFCAs, PFSAs, sulfonamides, sulfonamidoacetic acids, and sulfonamidoethanols. Replacement PFAS included on the WDNR PFAS list were not detected. The individual PFAS compounds regularly detected at the highest concentrations included PFOS, NMeFOSAA, NEtFOSAA, and NMeFOSE.

The Class B biosolids PFOS results from 2024 ranged from 6.9 ug/kg to 14 IJ ug/kg (where I indicates that the result had an ion transition ratio that did not meet acceptance limits and J indicates that the result is an estimated concentration) and PFOA results were 1.4 J ug/kg or not detected (<3.0 ug/kg) (Figure 7a).

4.4.1 Comparison of Class B Biosolids Results to WDNR Interim Biosolids Strategy

The 2024 Class B biosolids results for the sum of PFOS and PFOA ranged from 8.3 ug/kg to 17 ug/kg, as shown in Table 7. According to the WDNR Interim Biosolids strategy, results generally below 20 ug/kg PFOS + PFOA qualify for land application following the normal approach consistent with WAC ch. NR 204 and do not require PFAS source investigation or reduction efforts or effluent sampling.

4.5 Class A Cake

Class A cake was generated in 2022, 2023, and 2024 and set aside in separate piles each year for the purpose of the PFAS characterization sampling. Results from the 2024 sampling of the Class A cake piles generated in 2022, 2023, and 2024 are included in Table 8.

In general, the types of PFAS and relative amounts detected in the Class A cake samples during the 2024 sampling had similarities between the different piles of Class A cake that were generated in different years, although the exact concentrations and ratios varied between piles and over time. The types of PFAS detected in the Class A cake samples generally included PFCAs, PFSAs, FTSs, sulfonamides, sulfonamidoacetic acids, and sulfonamidoethanols. The individual PFAS compounds detected at the highest concentrations in the 2024 samples generally included PFPeA, PFHxA, PFOA, PFDA, PFOS, and NMeFOSAA. The four replacement PFAS included on the WDNR PFAS list (HFPO-DA, DONA, 9Cl-PF3ONS, and 11Cl-PF3OUdS) were not detected in the 2024 sampling, similar to results from previous years, during which replacement PFAS were either not detected or were detected at low concentrations.

Sample results from the Class A cake piles generated each year are discussed separately below.

4.5.1 Class A Cake (Pile Generated in 2022)

The pile of Class A cake that was generated in 2022, was sampled quarterly in 2024, during the March, June, September, and December sampling events. PFAS results for the 2022 Class A Cake pile are shown in column chart form on Figure 8a, and time series graphs of PFOA and PFOS are shown on Figure 7b. Variation in PFAS results over time in the samples collected from the 2022 Class A cake pile are discussed in Section 5.3.3.

The Class A cake sample PFOS results from the 2024 sampling ranged from 14 ug/kg to 18 IJ ug/kg (where IJ indicates a result that is qualified as estimated and having an ion transition ratio that did not meet acceptance limits) and PFOA results ranged from 21 J- ug/kg to 33 ug/kg (where J- indicates a result that is qualified as estimated with potential low bias), as shown on Figure 7b.

4.5.2 Class A Cake (Pile Generated in 2023)

The pile of Class A cake that was generated in 2023 was sampled quarterly in 2024, during the March, June, September, and December sampling events. PFAS results for the 2023 Class A cake pile are shown in column chart form on Figure 8b, and time series graphs of PFOA and PFOS results are shown on Figure 7c. Although the types of individual PFAS detected in results from the 2024 samples were generally similar between sampling events, the relative concentrations varied between events, particularly for the PFCAs.

The Class A cake sample PFOS results from the 2024 sampling ranged from 14 ug/kg to 17 IJ ug/kg (where IJ indicates a result that is qualified as estimated and having an ion transition ratio that did not meet acceptance limits) and PFOA results ranged from 6.0 ug/kg to 51 ug/kg, as shown on Figure 7c.

4.5.3 Class A Cake (Pile Generated in 2024)

The pile of Class A cake that was generated in 2024 was sampled four times in 2024: first in May after having passed the bacteria test, and then during the quarterly sampling events in June, September, and December. PFAS results for the 2024 Class A cake pile are shown in column chart form on Figure 8c, and time series graphs of PFOA and PFOS results are shown on Figure 7d.

The Class A cake sample PFOS results from the 2024 sampling ranged from 9.6 IJ ug/kg to 14 IJ ug/kg (where IJ indicates a result that is qualified as estimated and having an ion transition ratio that did not meet acceptance limits) and PFOA results ranged from 6.0 ug/kg to 23 ug/kg, as shown on Figure 7d.

4.5.4 Comparison of Class A Cake Results to WDNR Interim Biosolids Strategy

The range of values for the sum of PFOS+PFOA and the median sum of PFOS+PFOA are summarized below for the 2024 sampling results for each of the three Class A cake piles. The piles are referred to in the table based on the year in which they were generated (e.g., the 2022 Class A Cake pile refers to the pile of cake generated in 2022). The data shown in the table are based on the results from the 2024 sampling only. Results from previous sampling for the 2022 and 2023 Class A Cake piles are not included.

Class A Cake Pile	Range of PFOS+PFOA (ug/kg) from 2024 Sampling	Median of PFOS+PFOA (ug/kg) from 2024 Sampling
2022 Class A Cake pile	35-51	43
2023 Class A Cake pile	20-66	29
2024 Class A Cake pile	20-32.6	29.5

The median sums of PFOS+PFOA for each Class A cake pile based on the 2024 results were each greater than 20 ug/kg but below 50 ug/kg. Out of the 12 total Class A cake samples collected in 2024, two samples had results for the sum of PFOS+PFOA that were greater than 50 ug/kg: the sample from the 2022 Class A cake pile collected in September 2024 (51 ug/kg PFOS+PFOA) and the sample from the 2023 Class A cake pile collected in December 2024 (66 ug/kg

PFOS+PFOA). Overall, the results for the sums of PFOS+PFOA are generally above 20 ug/kg but below 50 ug/kg.

According to the WDNR Interim Biosolids Strategy, if the sum of PFOS+PFOA is generally above 20 ug/kg but below 50 ug/kg, certain actions are recommended, including implementing PFAS source investigation and reduction efforts as well as effluent sampling if over a median concentration of 20 ug/kg but below 50 ug/kg. Because the Class A cake results from the 2024 sampling of all piles have median PFOS+PFOA concentrations greater than 20 ug/kg but below 50 ug/kg, implementation of source investigation and reduction efforts as well as effluent sampling may be recommended. The other actions listed for sums of PFOS+PFOA "generally above 20 ug/kg but below 50 ug/kg" in the WDNR Interim Biosolids Strategy are also anticipated to apply based on the 2024 sample results.

Although the results from samples collected in 2024 from each of the three piles had sums of PFOS+PFOA at or above 20 ug/kg, results from previous years for the Class A Cake piles generated in 2022 and 2023 included some results for PFOS+PFOA that were less than 20 ug/kg and some results greater than 20 ug/kg. For example, results for the Class A Cake pile generated in 2022 were below 20 ug/kg PFOS+PFOA for the initial sampling in March 2022, then were above 20 ug/kg but below 50 ug/kg PFOS+PFOA for the three subsequent sampling events in 2022, then were below 20 ug/kg PFOS+PFOA for the first three sample events in 2023, and were above 20 ug/kg but below 50 ug/kg PFOS+PFOA in the final sampling event in 2023. Furthermore, the Class A Cake pile generated in 2022 had a median PFOS+PFOA of approximately 39 ug/kg based on samples collected in 2022 (excluding the duplicate sample) and a median PFOS+PFOA of 18.1 ug/kg based on samples collected in 2023. The variation in results between sampling events may be due in part to transformation, but may also be due to other factors, as discussed in Section 5.4.

4.6 TOP Assay

TOP assay subjects a sample to artificially (non-environmentally occurring) forced oxidation using heat and strong oxidants, which can result in the transformation of precursor PFAS compounds to terminal PFAAs and possibly other PFAS. As such, the TOP assay can be used to (1) identify the potential presence of precursor PFAS that are and are not part of the target analyte list and (2) determine if these precursors will transform during the TOP assay to PFAS included in the target analyte list of 33 PFAS compounds. The extent of transformation and specific transformation products indicated by the post-oxidation TOP assay results are not necessarily indicative of the transformation that would be expected for the same sampled material in the natural environment or in WWTP influent, effluent, or biosolids. Rather, the TOP assay represents a characterization technique and the individual concentrations of PFAS detected in the post-oxidation TOP assay results are also not intended to be compared to environmental standards or screening criteria.

The post-oxidation TOP assay results are expected to have higher concentrations of PFCAs due to the transformation of precursors.

TOP assay results for effluent, Class B biosolids, and Class A biosolids samples are included in Tables 9, 10, and 11, respectively.

4.6.1 TOP Assay

In 2024, effluent and/or biosolids samples were collected for TOP assay during the March, May, June, September, and December sampling events; however, the May and June TOP assays were cancelled due to missed holding times at the laboratory (Table 1).

4.6.2 Effluent TOP Assay

Effluent TOP assay results are provided in Table 9. Concentrations of some PFCAs increased post-oxidation in the 2024 samples from March and December. The September post-oxidation results had elevated detection limits due to laboratory blank contamination and several PFCAs were not detected above these limits, making comparison of pre- and post-oxidation results difficult for that sample. As expected, concentrations of the PFSAs detected were generally similar pre- and post-oxidation. Although there were some apparent increases in PFCA concentrations post-oxidation, overall, these results suggest that there may not be a large mass of unidentified precursors present in the effluent samples.

4.6.3 Class B Biosolids TOP Assay

Biosolids TOP assay results for the Class B biosolids are provided in Table 10. The Class B biosolids TOP assay results show increases in PFCA concentrations post-oxidation along with decreased concentrations of target precursors (NMeFOSAA, NEtFOSAA, NMeFOSE, NEtFOSE). These results are consistent with expected oxidation of target and non-target precursors to PFCAs.

4.6.4 Class A Cake TOP Assay

Biosolids TOP assay results for the 2022, 2023, and 2024 Class A cake piles are provided in Table 11.

The Class A cake TOP assay results show increases in PFCA concentrations post-oxidation along with decreases in target analyte precursor concentrations (perfluorooctanesulfonamido moieties), as expected for TOP assay. Overall, these results are consistent with the presence of precursors in the Class A Cake samples.

4.7 Blank Samples

The blank samples collected in 2024 included equipment blanks, which were collected as rinsate samples of the equipment used for the Class A cake sampling during each event when Class A cake was sampled, and one sample of HPLC water, as mentioned in Sections 2.3 and 2.4. Results for these samples are provided in Table 12.

Equipment blank results were evaluated as part of the data quality and usability reviews (Appendix B). PFAS were detected in two equipment blank samples during 2024 (May and June); however, no validation actions were required based on these detections. PFAS were not detected in the other equipment blanks from 2024 or in the HPLC water sample.

The May 2024 equipment blank sample had 10 individual PFAS detected, with detected concentrations as high as 18 ng/L. Due to the unusual number and concentrations of PFAS in this equipment blank sample, an investigation was initiated to determine the source of the

contamination. The laboratory was contacted during validation to confirm the reported equipment blank results and found no issues. Further, a sample of the water used to create the blank was collected in August 2024, analyzed by the laboratory, and results showed no detections of PFAS in the source water. Finally, sample results for pile BIO-A-24 collected in May and June 2024 were compared and showed similar concentrations between detected PFAS, which was interpreted to indicate that there was unlikely to have been significant contamination from the equipment during the May 2024 sampling. Therefore, based on professional judgement and available information collected during this review, no validation actions were taken because of the May 2024 equipment blank results as the results appear to be anomalous. The PFAS detected in the equipment blank may have been caused by incomplete equipment decontamination.

5.0 Additional Discussion

5.1 Possible Sources of PFAS

Results from the 2024 sampling indicated that PFAS were detected in the WWTP influent, effluent, and biosolids at concentrations generally similar to the 2021–2023 results and consistent with a large municipal WWTP that does not receive highly concentrated PFAS from industrial dischargers. Indicator compounds of highly concentrated PFAS sources, such as PFOS and FTSs associated with different generations of aqueous film forming foam (AFFF) and chrome-plating mist suppressants, are not detected at concentrations that would suggest these sources are being discharged to the Nine Springs WWTP on a continuous basis. Many of the PFAS compounds detected in the influent received by the District are likely the result of the prevalence of PFAS in society's use and commercial products that enter the municipal sanitary waste stream.

As discussed in the Influent results section, higher concentrations of PFAS were generally observed in the Influent-07 and Influent-18 samples, as has been observed in previous sampling.

5.2 Temporal Trends for Influent and Effluent

PFAS concentrations in influent and effluent varied somewhat month-to-month during 2024, but no overall trends or months with notably higher than usual results for most or all PFAS were observed (Figures 1 and 3). Concentrations of PFOA and PFOS in 2024 were generally similar to concentrations detected in 2021–2023, with the exception of the higher than typical PFOS detections in the November 2024 influent and effluent samples (Figures 2a/b and Figures 4a/b).

As discussed previously, a specific possible source (or sources) of PFOS in the November 2024 wastewater has not been identified. The November 2024 sampling did not include sampling of the individual influent force mains, so it is unknown whether one or more of the individual force mains also had a higher than typical PFOS concentration. Potential PFAS sources were evaluated, including biosolids received as hauled waste and infiltration into a broken sanitary pipe in an area with PFAS-impacted groundwater. Neither of these seemed to be a possible explanation for the elevated PFOS detected in the November 2024 samples. The PFAS-impacted groundwater in the area of the broken sanitary pipe had a different PFAS signature than what was detected in the influent and effluent. Finally, the biosolids were received on November 12, 2024, after the influent sample had already been collected, so the biosolids could not have caused elevated concentrations in the influent that month.

5.3 Transformation and Partitioning

5.3.1 Influent vs. Effluent

Influent and effluent sample results may be compared to assess potential transformation and/or partitioning of PFAS within the WWTP (Figure 5). Relative to the results for Calculated Influent and Composite Influent, the effluent results tend to have higher concentrations of several PFCAs (PFPeA, PFHxA, and PFOA), and lower concentrations or fewer detections of most precursors analyzed. These differences could be due to simultaneous transformation of precursors within the WWTP process and preferential partitioning of certain PFAS to the solid phase of the biosolids from the liquid phase of the influent/effluent. Transformation of precursors to terminal PFAS would result in lower concentrations of those precursors and can result in higher concentrations of terminal PFAS. In general, short-chain PFAS generally prefer the aqueous phase and long-chain

PFAS (including long-chain precursors) and PFSAs generally adsorb and partition to organic carbon in the solid phase.

5.3.2 Biosolids vs. Effluent

When comparing the 2024 biosolids sample results (Class A and Class B) to the effluent sample results, the biosolids results generally contain higher proportions of longer chain PFAS, such as the perfluorooctane sulfonamido moieties, as observed with the 2021–2023 sample results. This difference in composition can be visualized by comparing the effluent results (Figure 3) to the Class B biosolids results (Figure 6) and Class A biosolids results (Figure 8). For example, the biosolids results show higher proportions of NMeFOSAA, NEtFOSAA, NMeFOSE, and NEtFOSE (shown in shades of purple and pink on these figures) when compared to the effluent. The higher proportion of long chain PFAS in biosolids is consistent with the expected partitioning of longer chain PFAS to solids based on greater sorption potential for these compounds.

5.4 Class A Cake Results

Variation in PFAS results between sampling events for an individual pile of Class A cake may be due to factors including, but not limited to, the following:

- The transformation of precursor PFAS compounds to other PFAS, including intermediates that may further transform, or terminal PFAS, which are generally not expected to transform or degrade under typical environmental conditions
- Heterogeneity within the pile (even though sampling procedures are intended to minimize the effects of heterogeneity within the pile by compositing multiple grab samples, it is still possible that heterogeneity within the pile may affect sample results)
- Homogenization procedures in the field and/or in the lab
- Potential variability from the low mass of sample used in the laboratory analysis (i.e., the lab utilizes a 1-5 gram aliquot of sample for extraction) in combination with a high level of moisture (68-74% moisture). Analysis of such a small mass may affect the representativeness of sample results.

Results for the individual piles of Class A cake generated during different years are discussed below.

5.4.1 Class A Cake (Pile Generated in 2022)

Sample results over time from the pile of Class A Cake generated in 2022 show variation in PFAS concentrations between sampling events, as shown on Figure 8a. Between March and September 2022, results showed increased concentrations of several PFCAs and NMeFOSAA, along with decreased concentrations of NMeFOSE, followed by little change in December 2022. The March 2023 results indicated lower concentrations of PFCAs in general, followed by increasing PFCA concentrations over the subsequent quarterly events through December 2023. Results from the 2024 sampling indicate more consistent concentrations of PFAS, at levels generally similar to those detected in September and December 2022.

Some of these changes in composition may result from transformation of precursors. For example, the decreased concentrations of NMeFOSE and increased concentrations of NMeFOSAA could results from the transformation of NMeFOSE to NMeFOSAA. And, increased

concentrations of several PFCAs could also be due to transformation, as numerous PFAS can transform to PFCAs. However, transformation would not explain decreasing concentrations of PFCAs because PFCAs are terminal PFAS and are not expected to transform in ambient conditions. It is possible that at least some of the variation in PFAS concentrations between sampling events may be due to the other factors noted in Section 5.4.

5.4.2 Class A Cake (Pile Generated in 2023)

Sample results over time from the pile of Class A cake generated in 2023 also show variation in PFAS concentrations between sampling events, as shown on Figure 8b. Higher concentrations of PFCAs were detected in the December 2024 sample relative to those detected in earlier samples from the same pile. Increased concentrations of PFCAs could result from transformation of precursors. However, as noted for the 2022 pile of Class A cake, it is also possible that some variation in PFAS concentrations may be due to the other factors noted in Section 5.4.

5.4.3 Class A Cake (Pile Generated in 2024)

Sample results from the 2024 pile of Class A cake show some variation in PFAS concentrations between sampling events, as shown on Figure 8c. Lower concentrations of PFCAs were detected in the September 2024 sample relative to the other samples. However, this variation does not appear to be a clear trend, and as noted for the other piles of Class A cake, it is possible that some variation in PFAS concentrations may be due to the other factors noted in Section 5.4.

6.0 Conclusions

The following conclusions are made based on the 2024 PFAS sampling at the Nine Springs WWTP, with a focus on the effluent and biosolids results:

- The November 2024 PFOS concentration in effluent was greater than the NR 102 surface water criteria for PFOS. However, individual results are not compared to surface water criteria when determining the need for a PFOS or PFOA minimization plan. Rather, this determination is made using the upper 99th percentile of the 30-day average effluent concentrations.
- A specific possible source (or sources) of PFOS in the November 2024 wastewater has not been identified. Other results for PFOS and PFOA from the 2024 sampling were below the NR 102 surface water criteria.
- Class B biosolids sample results for the sums of PFOS+PFOA were below 20 ug/kg, for which the WDNR Interim Biosolids Strategy (advisory only at this time) recommends land application following the normal approach consistent with WAC ch. NR 204.
- Class A cake results from the samples collected in 2024 from the cake piles generated in 2022, 2023, and 2024 show that the sums of PFOS+PFOA were generally above 20 ug/kg but below 50 ug/kg, for which the WDNR Interim Biosolids Strategy (advisory only at this time) recommends implementing certain actions including source investigation and reduction efforts as well as effluent sampling.
- Class A cake samples from the piles of material generated in 2022 and 2023 indicate variation in PFAS concentrations over time. Some variation in PFAS concentrations was also observed in the results for the 2024 Class A cake pile, but no clear trends were observed based on the samples collected to date. These changes in PFAS concentrations may be due to transformation occurring within the pile of Class A cake, heterogeneity, homogenization procedures, or low mass of sample analyzed by the lab.

7.0 References

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Table 1: PFAS Sampling Overview (2024)
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794

Sampling Event (Month-Year)	Influent (Five Individual Force Mains)	Influent (Composite)	Effluent (Composite)	Effluent (Grab)	Class B Biosolids	Class A Cake (2022 Pile)	Class A Cake (2023 Pile)	Class A Cake (2024 Pile)	Equipment Blank(s)	HPLC Grade Water
Jan-2024	--	PFAS	PFAS	--	--	--	--	--	--	--
Feb-2024	--	PFAS	PFAS	--	--	--	--	--	--	--
Mar-2024	PFAS	PFAS	PFAS, TOP	PFAS	PFAS, TOP	PFAS, TOP	PFAS, TOP	--	PFAS	--
Apr-2024	--	PFAS	PFAS	PFAS	--	--	--	--	--	--
May-2024	--	PFAS	PFAS	PFAS	--	--	--	PFAS, ~~TOP~~	PFAS	--
Jun-2024	PFAS	PFAS	PFAS, ~~TOP~~	PFAS	PFAS, ~~TOP~~	PFAS, ~~TOP~~	PFAS, ~~TOP~~	PFAS, ~~TOP~~	PFAS (2)	--
Jul-2024	--	PFAS	PFAS	PFAS	--	--	--	--	--	--
Aug-2024	--	PFAS	PFAS	PFAS	--	--	--	--	--	PFAS
Sep-2024	PFAS	PFAS	PFAS, TOP	--	PFAS, TOP	PFAS, TOP	PFAS, TOP	PFAS, TOP	PFAS (2)	--
Oct-2024	--	PFAS	PFAS	--	--	--	--	--	--	--
Nov-2024	--	PFAS	PFAS	--	--	--	--	--	--	--
Dec-2024	PFAS	PFAS	PFAS, TOP	--	PFAS, TOP	PFAS, TOP	PFAS, TOP	PFAS, TOP	PFAS (2)	--

Notes:

Samples were collected by the Madison Metropolitan Sewerage District and submitted for laboratory analysis.

PFAS = PFAS analysis following Wisconsin Method Criteria established by the WDNR (EA-19-0001) for 33 PFAS

TOP = Total oxidizable precursor assay

~~Strikethrough~~ = Analysis was planned but cancelled

Total suspended solids (TSS) analysis included for all influent and effluent samples.

-- = Not sampled

Updated by: L. Auner, 7/16/2025

Checked by: M. Ursin, 7/21/2025

Table 2: Sampling Methods and Rationale (2024)
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794

Sample Category	Sample ID Starts With	Schedule	Sample Collection Notes	Equipment Used	Lab Analysis	Goal/Rationale
Influent and Effluent						
Influent - 5 Individual Force Mains	INF-##	Quarterly	Pour-offs from composite sampler carboys.	LDPE carboy (for each influent sample)	WI-33 PFAS, TSS	Assess variation of influent concentrations over time and variation between the five force mains (could be used to guide potential future efforts for source identification).
Influent - Composite sampling	INF-COMP	Monthly	Sample composited from five force mains. Composite sample weighted based on flow rates for force mains.	LDPE carboy (for each influent sample), 4 L HDPE jug for composite, glass graduated cylinder	WI-33 PFAS, TSS	
Effluent (Composite)	EFF	Monthly	Pour-off from composite sampler carboy. Collected day after influent sample collection to reflect 24-hour residence time for treatment.	LDPE carboy	WI-33 PFAS, TSS (monthly) TOP Assay (quarterly)	Assess variation of PFAS concentrations in effluent over time, use data for future permitting evaluation and P99 calculation. Assess potential variation between composite and grab effluent samples.
Effluent (Grab)	EFF-G	Monthly for 6 months, March - August	Collected by submerging bottles into reservoir of effluent composite sampler. Collected during 24-hr composite sample collection period.	None	WI-33 PFAS, TSS	Assess variation of PFAS concentrations in effluent over time, use data for future permitting evaluation and P99 calculation. Assess potential variation between composite and grab effluent samples.
Biosolids - Class A Cake						
Class A Cake (2022 pile)	BIO-A-22	Quarterly	Samples were composited from approximately 6 to 7 shallow grab samples, which were taken from beneath the crust of the pile (~1 foot deep) and homogenized.	Stainless steel bowl and spoon, trowel, and shovel	WI-33 PFAS, % Solids, TOP Assay	Assess variation in concentrations in the same pile over time.
Class A Cake (2023 pile)	BIO-A-23	Quarterly	Samples were composited from 7 grab samples (approximately 4 to 5 shallow samples from beneath the crust and 2 deeper samples) and homogenized.	Stainless steel bowl, spoon, trowel, and shovel. Probe also used for deep grab samples.	WI-33 PFAS, % Solids, TOP Assay	Assess variation in concentrations in the same pile over time.
Class A Cake (2024 pile)	BIO-A-24	Quarterly (after pile passed bacteria test)	Collected first sample after pile passed bacteria test, then sampled quarterly thereafter. Samples were composited from 7 grab samples (approximately 4 to 5 shallow samples from beneath the crust and 2 deeper samples) and homogenized.	Stainless steel bowl and spoon, trowel, and shovel. Probe also used for deep grab samples.	WI-33 PFAS, % Solids, TOP Assay	Assess variation in concentrations in the same pile over time.
Biosolids - Class B Sludge						
Class B Sludge	BIO-B	Quarterly	Collected grab sample from end of gravity belt thickener.	None	WI-33 PFAS, % Solids, TOP Assay	Assess variation in concentrations over time.
Quality Control Samples						
Equipment Blank (Class A Cake)	EB	Concurrent with Class A Cake sampling (up to 8 samples total)	Collected as rinsate of equipment either prior to use or after decontamination between samples.	Not applicable	WI-33 PFAS	QC - evaluate potential cross-contamination from equipment.
HPLC Grade Water	HPLC GRADE WATER	August	Submit sample of HPLC grade water.	None	WI-33 PFAS	QC - evaluate potential contamination of water used for equipment blank in May and for decontamination during several sampling events.

Updated by: L. Auner, 7/16/2025
Checked by: M. Ursin, 7/21/2025

Table 3: Influent Flow Rates
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794

	Flow Rate (MGD)					
Influent Sample Date	**INFLUENT-02**	**INFLUENT-07**	**INFLUENT-08**	**INFLUENT-11**	**INFLUENT-18**	**Total Flow from Force Mains**
5/6/2021	5.82	4.18	6.68	8.87	11.81	37.36
3/28/2022	6.21	4.45	6.33	8	11	35.99
4/25/2022	7.23	5.91	6.64	8.55	10.48	38.81
5/23/2022	5.54	9.18	6.19	7.92	5.24	34.07
6/20/2022	6.43	9.25	6.47	8.54	6.84	37.53
7/19/2022	6.36	8.80	6.55	8.51	6.11	36.33
8/15/2022	6.15	9.66	6.38	8.18	5.82	36.19
9/12/2022	11.78	14.04	8.13	12.31	9.15	55.41
10/10/2022	6.96	9.4	6.32	7.96	5.63	36.27
11/14/2022	7.03	8.76	6.39	7.93	6.63	36.74
12/12/2022	6.86	9.05	6.41	7.68	6.52	36.52
1/16/2023	6.06	10.56	6.17	8.37	6.12	37.28
2/13/2023	7.17	10.29	6.72	8.07	6.47	38.72
3/20/2023	7.47	10.47	6.79	8.32	7.53	40.58
4/17/2023	8.00	10.89	7.35	8.73	8.05	43.02
5/15/2023	6.42	6.21	6.69	8.39	10.72	38.43
6/19/2023	5.71	8.43	6.68	8.27	6.76	35.85
7/17/2023	8.91	5.60	6.34	8.38	10.46	39.69
8/14/2023	7.49	7.43	7.57	9.74	10.76	42.99
9/11/2023	6.69	9.00	6.44	8.20	6.25	36.58
10/9/2023	6.47	8.73	6.22	8.04	5.89	35.35
11/13/2023	6.00	8.89	6.2	7.95	5.26	34.30
12/11/2023	6.20	9.21	6.28	8.03	5.26	34.98
1/15/2024	4.96	9.35	6.08	8.32	5.48	34.19
2/12/2024	6.20	8.23	6.33	8.05	6.88	35.69
3/18/2024	6.45	10.36	6.15	8.42	5.94	37.32
4/15/2024	4.56	6.01	4.78	7.87	11.66	34.88
5/13/2024	6.25	4.81	6.33	8.70	11.66	37.75
6/10/2024	7.31	5.62	6.48	8.88	13.00	41.29
7/23/2024	10.21	5.45	7.58	10.48	13.75	47.47
8/12/2024	7.60	4.81	6.57	9.09	12.83	40.90
9/16/2024	9.09	5.15	7.27	9.35	13.52	44.38
10/14/2024	4.27	6.51	6.24	8.52	11.79	37.33
11/11/2024	7.05	4.96	5.84	9.45	13.05	40.35
12/9/2024	6.71	4.93	4.94	10.03	12.20	38.81

Notes:
Flow rates provided by the Madison Metropolitan Sewerage District.
MGD = millions of gallons per day

Updated by: L. Auner, 5/22/2025
Checked by: B. Nickel, 6/9/2025
Updated by: L. Auner, 7/16/2025
Checked by: M. Ursin, 7/21/2025

Table 4: Influent Results (Calculated/Composite)
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794.2024.0000

		Location ID	Calculated Influent	Calculated Influent	Calculated Influent	Calculated Influent	Influent Comp	Influent Comp	Influent Comp	Influent Comp	Influent Comp	Influent Comp	Influent Comp	Influent Comp	Influent Comp	Influent Comp	Influent Comp	Influent Comp
		Sample Name	--	--	--	--	Inf Comp 20240115	Inf Comp 20240212	Inf-Comp 20240318	Inf-Comp 202404	Inf Comp 202405	Inf Comp 202406	Inf Comp 202407	Inf-Comp-202408	Inf-Comp-202409	Inf-Comp-20241014	Inf-Comp-202411	Inf-Comp-202412
		Sample Date	03/18/2024	06/10/2024	09/16/2024	12/09/2024	01/15/2024	02/12/2024	03/18/2024	04/15/2024	05/13/2024	06/10/2024	07/22/2024	08/12/2024	09/16/2024	10/14/2024	11/11/2024	12/09/2024
CAS RN	**Analyte**	**Unit**																
Carboxylic Acids																		
375-22-4	PFBA	ng/L	8.4	21	6.9	6.7	6.2	8.6	8.6	6.4	6.2	21 J	8.6	7.6	7.7	6.6	9.5 J+	7.2
2706-90-3	PFPeA	ng/L	4.6	4.4	4.2	4.3	2.5	5.3	5.2	4.7	3.4	3.5 J	6.3	3.2	3.8	4.9	5.7 J+	4.7
307-24-4	PFHxA	ng/L	7.9	8.9	6.2	6.1	5.0 IJ	11	7.6	9.4	6.1	9.1 J	9.3	6.0	7.4	9.2	10	6.3
375-85-9	PFHpA	ng/L	1.5	1.7	1.2	1.1	0.91 J	1.8	1.7 J	2.1	1.2 J	1.6 J	2.4	1.6 J	1.3 J	1.6 J	2.1	1.2 J
335-67-1	PFOA	ng/L	4.7	6.3	3.8	4.7	3.1	4.6	5.6	4.3	4.5	5.7 J	6.1	4.9	4.0	5.3	7.0	4.9
375-95-1	PFNA	ng/L	0.54	0.32	ND	ND	0.35 J	0.37 J	0.50 J	< 0.25	0.63 IJ	1.2 IJ	1.4 IJ	< 0.29	< 0.24	1.1 IJ	0.98 J	< 0.48
335-76-2	PFDA	ng/L	0.26	0.095	ND	ND	0.39 J	< 0.27	0.40 J	< 0.29	< 0.29	< 0.62 UJ	0.64 J	< 0.33	< 0.28	0.53 J	0.41 J	< 0.48
2058-94-8	PFUnA	ng/L	ND	ND	ND	ND	< 1.0	< 0.95	< 1.0	< 1.0	< 1.0	< 2.2 UJ	< 0.92	< 1.2	< 0.98	< 1.0	< 0.97	< 0.48
307-55-1	PFDoA	ng/L	ND	ND	ND	ND	< 0.51	< 0.48	< 0.52	< 0.52	< 0.51	< 1.1 UJ	< 0.46	< 0.59	< 0.49	< 0.51	< 0.48	< 0.53
72629-94-8	PFTrDA	ng/L	ND	ND	ND	ND	< 1.2	< 1.1	< 1.2	< 1.2	< 1.2	< 2.6 UJ	< 1.1	< 1.4	< 1.2	< 1.2	< 1.1	< 0.48
376-06-7	PFTA	ng/L	ND	ND	ND	ND	< 0.68	< 0.63 UJ	< 0.69 UJ	< 0.69	< 0.68	< 1.5 UJ	< 0.61	< 0.79	< 0.65 UJ	< 0.68 UJ	< 0.64 UJ	< 0.70 UJ
Sulfonic Acids																		
375-73-5	PFBS	ng/L	3.8	3.9	2.4	2.4	1.5 J	3.6 IJ	4.3	3.4	3.2	4.0 J	4.4	3.3	2.2	3.3	5.2	2.9
2706-91-4	PFPeS	ng/L	0.49	0.38	0.37	0.31	< 0.28	< 0.26	0.78 J	< 0.28	< 0.28	0.74 J	1.0 J	< 0.32	< 0.27	0.81 J	0.77 J	< 0.48
355-46-4	PFHxS	ng/L	9.6	9.1	6.5	6.9	5.4	7.6 IJ	10	10	5.8	10 IJ	8.5	7.9	6.6	6.7	11	7.4
375-92-8	PFHpS	ng/L	0.062	ND	ND	ND	< 0.18	< 0.16	< 0.18	< 0.18	< 0.18	< 0.38 UJ	< 0.16	< 0.20	< 0.17	< 0.18	< 0.17	< 0.48
1763-23-1	PFOS	ng/L	5.1	6.5	2.5	2.6	2.8	6.6	7.8	< 0.51	4.0	6.1 J	8.1	< 0.58	3.8	4.4	19	4.0
68259-12-1	PFNS	ng/L	ND	ND	ND	ND	< 0.34	< 0.32	< 0.35	< 0.35	< 0.34	< 0.74 UJ	< 0.31	< 0.40	< 0.33	< 0.35	< 0.33	< 0.48
335-77-3	PFDS	ng/L	ND	ND	ND	ND	< 0.30	< 0.28	< 0.30	< 0.30	< 0.30	11 IJ	< 0.27	< 0.34	< 0.28	< 0.30	< 0.28	< 0.48
79780-39-5	PFDoS	ng/L	ND	ND	ND	ND	< 0.90	< 0.84	< 0.92	< 0.91	< 0.90	< 1.9 UJ	< 0.81	< 1.0	< 0.86	< 0.91	< 0.86	< 0.93
757124-72-4	4:2 FTS	ng/L	ND	ND	ND	ND	< 0.22	< 0.21	< 0.23	< 0.23	< 0.22	< 0.48 UJ	< 0.20	< 0.26	< 0.21	< 0.22	< 0.21	< 0.48
27619-97-2	6:2 FTS	ng/L	1.4	ND	1.9	0.6	< 2.3	< 2.2	< 2.4	< 2.4	< 2.3	< 5.0 UJ	< 2.1	< 2.7	< 2.2	< 2.3	< 2.2	< 1.2
39108-34-4	8:2 FTS	ng/L	0.081	ND	ND	ND	< 0.43	< 0.40	< 0.44	< 0.43	< 0.43	< 0.92 UJ	< 0.38	< 0.50	< 0.41	< 0.43	< 0.41	< 0.48
Sulfonamides, Sulfonamidoacetic acids, Sulfonamidoethanols																		
754-91-6	PFOSA	ng/L	ND	ND	ND	ND	< 0.91	< 0.85	< 0.93	< 0.92	< 0.91	< 2.0 UJ	< 0.82	< 1.1	< 0.87	0.94 J	< 0.86	< 0.94
31506-32-8	NMeFOSA	ng/L	ND	ND	ND	ND	< 0.40	< 0.37	< 0.41	< 0.41	< 0.40	< 0.86 UJ	< 0.36	< 0.46	< 0.38	< 0.40	< 0.38	< 0.48
4151-50-2	NEtFOSA	ng/L	ND	ND	ND	ND	< 0.81	< 0.75	< 0.83	< 0.82	< 0.81	< 1.7 UJ	< 0.73	< 0.94	< 0.77	< 0.81	< 0.77	< 0.83
2355-31-9	NMeFOSAA	ng/L	0.54	ND	ND	ND	< 1.1	< 1.0	< 1.1	< 1.1	< 1.1	< 2.4 UJ	< 1.0	< 1.3	< 1.1	< 1.1	1.1 J	< 1.2
2991-50-6	NEtFOSAA	ng/L	0.68	ND	ND	ND	< 1.2	< 1.1	< 1.2	< 1.2	< 1.2	< 2.6 UJ	< 1.1	< 1.4	< 1.2	< 1.2	< 1.1	< 1.2
24448-09-7	NMeFOSE	ng/L	2.3	ND	ND	1.8	1.5 J	< 1.2	1.3 J	1.5 J	1.6 J	< 2.8 UJ	< 1.2	< 1.5	< 1.2	2.8 J	3.7	1.8 J
1691-99-2	NEtFOSE	ng/L	0.48	ND	ND	0.17	< 0.79	< 0.74	< 0.81	< 0.80	< 0.79	< 1.7 UJ	< 0.71	< 0.92	< 0.75	< 0.80	< 0.75	< 0.81
Replacement Chemicals																		
13252-13-6	HFPO-DA	ng/L	ND	ND	ND	ND	< 1.4	< 1.3	< 1.4	< 1.4	< 1.4	< 3.0 UJ	< 1.3	< 1.6	< 1.3	< 1.4	< 1.3	< 0.96
919005-14-4	DONA	ng/L	ND	ND	ND	ND	< 0.37	< 0.35	< 0.38	< 0.38	< 0.37	< 0.80 UJ	< 0.33	< 0.43	< 0.36	< 0.37	< 0.35	< 0.48
756426-58-1	9Cl-PF3ONS	ng/L	0.06	ND	ND	ND	< 0.22	< 0.21	< 0.23	< 0.23	< 0.22	< 0.48 UJ	< 0.20	< 0.26	< 0.21	< 0.22	< 0.21	< 0.48
763051-92-9	11Cl-PF3OUdS	ng/L	0.075	ND	ND	ND	< 0.30	< 0.28	< 0.30	< 0.30	< 0.30	< 0.64 UJ	< 0.27	< 0.34	< 0.28	< 0.30	< 0.28	< 0.66
Solids																		
TSS	TSS	mg/L	--	--	--	--	230	240	230	320	280	270	190	240	240	220	210	250

Notes:

CAS RN = Chemical Abstracts Service Registry Number

Calculated Influent = Calculated as an average of the results from five influent force main samples weighted by their respective flow rates, with nondetect results represented by zero for the purpose of the calculation.

Influent Comp = Sample composited as flow-weighted average of five influent force main samples.

ND = Calculated influent result considered to be nondetect due to analyte not being detected in any of the five influent force main samples.

-- = Not analyzed or not applicable

TSS = Total suspended solids

Data Qualifiers:

I = ion transition ratio did not meet acceptance limits

J = estimated

J+ = estimated with potential high bias

UJ = estimated nondetect

Updated by: L. Auner, 6/6/2025
Checked by: A. Booms 6/11/2025
Revised by: L. Auner, 7/16/2025
Checked by: M. Ursin, 7/21/2025

Table 5: Influent Results (Individual Force Mains)
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794.2024.0000

		Location ID	Influent-02	Influent-02	Influent-02	Influent-02	Influent-07	Influent-07	Influent-07	Influent-07	Influent-08	Influent-08	Influent-08	Influent-08	Influent-11	Influent-11	Influent-11	Influent-11	Influent-18	Influent-18	Influent-18	Influent-18
		Sample Name	Inf-02 20240318	Inf 02 202406	Inf-02- 202409	Inf-02- 202412	Inf-07 20240318	Inf 07 202406	Inf-07- 202409	Inf-07- 202412	Inf-08 20240318	Inf 08 202406	Inf-08- 202409	Inf-08- 202412	Inf-11 20240318	Inf 11 202406	Inf-11- 202409	Inf-11- 202412	Inf-18 20240318	Inf 18 202406	Inf-18- 202409	Inf-18- 202412
		Sample Date	03/18/2024	06/10/2024	09/16/2024	12/09/2024	03/18/2024	06/10/2024	09/16/2024	12/09/2024	03/18/2024	06/10/2024	09/16/2024	12/09/2024	03/18/2024	06/10/2024	09/16/2024	12/09/2024	03/18/2024	06/10/2024	09/16/2024	12/09/2024
CAS RN	**Analyte**	**Unit**																				
Carboxylic Acids																						
375-22-4	PFBA	ng/L	4.5 J	6.4 J	5.0	3.8 J	16	20 J	14	17	3.6 J	82 J	5.2	3.4 J	2.9 J	< 4.8 UJ	2.1 J	2.2 J	12	12 J	9.7	9.3
2706-90-3	PFPeA	ng/L	2.5	3.5 J	3.2	3.9	8.0	7.0 J	6.2	8.4	2.6	2.3 J	5.6	3.0	1.8 J	1.2 J	2.3	2.1	6.8	7.0 J	4.6	5.3
307-24-4	PFHxA	ng/L	4.5	5.6 J	4.5 IJ	4.6 IJ	14	24 J	14	14	4.7 IJ	4.4 J	5.6	3.7	4.6 IJ	3.8 J	2.5	3.5 IJ	8.8	9.8 J	7.4	6.8
375-85-9	PFHpA	ng/L	0.64 IJ	1.8 J	0.97 J	0.89 J	2.6	3.1 J	2.1	2.0	0.60 J	0.87 J	0.80 J	0.50 J	0.79 J	0.55 J	0.45 J	< 0.46	2.6	2.2 J	1.9	1.9
335-67-1	PFOA	ng/L	2.0	4.8 J	2.0	2.9	7.6	7.1 J	3.8	5.4	2.0	2.7 J	1.5 J	1.9	2.0	2.7 J	1.2 J	1.9	9.0	11 J	7.9	8.9
375-95-1	PFNA	ng/L	0.41 J	1.0 J	< 0.24	< 0.43	0.67 J	< 0.54 UJ	< 0.23	< 0.43	0.36 J	0.93 IJ	< 0.23	< 0.41	0.49 IJ	< 0.54 UJ	< 0.23	< 0.46	0.71 IJ	< 0.54 UJ	< 0.24	< 0.42
335-76-2	PFDA	ng/L	< 0.30	< 0.62 UJ	< 0.27	< 0.43	0.55 J	0.70 J	< 0.27	< 0.43	< 0.29	< 0.62 UJ	< 0.27	< 0.41	0.47 J	< 0.62 UJ	< 0.26	< 0.46	< 0.29	< 0.62 UJ	< 0.28	< 0.42
2058-94-8	PFUnA	ng/L	< 1.1	< 2.2 UJ	< 0.98	< 0.43	< 1.0	< 2.2 UJ	< 0.94	< 0.43	< 1.0	< 2.2 UJ	< 0.95	< 0.41	< 1.0	< 2.2 UJ	< 0.94	< 0.46	< 1.0	< 2.2 UJ	< 0.99	< 0.42
307-55-1	PFDoA	ng/L	< 0.54	< 1.1 UJ	< 0.49	< 0.48	< 0.52	< 1.1 UJ	< 0.47	< 0.47	< 0.52	< 1.1 UJ	< 0.47	< 0.45	< 0.52	< 1.1 UJ	< 0.47	< 0.50	< 0.52	< 1.1 UJ	< 0.49	< 0.46
72629-94-8	PFTrDA	ng/L	< 1.3	< 2.6 UJ	< 1.2	< 0.43	< 1.2	< 2.6 UJ	< 1.1	< 0.43	< 1.2	< 2.6 UJ	< 1.1	< 0.41	< 1.2	< 2.6 UJ	< 1.1	< 0.46	< 1.2	< 2.6 UJ	< 1.2	< 0.42
376-06-7	PFTA	ng/L	< 0.71 UJ	< 1.5 UJ	< 0.65 UJ	< 0.63 UJ	< 0.69 UJ	< 1.5 UJ	< 0.63 UJ	< 0.62 UJ	< 0.69 UJ	< 1.5 UJ	< 0.63 UJ	< 0.60 UJ	< 0.69 UJ	< 1.5 UJ	< 0.62 UJ	< 0.67 UJ	< 0.69	< 1.5 UJ	< 0.66 UJ	< 0.61 UJ
Sulfonic Acids																						
375-73-5	PFBS	ng/L	2.7 IJ	3.6 J	0.84 J	1.9 J+	7.1	7.7 J	5.9	6.7	1.5 IJ	2.2 J	1.6 J	1.2 J	1.5 IJ	1.5 J	0.82 J	< 0.46	5.1	4.9 J	3.5	3.4
2706-91-4	PFPeS	ng/L	< 0.29	< 0.60 UJ	< 0.27	< 0.43	0.85 J	< 0.60 UJ	< 0.26	< 0.43	< 0.28	< 0.60 UJ	< 0.26	< 0.41	< 0.28	< 0.60 UJ	< 0.26	< 0.46	1.6 J	1.2 J	1.2 J	1.0 J
355-46-4	PFHxS	ng/L	4.5 IJ	6.5 IJ	3.2	3.9	15	6.5 IJ	4.3	5.9	3.7 IJ	4.4 IJ	1.9	3.4	3.3 IJ	2.0 IJ	2.0	< 0.52	21	19 J	15	16
375-92-8	PFHpS	ng/L	< 0.19	< 0.38 UJ	< 0.17	< 0.43	< 0.18	< 0.38 UJ	< 0.16	< 0.43	< 0.18	< 0.38 UJ	< 0.16	< 0.41	< 0.18	< 0.38 UJ	< 0.16	< 0.46	0.39 J	< 0.38 UJ	< 0.17	< 0.42
1763-23-1	PFOS	ng/L	3.8	6.5 J	< 0.48	< 0.43	7.0	6.1 J	2.9	3.5	2.6	2.4 IJ	< 0.46	< 0.41	2.6 IJ	< 1.1 UJ	< 0.46	< 0.46	9.2	13 J	7.1	6.8
68259-12-1	PFNS	ng/L	< 0.36	< 0.74 UJ	< 0.33	< 0.43	< 0.35	< 0.74 UJ	< 0.32	< 0.43	< 0.35	< 0.74 UJ	< 0.32	< 0.41	< 0.35	< 0.74 UJ	< 0.32	< 0.46	< 0.35	< 0.74 UJ	< 0.33	< 0.42
335-77-3	PFDS	ng/L	< 0.31	< 0.64 UJ	< 0.28	< 0.43	< 0.30	< 0.64 UJ	< 0.27	< 0.43	< 0.30	< 0.64 UJ	< 0.28	< 0.41	< 0.30	< 0.64 UJ	< 0.27	< 0.46	< 0.30	< 0.64 UJ	< 0.29	< 0.42
79780-39-5	PFDoS	ng/L	< 0.95	< 1.9 UJ	< 0.86	< 0.84	< 0.91	< 1.9 UJ	< 0.83	< 0.82	< 0.91	< 1.9 UJ	< 0.83	< 0.80	< 0.92	< 1.9 UJ	< 0.83	< 0.88	< 0.92	< 1.9 UJ	< 0.87	< 0.81
757124-72-4	4:2 FTS	ng/L	< 0.23	< 0.48 UJ	< 0.21	< 0.43	< 0.23	< 0.48 UJ	< 0.21	< 0.43	< 0.23	< 0.48 UJ	< 0.21	< 0.41	< 0.23	< 0.48 UJ	< 0.20	< 0.46	< 0.23	< 0.48 UJ	< 0.22	< 0.42
27619-97-2	6:2 FTS	ng/L	< 2.4	< 5.0 UJ	< 2.2	< 1.1	2.7 J	< 5.0 UJ	< 2.1	< 1.1	< 2.4	< 5.0 UJ	< 2.2	< 1.0	< 2.4	< 5.0 UJ	< 2.1	< 1.1	3.9 J	< 5.0 UJ	6.4	1.9 J
39108-34-4	8:2 FTS	ng/L	< 0.45	< 0.92 UJ	< 0.41	< 0.43	< 0.43	< 0.92 UJ	< 0.39	< 0.43	< 0.43	< 0.92 UJ	< 0.40	< 0.41	< 0.44	< 0.92 UJ	< 0.39	< 0.46	0.51 J	< 0.92 UJ	< 0.41	< 0.42
Sulfonamides, Sulfonamidoacetic acids, Sulfonamidoethanols																						
754-91-6	PFOSA	ng/L	< 0.96	< 2.0 UJ	< 0.87	< 0.85	< 0.92	< 2.0 UJ	< 0.84	< 0.83	< 0.92	< 2.0 UJ	< 0.84	< 0.81	< 0.93	< 2.0 UJ	< 0.84	< 0.89	< 0.93	< 2.0 UJ	< 0.88	< 0.82
31506-32-8	NMeFOSA	ng/L	< 0.42	< 0.86 UJ	< 0.38	< 0.43	< 0.41	< 0.86 UJ	< 0.37	< 0.43	< 0.40	< 0.86 UJ	< 0.37	< 0.41	< 0.41	< 0.86 UJ	< 0.37	< 0.46	< 0.41	< 0.86 UJ	< 0.39	< 0.42
4151-50-2	NEtFOSA	ng/L	< 0.85	< 1.7 UJ	< 0.77	< 0.76	< 0.82	< 1.7 UJ	< 0.75	< 0.74	< 0.82	< 1.7 UJ	< 0.75	< 0.72	< 0.83	< 1.7 UJ	< 0.74	< 0.79	< 0.83	< 1.7 UJ	< 0.78	< 0.73
2355-31-9	NMeFOSAA	ng/L	< 1.2	< 2.4 UJ	< 1.1	< 1.1	1.1 J	< 2.4 UJ	< 1.0	< 1.1	< 1.1	< 2.4 UJ	< 1.0	< 1.0	< 1.1 UJ	< 2.4 UJ	< 1.0	< 1.1	1.5 J	< 2.4 UJ	< 1.1	< 1.0
2991-50-6	NEtFOSAA	ng/L	< 1.3	< 2.6 UJ	< 1.2	< 1.1	1.4 IJ	< 2.6 UJ	< 1.1	< 1.1	< 1.2	< 2.6 UJ	< 1.1	< 1.0	< 1.2	< 2.6 UJ	< 1.1	< 1.1	1.8 J	< 2.6 UJ	< 1.2	< 1.0
24448-09-7	NMeFOSE	ng/L	< 1.4	< 2.8 UJ	< 1.2	< 1.2	1.8 J	< 2.8 UJ	< 1.2	3.0 J	2.3 J	< 2.8 UJ	< 1.2	1.9 J	2.3 J	< 2.8 UJ	< 1.2	2.7 J	5.4	< 2.8 UJ	< 1.3	1.6 J
1691-99-2	NEtFOSE	ng/L	< 0.83	< 1.7 UJ	< 0.75	< 0.74	< 0.80	< 1.7 UJ	< 0.73	1.3 J	< 0.80	< 1.7 UJ	< 0.73	< 0.70	< 0.81	< 1.7 UJ	< 0.73	< 0.78	3.0	< 1.7 UJ	< 0.76	< 0.71
Replacement Chemicals																						
13252-13-6	HFPO-DA	ng/L	< 1.5	< 3.0 UJ	< 1.3	< 0.87	< 1.4	< 3.0 UJ	< 1.3	< 0.85	< 1.4	< 3.0 UJ	< 1.3	< 0.82	< 1.4	< 3.0 UJ	< 1.3	< 0.91	< 1.4	< 3.0 UJ	< 1.3	< 0.84
919005-14-4	DONA	ng/L	< 0.39	< 0.80 UJ	< 0.35	< 0.43	< 0.38	< 0.80 UJ	< 0.34	< 0.43	< 0.38	< 0.80 UJ	< 0.34	< 0.41	< 0.38	< 0.80 UJ	< 0.34	< 0.46	< 0.38	< 0.80 UJ	< 0.36	< 0.42
756426-58-1	9Cl-PF3ONS	ng/L	< 0.23	< 0.48 UJ	< 0.21	< 0.43	< 0.23	< 0.48 UJ	< 0.21	< 0.43	< 0.23	< 0.48 UJ	< 0.21	< 0.41	< 0.23	< 0.48 UJ	< 0.20	< 0.46	0.38 J	< 0.48 UJ	< 0.22	< 0.42
763051-92-9	11Cl-PF3OUdS	ng/L	< 0.31	< 0.64 UJ	< 0.28	< 0.60	< 0.30	< 0.64 UJ	< 0.27	< 0.59	< 0.30	< 0.64 UJ	< 0.28	< 0.57	< 0.30	< 0.64 UJ	< 0.27	< 0.63	0.47 J	< 0.64 UJ	< 0.29	< 0.58
Solids																						
TSS	TSS	mg/L	260	400	270	260	210	200	190	150	270	260	260	250	280	280	260	260	230	260	220	280

Notes:
CAS RN = Chemical Abstracts Service Registry Number
TSS = Total suspended solids

Data Qualifiers:
I = ion transition ratio did not meet acceptance limits
J = estimated
J+ = estimated with potential high bias
UJ = estimated nondetect

Updated by: L. Auner, 6/6/2025
Checked by: A. Booms 6/11/2025

Table 6: Effluent Results
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794.2024.0000

		Location ID	NR 102 Surface Water Criteria	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent Grab	Effluent Grab	Effluent Grab	Effluent Grab	Effluent Grab	Effluent Grab
		Sample Name		Eff 20240116	Eff 20240213	Eff-20240319	Eff-202404	Eff 202405	Eff 202406	Eff 202407	Eff-202408	Eff-202409	Eff-20241015	Eff-202411	Eff-202412	Eff-G-20240319	Eff-G-202404	Eff-G 202405	Eff G 202406	Eff G 202407	Eff-G-202408
		Sample Date		01/16/2024	02/13/2024	03/19/2024	04/16/2024	05/14/2024	06/11/2024	07/23/2024	08/13/2024	09/17/2024	10/15/2024	11/12/2024	12/10/2024	03/19/2024	04/16/2024	05/14/2024	06/11/2024	07/23/2024	08/13/2024
CAS RN	**Analyte**	**Unit**																			
Carboxylic Acids																					
375-22-4	PFBA	ng/L	-	7.9	8.7	9.0	7.2	7.6	32	11	9.5	9.1	6.9	9.6 J+	6.9	9.5	7.2	7.6	16	11	9.2
2706-90-3	PFPeA	ng/L	-	7.3	9.6	12	12	13	14	16	13	20	16	16	11	12	7.9	14	11	14	11
307-24-4	PFHxA	ng/L	-	13	20	21	18	14	14	17	14	15	16	17	12	18	13	13	13	15	11
375-85-9	PFHpA	ng/L	-	1.7 J	2.2	2.2	2.8	2.0	3.1	3.4	2.4	1.8	2.0	2.3	1.6 J	2.4	2.7	1.7 J	2.5	2.8	2.4
335-67-1	PFOA	ng/L	95[1]	6.5	8.4	7.7	7.2	7.7	10	9.4	8.3	6.6	7.7	9.2	6.5	7.5	6.5	8.2	9.3	9.1	8.3
375-95-1	PFNA	ng/L	-	6.9	0.41 IJ	0.62 IJ	0.45 J	1.1 IJ	0.91 J	1.2 J	< 0.28	< 0.24	0.70 IJ	1.0 J	0.83 J	0.43 J	0.37 J	0.58 J	1.1 J	1.1 J	< 0.27
335-76-2	PFDA	ng/L	-	1.1 J	0.93 J	0.94 J	0.81 J	1.0 IJ	1.1 J	1.2 J	0.89 J	< 0.27	0.70 J	0.64 J	< 0.41	0.87 J	0.83 J	0.97 J	1.0 J	1.0 J	0.84 J
2058-94-8	PFUnA	ng/L	-	< 1.0	< 0.97	< 1.0	< 1.0	< 1.0	< 1.0	< 0.98	< 1.1	< 0.97	< 0.97	< 0.92	< 0.41	< 1.0	< 1.0	< 1.0	< 1.1	< 0.92	< 1.1
307-55-1	PFDoA	ng/L	-	< 0.52	< 0.48	< 0.52	< 0.50	< 0.52	< 0.51	< 0.49	< 0.57	< 0.48	< 0.48	< 0.46	< 0.45	< 0.50	< 0.51	< 0.52	< 0.53	< 0.46	< 0.56
72629-94-8	PFTrDA	ng/L	-	< 1.2	< 1.1	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.3	< 1.1	< 1.1	< 1.1	< 0.41	< 1.2	< 1.2	< 1.2	< 1.3	< 1.1	< 1.3
376-06-7	PFTA	ng/L	-	< 0.69	< 0.64	< 0.69	< 0.66	< 0.69	< 0.67	< 0.65	< 0.75	< 0.64	< 0.64	< 0.61	< 0.60	< 0.66	< 0.67	< 0.69	< 0.71	< 0.61	< 0.74
Sulfonic Acids																					
375-73-5	PFBS	ng/L	-	4.4 IJ	4.5 IJ	5.5 IJ	5.0 IJ	3.3	3.6	5.6	4.9	4.3	< 0.18	5.8 J+	3.8 IJ	5.7 IJ	4.6	4.7	4.3	5.7	4.0
2706-91-4	PFPeS	ng/L	-	0.56 J	0.58 J	0.67 J	0.53 J	0.47 J	< 0.28	0.59 J	0.70 J	0.38 J	0.70 J	0.75 J	0.51 J	0.79 J	0.62 J	0.47 J	< 0.29	0.59 J	0.58 J
355-46-4	PFHxS	ng/L	-	6.2	7.4	8.5	8.3	7.0	8.2	8.8	8.6	7.0	7.5	11	6.5	8.6	7.6	6.5	8.6	7.6	7.9
375-92-8	PFHpS	ng/L	-	< 0.18	< 0.17	< 0.18	< 0.17	< 0.18	< 0.17	< 0.17	< 0.20	< 0.17	< 0.17	0.27 J	< 0.41	< 0.17	< 0.17	< 0.18	< 0.18	< 0.16	< 0.19
1763-23-1	PFOS	ng/L	8[2]	3.4	3.4	3.8	4.8	4.1	5.8	7.3	6.1	3.6	3.8	17	3.6	3.2	4.9	3.6	5.6	7.2	5.9
68259-12-1	PFNS	ng/L	-	< 0.35	< 0.33	< 0.35	< 0.34	< 0.35	< 0.34	< 0.33	< 0.38	< 0.33	< 0.33	< 0.31	< 0.41	< 0.34	< 0.34	< 0.35	< 0.36	< 0.31	< 0.37
335-77-3	PFDS	ng/L	-	< 0.30	< 0.28	< 0.30	< 0.29	< 0.30	< 0.29	< 0.29	< 0.33	< 0.28	< 0.28	< 0.27	< 0.41	< 0.29	< 0.29	< 0.30	< 0.31	< 0.27	< 0.32
79780-39-5	PFDoS	ng/L	-	< 0.91	< 0.85	< 0.92	< 0.88	< 0.92	< 0.89	< 0.87	< 1.0	< 0.85	< 0.85	< 0.81	< 0.80	< 0.88	< 0.89	< 0.92	< 0.94	< 0.81	< 0.98
757124-72-4	4:2 FTS	ng/L	-	< 0.23	< 0.21	< 0.23	< 0.22	< 0.23	< 0.22	< 0.21	< 0.25	< 0.21	< 0.21	< 0.20	< 0.41	< 0.22	< 0.22	< 0.23	< 0.23	< 0.20	< 0.24
27619-97-2	6:2 FTS	ng/L	-	< 2.4	< 2.2	< 2.4	< 2.3	< 2.4	< 2.3	< 2.2	< 2.6	< 2.2	< 2.2	< 2.1	< 1.0	< 2.3	< 2.3	< 2.4	< 2.4	< 2.1	< 2.5
39108-34-4	8:2 FTS	ng/L	-	< 0.43	< 0.40	< 0.44	< 0.42	< 0.44	< 0.42	< 0.41	< 0.47	< 0.40	< 0.40	< 0.39	< 0.41	< 0.42	< 0.42	< 0.43	< 0.44	< 0.39	< 0.46
Sulfonamides, Sulfonamidoacetic acids, Sulfonamidoethanols																					
754-91-6	PFOSA	ng/L	-	< 0.92	< 0.86	< 0.93	< 0.89	< 0.93	< 0.90	< 0.88	< 1.0	< 0.86	2.2	< 0.82	< 0.81	< 0.89	< 0.90	< 0.93	< 0.95	0.87 J	< 0.99
31506-32-8	NMeFOSA	ng/L	-	< 0.41	< 0.38	< 0.41	< 0.39	< 0.41	< 0.39	< 0.38	< 0.44	< 0.38	< 0.38	< 0.36	< 0.41	< 0.39	< 0.40	< 0.41	< 0.42	< 0.36	< 0.43
4151-50-2	NEtFOSA	ng/L	-	< 0.82	< 0.76	< 0.82	< 0.79	< 0.82	< 0.80	< 0.78	< 0.90	< 0.77	< 0.76	< 0.73	< 0.72	< 0.79	< 0.80	< 0.82	< 0.84	< 0.73	< 0.88
2355-31-9	NMeFOSAA	ng/L	-	< 1.1	1.1 J	1.2 J	< 1.1	< 1.1	< 1.1	1.1 J	< 1.2	< 1.1	< 1.1	< 1.0	< 1.0	< 1.1	< 1.1	< 1.1	< 1.2	1.0 J	< 1.2
2991-50-6	NEtFOSAA	ng/L	-	< 1.2	< 1.1	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.3	< 1.1	< 1.1	< 1.1	< 1.0	< 1.2	< 1.2	< 1.2	< 1.3	< 1.1	< 1.3
24448-09-7	NMeFOSE	ng/L	-	< 1.3	< 1.2	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3	< 1.4	< 1.2	< 1.2	< 1.2	< 1.2	< 1.3	< 1.3	< 1.3	< 1.4	< 1.2	< 1.4
1691-99-2	NEtFOSE	ng/L	-	< 0.80	< 0.75	< 0.80	< 0.77	< 0.81	< 0.78	< 0.76	< 0.88	< 0.75	< 0.75	< 0.71	< 0.70	< 0.77	< 0.78	< 0.80	< 0.82	< 0.71	< 0.86
Replacement Chemicals																					
13252-13-6	HFPO-DA	ng/L	-	< 1.4	< 1.3	< 1.4	< 1.4	< 1.4	< 1.4	< 1.3	< 1.5	< 1.3	< 1.3	< 1.3	< 0.83	< 1.4	< 1.4	< 1.4	< 1.5	< 1.3	< 1.5
919005-14-4	DONA	ng/L	-	< 0.38	< 0.35	< 0.38	< 0.36	< 0.38	< 0.37	< 0.36	< 0.41	< 0.35	< 0.35	< 0.34	< 0.41	< 0.36	< 0.37	< 0.38	< 0.39	< 0.34	< 0.40
756426-58-1	9Cl-PF3ONS	ng/L	-	< 0.23	< 0.21	< 0.23	< 0.22	< 0.23	< 0.22	< 0.21	< 0.25	< 0.21	< 0.21	< 0.20	< 0.41	< 0.22	< 0.22	< 0.23	< 0.23	< 0.20	< 0.24
763051-92-9	11Cl-PF3OUdS	ng/L	-	< 0.30	< 0.28	< 0.30	< 0.29	< 0.30	< 0.29	< 0.29	< 0.33	< 0.28	< 0.28	< 0.27	< 0.57	< 0.29	< 0.29	< 0.30	< 0.31	< 0.27	< 0.32
Solids																					
TSS	TSS	mg/L	-	4.9	8.4	4.8 J	3.4 J	5.0	3.8 J	4.6 J	4.4 J	8.4	5.4	5.2	7.2	4.0 J	3.0 J	6.8	3.0 J	5.4	7.0

Notes:
CAS RN = Chemical Abstracts Service Registry Number
- = Standard not established
TSS = Total suspended solids
NR 102 = Wisconsin Administrative Code chapter NR 102

Data Qualifiers:
I = ion transition ratio did not meet acceptance limits
J = estimated
J+ = estimated with potential high bias

Footnotes:
(1) Standard is for surface waters not classified as public water supplies.
(2) Standard is for all waters except those that cannot naturally support fish and do not have downstream waters that support fish.

Updated by: L. Auner, 6/6/2025
Checked by: A. Booms 6/11/2025

Table 7: Class B Biosolids Results
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794.2024.0000

		Location ID	Biosolids-B	Biosolids-B	Biosolids-B	Biosolids-B
		Sample Name	Bio-B-20240320	Bio B 202406	Bio-B-202409	Bio-B-202412
		Sample Date	03/20/2024	06/11/2024	09/17/2024	12/10/2024
CAS RN	**Analyte**	**Unit**				
Carboxylic Acids						
375-22-4	PFBA	ug/kg	< 0.83	< 0.82	< 2.6	< 3.3
2706-90-3	PFPeA	ug/kg	< 0.74	< 0.74	< 2.3	< 0.91
307-24-4	PFHxA	ug/kg	< 0.56	4.1	< 1.8	1.6 IJ
375-85-9	PFHpA	ug/kg	< 0.69	< 0.68	< 2.1	< 0.91
335-67-1	PFOA	ug/kg	1.4 J	1.4 J	< 3.0	1.4 J
375-95-1	PFNA	ug/kg	< 0.40	1.9 IJ	< 1.2	< 0.91
335-76-2	PFDA	ug/kg	3.4 J	5.1	< 2.7	2.3 J
2058-94-8	PFUnA	ug/kg	< 0.76	1.5 IJ	< 2.4	0.99 J
307-55-1	PFDoA	ug/kg	1.6 J	1.9 J	1.9 J	1.8 J
72629-94-8	PFTrDA	ug/kg	< 0.38	< 0.38	< 1.2	< 0.91
376-06-7	PFTA	ug/kg	< 0.67	0.68 J	< 2.1	< 0.91
Sulfonic Acids						
375-73-5	PFBS	ug/kg	< 0.69	< 0.68	< 2.1	< 0.91
2706-91-4	PFPeS	ug/kg	< 0.67	< 0.66	< 2.1	< 0.91
355-46-4	PFHxS	ug/kg	3.8 IJ	< 0.52	2.9 IJ	< 0.91
375-92-8	PFHpS	ug/kg	< 0.89	< 0.88	< 2.8	< 0.91
1763-23-1	PFOS	ug/kg	6.9	9.7	17	14 IJ
68259-12-1	PFNS	ug/kg	< 0.52	< 0.52	< 1.6	< 0.91
335-77-3	PFDS	ug/kg	< 0.94	< 0.93	< 2.9	< 0.91
79780-39-5	PFDoS	ug/kg	< 0.85	< 0.84	< 2.7	< 0.91
757124-72-4	4:2 FTS	ug/kg	< 0.92	< 0.91	< 2.9	< 0.91
27619-97-2	6:2 FTS	ug/kg	< 0.49	< 0.48	< 1.5	< 0.91
39108-34-4	8:2 FTS	ug/kg	< 0.63	< 0.63	< 2.0	< 0.91
Sulfonamides, Sulfonamidoacetic acids, Sulfonamidoethanols						
754-91-6	PFOSA	ug/kg	< 0.60	0.65 J	< 1.9	< 0.91
31506-32-8	NMeFOSA	ug/kg	< 0.89	< 0.88	< 2.8	< 0.91
4151-50-2	NEtFOSA	ug/kg	< 0.85	< 0.84	< 2.7	< 0.91
2355-31-9	NMeFOSAA	ug/kg	9.3	11	12	12
2991-50-6	NEtFOSAA	ug/kg	4.2	5.3	4.9 J	4.5
24448-09-7	NMeFOSE	ug/kg	5.1	5.8	7.2 J	7.6
1691-99-2	NEtFOSE	ug/kg	1.5 J	1.2 J	1.9 J	1.0 J
Replacement Chemicals						
13252-13-6	HFPO-DA	ug/kg	< 0.74	< 0.74	< 2.3	< 0.91
919005-14-4	DONA	ug/kg	< 0.70	< 0.70	< 2.2	< 0.91
756426-58-1	9Cl-PF3ONS	ug/kg	< 0.63	< 0.63	< 2.0	< 0.91
763051-92-9	11Cl-PF3OUdS	ug/kg	< 0.56	< 0.56	< 1.8	< 0.91
Sum of PFOA + PFOS						
-	PFOA+PFOS	ug/kg	8.3	11.1	17	15.4

Notes:

CAS RN = Chemical Abstracts Service Registry Number

Sum of PFOA and PFOS is based on the sum of detected concentrations.

Data Qualifiers:

I = ion transition ratio did not meet acceptance limits

J = estimated

Updated by: L. Auner, 6/6/2025

Checked by: A. Booms 6/11/2025

Table 8: Class A Biosolids Results
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794.2024.0000

		Location ID	Biosolids-A-22	Biosolids-A-22	Biosolids-A-22	Biosolids-A-22	Biosolids-A-23	Biosolids-A-23	Biosolids-A-23	Biosolids-A-23	Biosolids-A-24	Biosolids-A-24	Biosolids-A-24	Biosolids-A-24
		Sample Name	Bio-A-22-20240319	BioA-22-202406	Bio-A-22-202409	Bio-A-22-202412	Bio-A-23-20240319	BioA-23-202406	Bio-A-23-202409	Bio-A-23-202412	Bio-A-24-202405	BioA-24-202406	Bio-A-24-202409	Bio-A-24-202412
		Sample Date	03/19/2024	06/11/2024	09/17/2024	12/09/2024	03/19/2024	06/11/2024	09/17/2024	12/09/2024	05/15/2024	06/11/2024	09/17/2024	12/10/2024
CAS RN	**Analyte**	**Unit**												
Carboxylic Acids														
375-22-4	PFBA	ug/kg	9.6	9.0	10	8.0	3.7	1.5	4.9	8.5	6.9	6.9	3.7	6.6
2706-90-3	PFPeA	ug/kg	21	22	22	20	8.0	4.3	12	24	23	21	9.4	20
307-24-4	PFHxA	ug/kg	40	38	40	28	19	7.3	18	46	28	21	9.3	19
375-85-9	PFHpA	ug/kg	3.5	3.2	4.1	2.2	1.5	0.52 J	1.6 J	4.2	2.4	1.8	< 0.65	1.8
335-67-1	PFOA	ug/kg	24	32	33	21 J-	13	6.0	14	51	23	19	6.0	17
375-95-1	PFNA	ug/kg	2.0	1.8	2.0 J	1.6	1.3	1.2 IJ	1.7 J	2.6	1.3	1.5	1.1 J	1.5
335-76-2	PFDA	ug/kg	17	18 J+	15	11	11	14 IJ	11	17	9.5	12	5.7	8.3
2058-94-8	PFUnA	ug/kg	1.8	2.0 J+	1.8 J	1.8	1.7	2.1	2.0 J	1.9	1.0	1.9	1.5 J	1.5
307-55-1	PFDoA	ug/kg	4.4	3.9	4.8	4.3	4.0	3.7	4.5	4.3	2.8	3.0	3.0 J	3.1
72629-94-8	PFTrDA	ug/kg	0.47 J	0.43 J	0.57 J	0.47 J	0.53 J	0.51 J	0.52 J	0.31 J	0.23 J	0.31 J	0.39 IJ	0.27 J
376-06-7	PFTA	ug/kg	0.81 J	0.94	1.3 J	0.94 J	0.87	0.78 J	1.5 J	1.1 J	0.66 J	0.64 J	0.74 J	0.67 J
Sulfonic Acids														
375-73-5	PFBS	ug/kg	2.3	2.0	3.4	1.8	1.0	0.35 J	1.1 J	2.5	1.2	0.81 J	< 0.65	1.2
2706-91-4	PFPeS	ug/kg	< 0.16	< 0.13	< 0.59	< 0.17	< 0.13	< 0.14	< 0.47	< 0.14	< 0.14	< 0.18	< 0.63	< 0.20
355-46-4	PFHxS	ug/kg	1.3 IJ	1.0 IJ	1.8 IJ	< 0.17	0.78	< 0.11	1.0 IJ	1.4	0.76 J	< 0.14	1.3 IJ	1.3 IJ
375-92-8	PFHpS	ug/kg	< 0.21	< 0.18	< 0.78	< 0.17	< 0.17	< 0.18	< 0.62	< 0.14	< 0.19	< 0.24	< 0.83	< 0.20
1763-23-1	PFOS	ug/kg	16 IJ	14	18 IJ	14	14	14	17 IJ	15	9.6 IJ	12	14 IJ	11
68259-12-1	PFNS	ug/kg	< 0.12	< 0.11	< 0.46	< 0.17	< 0.10	< 0.11	< 0.37	< 0.14	< 0.11	< 0.14	< 0.49	< 0.20
335-77-3	PFDS	ug/kg	1.8	1.8	2.2 J	3.4 IJ	1.7	< 0.19	1.0 IJ	1.6	1.5	1.7	1.2 IJ	1.4
79780-39-5	PFDoS	ug/kg	< 0.20	< 0.17 UJ	< 0.75	< 0.17 UJ	< 0.17	< 0.17	< 0.60	< 0.14	< 0.18	< 0.23	< 0.80	< 0.20
757124-72-4	4:2 FTS	ug/kg	< 0.21	< 0.19	< 0.81	< 0.17	< 0.18	< 0.19	< 0.65	< 0.14	< 2.0	< 0.25	< 0.87	< 0.20
27619-97-2	6:2 FTS	ug/kg	1.7	1.5	2.2 J	1.4 J	1.5	< 0.10	< 3.4	2.7 J	0.70 J	1.0	0.58 J	0.88 J
39108-34-4	8:2 FTS	ug/kg	1.4	0.96	1.3 J	1.2 J	1.4	1.2 J	< 4.4	1.6 J	< 1.4	0.89 J	0.63 J	0.73 J
Sulfonamides, Sulfonamidoacetic acids, Sulfonamidoethanols														
754-91-6	PFOSA	ug/kg	1.4	1.2	1.1 J	2.1	1.3	1.2	1.3 J	1.7	0.61 J	0.77 J	0.73 J	1.2
31506-32-8	NMeFOSA	ug/kg	< 0.21	< 0.18	< 0.78	< 0.17	0.29 J	< 0.18	< 0.62	< 0.14	< 0.19	< 0.24	< 0.83	< 0.20
4151-50-2	NEtFOSA	ug/kg	< 0.20	< 0.17	< 0.75	< 0.17	0.33 J	< 0.17	1.2 J	< 0.14	< 0.18	< 0.23	< 0.80	< 0.20
2355-31-9	NMeFOSAA	ug/kg	40	31 J+	36	31	22	22	27	34	25	24	20	22
2991-50-6	NEtFOSAA	ug/kg	11	12 J+	12	9.6	8.8	13	11	10	7.2	10	8.0	6.6
24448-09-7	NMeFOSE	ug/kg	8.4	9.0	9.3	17 J+	13	16	14	9.8	4.1	6.9	9.3	10
1691-99-2	NEtFOSE	ug/kg	2.4	1.9	3.1 J	3.5 J-	3.2	3.1	3.4	3.6	1.0	1.9	2.3 J	2.5
Replacement Chemicals														
13252-13-6	HFPO-DA	ug/kg	< 0.17	< 0.15	< 0.65	< 0.17	< 0.15	< 0.15	< 0.52	< 0.14	< 0.16	< 0.20	< 0.70	< 0.20
919005-14-4	DONA	ug/kg	< 0.16	< 0.14	< 0.62	< 0.17	< 0.14	< 0.14	< 0.49	< 0.14	< 0.15	< 0.19	< 0.66	< 0.20
756426-58-1	9Cl-PF3ONS	ug/kg	< 0.15	< 0.13	< 0.56	< 0.17	< 0.12	< 0.13	< 0.44	< 0.14	< 0.14	< 0.17	< 0.59	< 0.20
763051-92-9	11Cl-PF3OUdS	ug/kg	< 0.13	< 0.11	< 0.49	< 0.17	< 0.11	< 0.11	< 0.39	< 0.14	< 0.12	< 0.15	< 0.53	< 0.20
Sum of PFOA + PFOS														
-	PFOA+PFOS	ug/kg	40	46	51	35	27	20	31	66	32.6	31	20	28

Notes:
CAS RN = Chemical Abstracts Service Registry Number
-- = Not analyzed or not applicable
Sum of PFOA and PFOS is based on the sum of detected concentrations.

Updated by: L. Auner, 6/6/2025
Checked by: A. Booms 6/11/2025

Data Qualifiers:
I = ion transition ratio did not meet acceptance limits
J = estimated
J+ = estimated with potential high bias
J- = estimated with potential low bias
UJ = estimated nondetect

Table 9: TOP Assay Results (Effluent)
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794.2024.0000

		Location ID	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent
		Pre/Post TOP Assay	Pre	Post	Pre	Post	Pre	Post
		Sample Name	Eff-20240319	Eff-20240319	Eff-202409	Eff-202409	Eff-202412	Eff-202412
		Sample Date	03/19/2024	03/19/2024	09/17/2024	09/17/2024	12/10/2024	12/10/2024
CAS RN	**Analyte**	**Unit**						
Carboxylic Acids								
375-22-4	PFBA	ng/L	6.4 J	25	13	< 36 U	8.2 J	< 25 U
2706-90-3	PFPeA	ng/L	8.3	23	16	< 36 U	12	23 J
307-24-4	PFHxA	ng/L	18	23	14	< 29 U	14	19 J
375-85-9	PFHpA	ng/L	2.5 IJ	3.4 J	2.1 J	< 12 U	1.6 J	2.7 J
335-67-1	PFOA	ng/L	6.4	8.6	8.7	< 15 U	6.9	8.9
375-95-1	PFNA	ng/L	< 0.68	0.71 J	< 0.68	3.2 IJ	< 1.3	1.3 J
335-76-2	PFDA	ng/L	< 0.78	< 0.78	0.91 J	1.8 J	< 1.3	< 1.3
2058-94-8	PFUnA	ng/L	< 2.8	< 2.8	< 2.8	< 2.8	< 1.3	< 1.3
307-55-1	PFDoA	ng/L	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
72629-94-8	PFTrDA	ng/L	< 3.2	< 3.2	< 3.2	< 3.2	< 1.3	< 1.3
376-06-7	PFTA	ng/L	< 0.73	< 0.73	< 0.73	< 0.73	< 1.8	< 1.8
Sulfonic Acids								
375-73-5	PFBS	ng/L	3.8 J	2.9 J	4.8 J	3.7 J	4.6 IJ	3.6 J
2706-91-4	PFPeS	ng/L	< 0.75	< 0.75	< 0.75	< 0.75	< 1.3	< 1.3
355-46-4	PFHxS	ng/L	6.8	6.6	7.7	7.6	7.3	7.0
375-92-8	PFHpS	ng/L	< 0.48	< 0.48	< 0.48	< 0.48	< 1.3	< 1.3
1763-23-1	PFOS	ng/L	5.1	5.8	4.5 J	4.4 J	4.2 IJ	3.2 J
68259-12-1	PFNS	ng/L	< 0.40	< 0.40	< 0.40	< 0.40	< 1.3	< 1.3
335-77-3	PFDS	ng/L	< 1.4	< 1.4	< 1.4	< 1.4	< 1.3	< 1.3 UJ
79780-39-5	PFDoS	ng/L	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4 UJ
757124-72-4	4:2 FTS	ng/L	< 0.60	< 0.60	< 0.60	< 0.60	< 1.3	< 1.3
27619-97-2	6:2 FTS	ng/L	< 6.3	< 6.3	< 6.3	< 6.3	< 3.1	< 3.1
39108-34-4	8:2 FTS	ng/L	< 1.2	< 1.2	< 1.2	< 1.2	< 1.3	< 1.3
Sulfonamides, Sulfonamidoacetic acids, Sulfonamidoethanols								
754-91-6	PFOSA	ng/L	3.1 J	< 0.88	< 0.88	< 0.88	< 2.5	< 2.5
31506-32-8	NMeFOSA	ng/L	< 1.1 UJ	< 1.1	< 1.1 UJ	< 1.1	< 1.3	< 1.3
4151-50-2	NEtFOSA	ng/L	< 2.2	< 2.2	< 2.2 UJ	< 2.2	< 2.2	< 2.2
2355-31-9	NMeFOSAA	ng/L	< 3.0	< 3.0	< 3.0	< 3.0	< 3.1	< 3.1
2991-50-6	NEtFOSAA	ng/L	7.8 J	< 3.3	< 3.3	< 3.3	< 3.1	< 3.1
24448-09-7	NMeFOSE	ng/L	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5	< 3.5
1691-99-2	NEtFOSE	ng/L	< 2.2	< 2.2	< 2.2	< 2.2	< 2.1	< 2.1
Replacement Chemicals								
13252-13-6	HFPO-DA	ng/L	< 3.8	< 3.8	< 3.8	< 3.8	< 2.5	< 2.5
919005-14-4	DONA	ng/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.3	< 1.3
756426-58-1	9Cl-PF3ONS	ng/L	< 0.60	< 0.60	< 0.60	< 0.60	< 1.3	< 1.3
763051-92-9	11Cl-PF3OUdS	ng/L	< 0.80	< 0.80	< 0.80	< 0.80 UJ	< 1.7	< 1.7 UJ

Notes::

CAS RN = Chemical Abstracts Service Registry Number

TOP Assay = Total oxidizable precursor assay

Updated by: L. Auner, 6/6/2025

Checked by: A. Booms 6/11/2025

Data Qualifiers:

I = ion transition ratio did not meet acceptance limits

J = estimated

U = nondetect

UJ = estimated nondetect

Table 10: TOP Assay Results (Class B Biosolids)
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794.2024.0000

		Location ID	Biosolids-B	Biosolids-B	Biosolids-B	Biosolids-B	Biosolids-B	Biosolids-B
		Pre/Post TOP Assay	Pre	Post	Pre	Post	Pre	Post
		Sample Name	Bio-B-20240320	Bio-B-20240320	Bio-B-202409	Bio-B-202409	Bio-B-202412	Bio-B-202412
		Sample Date	03/20/2024	03/20/2024	09/17/2024	09/17/2024	12/10/2024	12/10/2024
CAS RN	**Analyte**	**Unit**						
Carboxylic Acids								
375-22-4	PFBA	ug/kg	< 4.2	< 93 U	< 3.7	130	< 4.3	150
2706-90-3	PFPeA	ug/kg	< 3.7	34	< 3.3	61	< 3.8	89 J
307-24-4	PFHxA	ug/kg	4.1 IJ	26	2.5 J	28 J	< 2.9	39 J
375-85-9	PFHpA	ug/kg	< 3.4	16 J	< 3.0	20 J	< 3.5	35
335-67-1	PFOA	ug/kg	< 4.8	23	< 4.2	35	< 4.9	41
375-95-1	PFNA	ug/kg	< 2.0	9.9 J	< 1.8	13 IJ	< 2.0	22
335-76-2	PFDA	ug/kg	< 4.3	7.7 J	< 3.8	7.8 J	< 4.5	11 J
2058-94-8	PFUnA	ug/kg	< 3.8	4.9 J	< 3.3	5.3 J	< 3.9	6.9 J
307-55-1	PFDoA	ug/kg	< 2.7	4.0 J	< 2.4	3.9 J	< 2.8	5.0 IJ
72629-94-8	PFTrDA	ug/kg	< 1.9	1.9 J	< 1.7	1.7 J	< 1.9	3.8 IJ
376-06-7	PFTA	ug/kg	< 3.3	< 3.4	< 2.9	< 3.0	< 3.4	< 3.4
Sulfonic Acids								
375-73-5	PFBS	ug/kg	4.8 J	6.8 J	< 3.0	< 3.1	< 3.5	< 3.5
2706-91-4	PFPeS	ug/kg	< 3.3	< 3.4	< 2.9	< 3.0	< 3.4	< 3.4
355-46-4	PFHxS	ug/kg	< 2.6	< 2.6	5.9 IJ	< 2.4	11 IJ	< 2.7
375-92-8	PFHpS	ug/kg	< 4.4	< 4.5	< 3.9	< 4.0	< 4.6	< 4.5
1763-23-1	PFOS	ug/kg	20 IJ	9.3 J	18 IJ	11 J	23	14 J
68259-12-1	PFNS	ug/kg	< 2.6	< 2.6	< 2.3	< 2.4	< 2.7	< 2.7
335-77-3	PFDS	ug/kg	< 4.7	< 4.7	< 4.1	< 4.3	< 4.8	< 4.8
79780-39-5	PFDoS	ug/kg	< 4.3	< 4.3	< 3.8	< 3.9	< 4.4	< 4.3 UJ
757124-72-4	4:2 FTS	ug/kg	< 4.6	< 4.7	< 4.1	< 4.2	< 4.8	< 4.7
27619-97-2	6:2 FTS	ug/kg	< 2.4	< 2.5	< 2.2	< 2.2	< 2.5	< 2.5
39108-34-4	8:2 FTS	ug/kg	< 3.2	< 2.9	< 2.8	< 2.9	< 3.2	< 3.2
Sulfonamides, Sulfonamidoacetic acids, Sulfonamidoethanols								
754-91-6	PFOSA	ug/kg	< 3.0	< 3.0	< 2.6	< 2.7	< 3.1	< 3.0
31506-32-8	NMeFOSA	ug/kg	< 4.4 UJ	< 4.5	< 3.9	< 4.0	< 4.6	< 4.5
4151-50-2	NEtFOSA	ug/kg	< 4.3 UJ	< 4.3	< 3.8	< 3.9	< 4.4	< 4.3
2355-31-9	NMeFOSAA	ug/kg	7.8 J	< 2.1	9.2 J	< 1.9	12 J	< 2.1
2991-50-6	NEtFOSAA	ug/kg	< 4.3	< 4.4	5.3 J	< 3.9	< 4.5	< 4.4
24448-09-7	NMeFOSE	ug/kg	< 4.3	< 4.3	6.5 J	< 3.9	12 J	< 4.3
1691-99-2	NEtFOSE	ug/kg	9.0 J	< 2.6	3.5 J	< 2.3	8.2 J	< 2.6
Replacement Chemicals								
13252-13-6	HFPO-DA	ug/kg	< 3.7	< 3.4	< 3.3	< 3.4	< 3.8	< 3.8
919005-14-4	DONA	ug/kg	< 3.5	< 3.6	< 3.1	< 3.2	< 3.6	< 3.6
756426-58-1	9Cl-PF3ONS	ug/kg	< 3.2	< 3.2	< 2.8	< 2.9	< 3.2	< 3.2
763051-92-9	11Cl-PF3OUdS	ug/kg	< 2.8	< 2.8	< 2.5	< 2.5 UJ	< 2.9	< 2.8 UJ

Notes::
CAS RN = Chemical Abstracts Service Registry Number
TOP Assay = Total oxidizable precursor assay

Updated by: L. Auner, 6/6/2025
Checked by: A. Booms 6/11/2025

Data Qualifiers:
I = ion transition ratio did not meet acceptance limits
J = estimated
U = nondetect
UJ = estimated nondetect

Table 11: TOP Assay Results (Class A Biosolids)
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794.2024.0000

		Location ID	Biosolids-A-22	Biosolids-A-22	Biosolids-A-22	Biosolids-A-22	Biosolids-A-22	Biosolids-A-22	Biosolids-A-23	Biosolids-A-23	Biosolids-A-23	Biosolids-A-23	Biosolids-A-23	Biosolids-A-23	Biosolids-A-24	Biosolids-A-24	Biosolids-A-24	Biosolids-A-24
		Pre/Post TOP Assay	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
		Sample Name	Bio-A-22-20240319	Bio-A-22-20240319	Bio-A-22-202409	Bio-A-22-202409	Bio-A-22-202412	Bio-A-22-202412	Bio-A-23-20240319	Bio-A-23-20240319	Bio-A-23-202409	Bio-A-23-202409	Bio-A-23-202412	Bio-A-23-202412	Bio-A-24-202409	Bio-A-24-202409	Bio-A-24-202412	Bio-A-24-202412
		Sample Date	03/19/2024	03/19/2024	09/17/2024	09/17/2024	12/09/2024	12/09/2024	03/19/2024	03/19/2024	09/17/2024	09/17/2024	12/09/2024	12/09/2024	09/17/2024	09/17/2024	12/10/2024	12/10/2024
CAS RN	**Analyte**	**Unit**																
Carboxylic Acids																		
375-22-4	PFBA	ug/kg	7.9	190	8.1	110	5.5	210	3.8	210	4.1	160	5.4	110	2.8 J	70	5.4	270
2706-90-3	PFPeA	ug/kg	18	97	18	59	21	130 J	10	100	12	72	18	85 J	10	34	19	200 J
307-24-4	PFHxA	ug/kg	39	76	26	55 J	21	88 J	24	76	15	50 J	34	54 J	8.1	21 J	19	150 J
375-85-9	PFHpA	ug/kg	2.7 J	35	3.2 J	21 J	1.5 J	44	1.0 J	41	1.6 J	25 J	2.7 J	27	< 0.89	13 J	1.8 J	59
335-67-1	PFOA	ug/kg	21	56	21	52	14	66	13	57	13	50	32	44	5.9	25	18	110
375-95-1	PFNA	ug/kg	1.3 J	14	1.5 J	9.1	1.4 J	21	1.1 J	19	1.4 IJ	15	1.9 J	14	1.1 IJ	6.9	1.3 J	34
335-76-2	PFDA	ug/kg	13	14	8.9	13	7.4	18	10	17	8.2	17	12	12	4.2 J	6.2	7.4	32
2058-94-8	PFUnA	ug/kg	2.0 J	5.6	1.0 J	3.5 J	1.1 IJ	8.1	2.0 J	7.8	1.4 IJ	5.7	1.2 IJ	5.4	1.1 J	2.7 J	0.94 J	14
307-55-1	PFDoA	ug/kg	3.7 J	6.6	1.8 J	3.3 J	2.3 J	6.4	3.7	8.8	2.9 J	6.2	2.5 J	4.0	2.3 J	3.0 J	2.3 J	14
72629-94-8	PFTrDA	ug/kg	< 0.45	1.8 J	< 0.39	1.2 J	< 0.38	2.0 J	< 0.39	2.1 J	< 0.37	1.6 J	< 0.32	1.3 J	< 0.49	0.95 J	< 0.44	3.3 J
376-06-7	PFTA	ug/kg	0.87 J	2.7 J	< 0.68	1.4 J	0.81 J	2.7 J	0.78 J	3.5 J	0.72 J	2.1 J	0.70 J	1.9 J	< 0.87	1.2 J	0.90 J	5.3
Sulfonic Acids																		
375-73-5	PFBS	ug/kg	13	24	4.6	10	1.7 J	29	6.5	33	3.1 J	21	2.0 J	14	1.2 J	4.0 J	2.6 J	48
2706-91-4	PFPeS	ug/kg	< 0.79	< 0.78	< 0.68	< 0.68	< 0.67	< 0.67	< 0.68	< 0.68	< 0.66	< 0.68	< 0.56	< 0.57	< 0.87	< 0.85	< 0.77	< 0.76
355-46-4	PFHxS	ug/kg	7.6 IJ	3.1 J	2.0 J	1.9 J	2.4 J	1.8 J	< 0.53	2.5 J	1.5 J	1.5 J	1.3 J	0.98 J	1.7 J	1.0 J	2.1 J	1.6 J
375-92-8	PFHpS	ug/kg	< 1.1	< 1.0	< 0.91	< 0.91	< 0.89	< 0.89	< 0.91	< 0.90	< 0.88	< 0.90	< 0.74	< 0.76	< 1.2	< 1.1	< 1.0	< 1.0
1763-23-1	PFOS	ug/kg	24	18	11	11	14	13	16	19	13	14	14	8.7	11	8.0	14	18
68259-12-1	PFNS	ug/kg	< 0.62	< 0.61	< 0.54	< 0.54	< 0.53	< 0.53	< 0.53	< 0.53	< 0.52	< 0.53	< 0.44	< 0.45	< 0.68	< 0.67	< 0.60	< 0.60
335-77-3	PFDS	ug/kg	1.7 J	1.1 J	< 0.96	< 0.96	1.4 J	< 0.95	< 0.96	1.4 J	1.1 J	1.2 J	1.1 J	< 0.80	1.2 J	< 1.2	2.1 J	1.3 J
79780-39-5	PFDoS	ug/kg	< 1.0	< 1.0	< 0.87	< 0.87	< 0.86	< 0.86 UJ	< 0.87	< 0.86	< 0.84	< 0.87	< 0.71	< 0.72 UJ	< 1.1	< 1.1	< 0.98	< 0.97 UJ
757124-72-4	4:2 FTS	ug/kg	< 1.1	< 1.1	< 0.95	< 0.95	< 0.93	< 0.93	< 0.94	< 0.94	< 0.91	< 0.94	< 0.77	< 0.79	< 1.2	< 1.2	< 1.1	< 1.1
27619-97-2	6:2 FTS	ug/kg	2.2 J	< 0.57	1.1 J	< 0.50	1.4 J	< 0.49	2.5 J	< 0.49	1.2 J	< 0.49	2.3 J	< 0.41	< 0.63	< 0.62	0.94 J	15
39108-34-4	8:2 FTS	ug/kg	1.6 J	< 0.74	< 0.65	< 0.65	< 0.64	< 0.64	< 0.65	< 0.54	1.2 J	< 0.64	1.3 J	< 0.54	< 0.82	< 0.81	< 0.73	< 0.72
Sulfonamides, Sulfonamidoacetic acids, Sulfonamidoethanols																		
754-91-6	PFOSA	ug/kg	1.3 J	< 0.70	< 0.61	< 0.61	1.7 J	< 0.60	1.3 J	< 0.60	0.88 J	< 0.60	1.2 J	< 0.51	< 0.78	< 0.76	1.3 J	< 0.68
31506-32-8	NMeFOSA	ug/kg	< 1.1 UJ	< 1.0	< 0.91	< 0.91	< 0.89	< 0.89	< 0.91 UJ	< 0.90	< 0.88	< 0.90	< 0.74	< 0.76	< 1.2	< 1.1	< 1.0	< 1.0
4151-50-2	NEtFOSA	ug/kg	< 1.0 UJ	< 1.0	< 0.87	< 0.87	< 0.86	< 0.86	< 0.87 UJ	< 0.86	< 0.84	< 0.87	< 0.71	< 0.72	< 1.1	< 1.1	< 0.98	< 0.97
2355-31-9	NMeFOSAA	ug/kg	30	< 0.49	10	< 0.43	19	< 0.42	25	< 0.42	14	< 0.42	23	< 0.35	14	< 0.53	18	< 0.47
2991-50-6	NEtFOSAA	ug/kg	9.0	< 1.0	2.8 J	< 0.89	5.7	< 0.87	7.8	< 0.88	6.1	< 0.88	6.8	< 0.74	4.9	< 1.1	4.5	< 0.99
24448-09-7	NMeFOSE	ug/kg	9.2	< 1.0	2.7 J	< 0.87	10	< 0.86	8.4	< 0.86	8.3	< 0.87	6.7	< 0.72	6.7	< 1.1	6.9	< 0.97
1691-99-2	NEtFOSE	ug/kg	7.6	< 0.59	2.2 J	< 0.52	5.8	< 0.51	5.8	< 0.51	3.6	< 0.51	4.1	< 0.43	2.8 J	< 0.65	5.3	< 0.58
Replacement Chemicals																		
13252-13-6	HFPO-DA	ug/kg	< 0.87	< 0.87	< 0.76	< 0.76	< 0.75	< 0.75	< 0.77	< 0.64	< 0.73	< 0.76	< 0.62	< 0.63	< 0.97	< 0.95	< 0.86	< 0.85
919005-14-4	DONA	ug/kg	< 0.82	< 0.82	< 0.72	< 0.72	< 0.71	< 0.71	< 0.73	< 0.71	< 0.69	< 0.71	< 0.59	< 0.60	< 0.92	< 0.90	< 0.81	< 0.80
756426-58-1	9Cl-PF3ONS	ug/kg	< 0.75	< 0.74	< 0.65	< 0.65	< 0.64	< 0.64	< 0.65	< 0.64	< 0.62	< 0.64	< 0.53	< 0.54	< 0.82	< 0.81	< 0.73	< 0.72
763051-92-9	11Cl-PF3OUdS	ug/kg	< 0.66	< 0.66	< 0.57	< 0.57 UJ	< 0.56	< 0.56 UJ	< 0.57	< 0.57	< 0.55	< 0.57 UJ	< 0.47	< 0.48 UJ	< 0.73	< 0.71 UJ	< 0.64	< 0.64 UJ

Notes::
CAS RN = Chemical Abstracts Service Registry Number
TOP Assay = Total oxidizable precursor assay

Data Qualifiers:
I = ion transition ratio did not meet acceptance limits
J = estimated
UJ = estimated nondetect

Updated by: L. Auner, 6/6/2025
Checked by: A. Booms 6/11/2025

Table 12: Blank Sample Results
Madison Metropolitan Sewerage District
Madison, Dane County, Wisconsin
TRC Project #567794.2024.0000

		Location ID	Equipment Blank	Equipment Blank	Equipment Blank	Equipment Blank	Equipment Blank	Equipment Blank	Equipment Blank	Equipment Blank	HPLC Water
		Sample Name	EB-01-20240319	EB-01 202405	EB01 202406	EB02 202406	EB01-202409	EB02-202409	EB01-202412	EB02-202412	HPLC Grade Water-202408
		Sample Date	03/19/2024	05/15/2024	06/11/2024	06/11/2024	09/17/2024	09/17/2024	12/09/2024	12/10/2024	08/13/2024
CAS RN	**Analyte**	**Unit**									
Carboxylic Acids											
375-22-4	PFBA	ng/L	< 2.2	8.3	< 2.1	< 2.2	< 2.1	< 2.1	< 1.1	< 1.2	< 2.4
2706-90-3	PFPeA	ng/L	< 0.45	6.9	< 0.43	< 0.45	< 0.44	< 0.43	< 0.45	< 0.46	< 0.49
307-24-4	PFHxA	ng/L	< 0.53	14	< 0.51	0.53 J	< 0.52	< 0.51	< 0.52	< 0.54	< 0.58
375-85-9	PFHpA	ng/L	< 0.23	4.3	< 0.22	< 0.23	< 0.22	< 0.22	< 0.45	< 0.46	< 0.25
335-67-1	PFOA	ng/L	< 0.78	15	< 0.75	< 0.78	< 0.76	< 0.75	< 0.45	< 0.46	< 0.85
375-95-1	PFNA	ng/L	< 0.25	< 0.24	< 0.24	< 0.25	< 0.24	< 0.24	< 0.45	< 0.46	< 0.27
335-76-2	PFDA	ng/L	< 0.28	< 0.28	< 0.27	< 0.28	< 0.28	< 0.27	< 0.45	< 0.46	< 0.31
2058-94-8	PFUnA	ng/L	< 1.0	< 0.98	< 0.97	< 1.0	< 0.98	< 0.97	< 0.45	< 0.46	< 1.1
307-55-1	PFDoA	ng/L	< 0.50	< 0.49	< 0.49	< 0.50	< 0.49	< 0.49	< 0.50	< 0.51	< 0.55
72629-94-8	PFTrDA	ng/L	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.1	< 0.45	< 0.46	< 1.3
376-06-7	PFTA	ng/L	< 0.67	< 0.65	< 0.65	< 0.67	< 0.65	< 0.65	< 0.66	< 0.68	< 0.73
Sulfonic Acids											
375-73-5	PFBS	ng/L	< 0.18	5.4	< 0.18	< 0.18	< 0.18	< 0.18	< 0.45	< 0.46	< 0.20
2706-91-4	PFPeS	ng/L	< 0.27	1.9	< 0.27	< 0.27	< 0.27	< 0.27	< 0.45	< 0.46	< 0.30
355-46-4	PFHxS	ng/L	< 0.52	18	< 0.50	< 0.52	< 0.51	< 0.50	< 0.52	< 0.53	< 0.57
375-92-8	PFHpS	ng/L	< 0.17	0.79 J	< 0.17	< 0.17	< 0.17	< 0.17	< 0.45	< 0.46	< 0.19
1763-23-1	PFOS	ng/L	< 0.49	14	< 0.48	< 0.49	< 0.48	< 0.48	< 0.45	< 0.46	< 0.54
68259-12-1	PFNS	ng/L	< 0.34	< 0.33	< 0.33	< 0.34	< 0.33	< 0.33	< 0.45	< 0.46	< 0.37
335-77-3	PFDS	ng/L	< 0.29	< 0.28	< 0.28	< 0.29	< 0.29	< 0.28	< 0.45	< 0.46	< 0.32
79780-39-5	PFDoS	ng/L	< 0.89	< 0.86	< 0.86	< 0.89	< 0.87	< 0.86	< 0.88	< 0.90	< 0.97
757124-72-4	4:2 FTS	ng/L	< 0.22	< 0.21	< 0.21	< 0.22	< 0.21	< 0.21	< 0.45	< 0.46	< 0.24
27619-97-2	6:2 FTS	ng/L	< 2.3	< 2.2	< 2.2	< 2.3	< 2.2	< 2.2	< 1.1	< 1.2	< 2.5
39108-34-4	8:2 FTS	ng/L	< 0.42	< 0.41	< 0.41	< 0.42	< 0.41	< 0.41	< 0.45	< 0.46	< 0.46
Sulfonamides, Sulfonamidoacetic acids, Sulfonamidoethanols											
754-91-6	PFOSA	ng/L	< 0.90	< 0.87	< 0.87	< 0.90	< 0.88	< 0.87	< 0.89	< 0.91	< 0.98
31506-32-8	NMeFOSA	ng/L	< 0.39	< 0.38	< 0.38	< 0.39	< 0.38	< 0.38	< 0.45	< 0.46	< 0.43
4151-50-2	NEtFOSA	ng/L	< 0.79	< 0.77	< 0.77	< 0.80	< 0.78	< 0.77	< 0.79	< 0.80	< 0.87
2355-31-9	NMeFOSAA	ng/L	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.2	< 1.2
2991-50-6	NEtFOSAA	ng/L	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.1	< 1.1	< 1.2	< 1.3
24448-09-7	NMeFOSE	ng/L	< 1.3	< 1.2	< 1.2	< 1.3	< 1.3	< 1.2	< 1.3	< 1.3	< 1.4
1691-99-2	NEtFOSE	ng/L	< 0.78	< 0.76	< 0.75	< 0.78	< 0.76	< 0.75	< 0.77	< 0.79	< 0.85
Replacement Chemicals											
13252-13-6	HFPO-DA	ng/L	< 1.4	< 1.3	< 1.3	< 1.4	< 1.3	< 1.3	< 0.90	< 0.92	< 1.5
919005-14-4	DONA	ng/L	< 0.37	< 0.36	< 0.35	< 0.37	< 0.36	< 0.35	< 0.45	< 0.46	< 0.40
756426-58-1	9Cl-PF3ONS	ng/L	< 0.22	< 0.21	< 0.21	< 0.22	< 0.21	< 0.21	< 0.45	< 0.46	< 0.24
763051-92-9	11Cl-PF3OUdS	ng/L	< 0.29	< 0.28	< 0.28	< 0.29	< 0.29	< 0.28	< 0.62	< 0.64	< 0.32

Notes:
CAS RN = Chemical Abstracts Service Registry Number

Data Qualifiers:
J = estimated

Updated by: L. Auner, 6/6/2025
Checked by: A. Booms 6/11/2025

Figure 1
Calculated Influent & Composite Influent PFAS Results

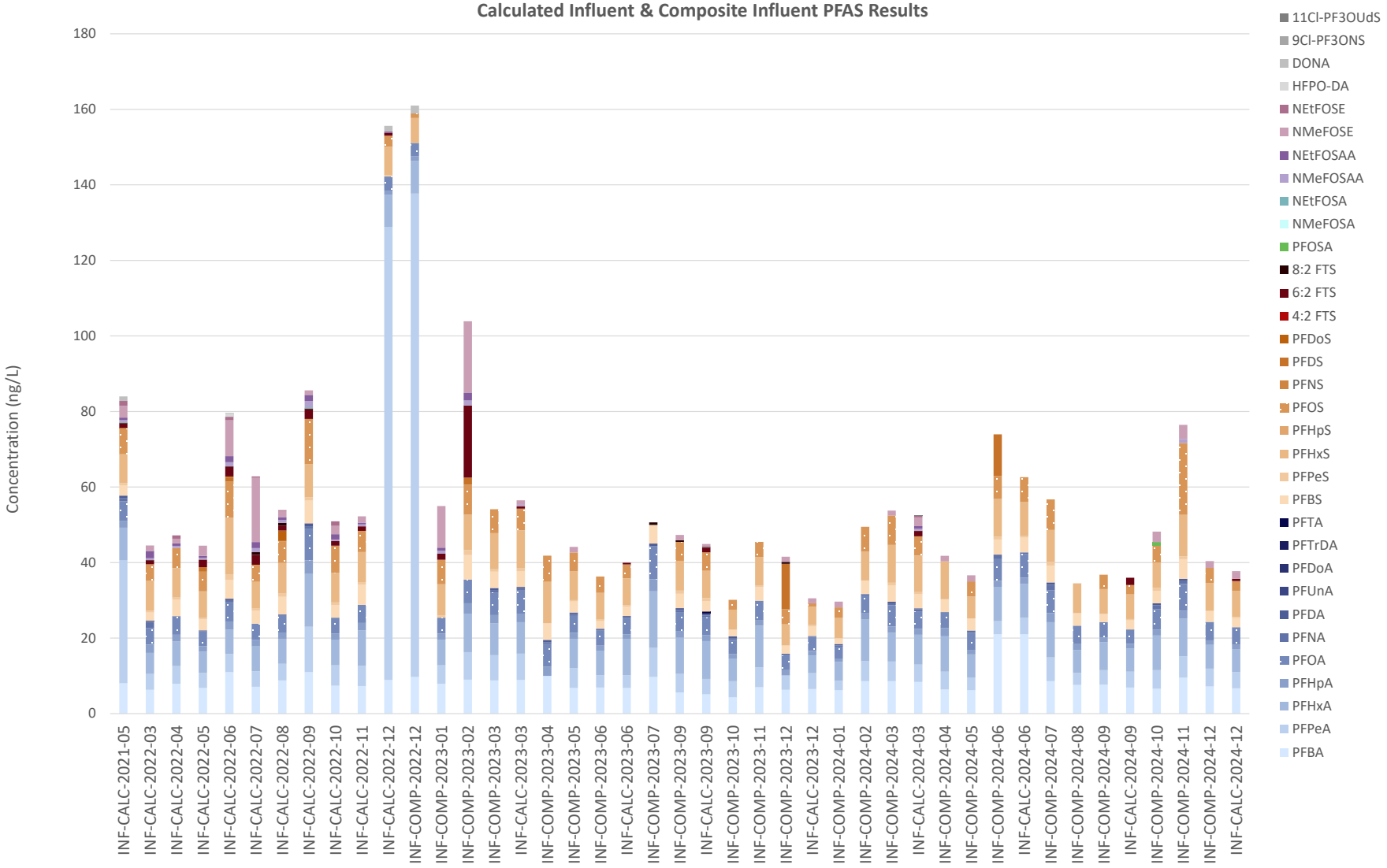


Figure 2a
Influent PFOA Time Series

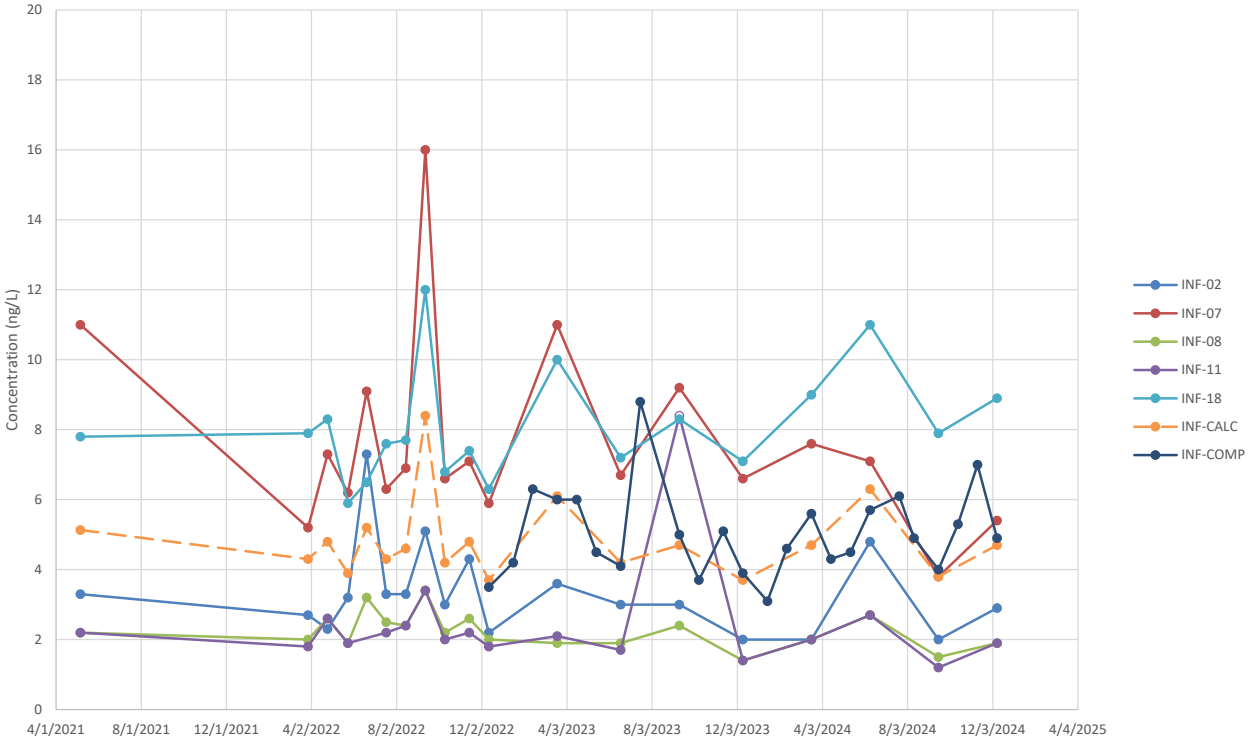
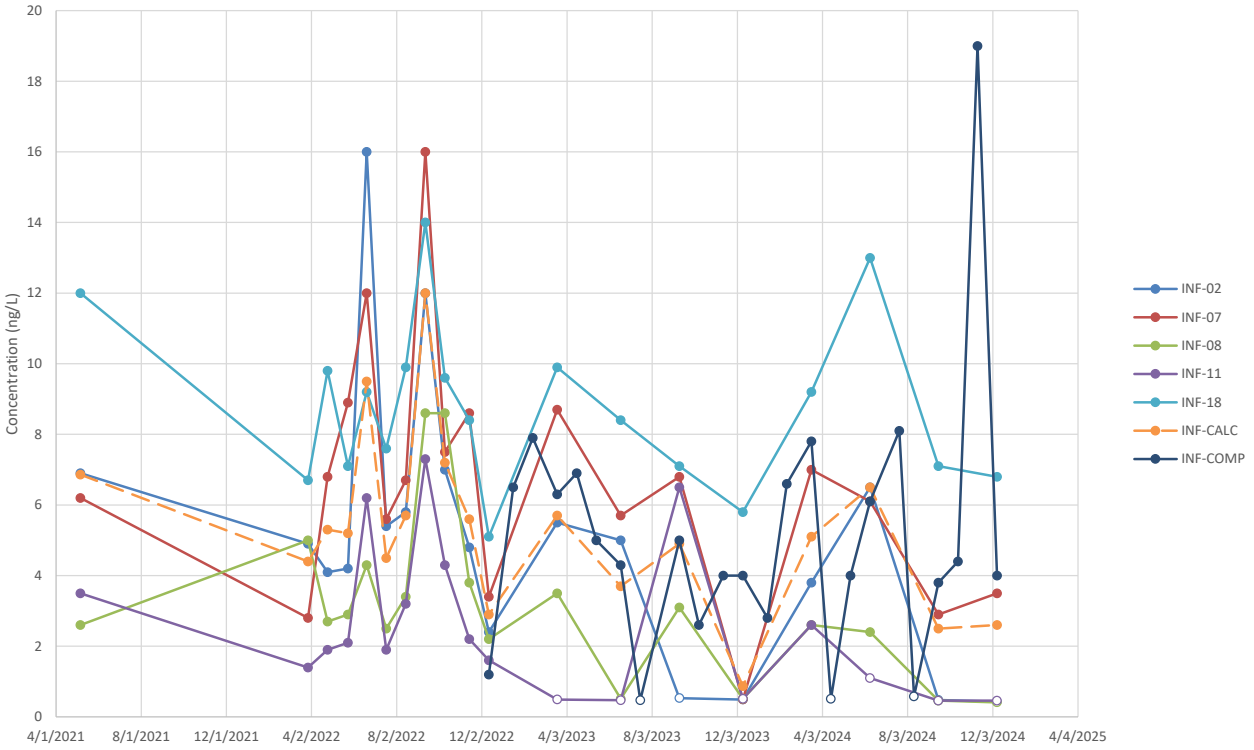


Figure 2b
Influent PFOS Time Series



Nondetect results are plotted with a hollow symbol at the detection limit.

Figure 3
Effluent PFAS Results

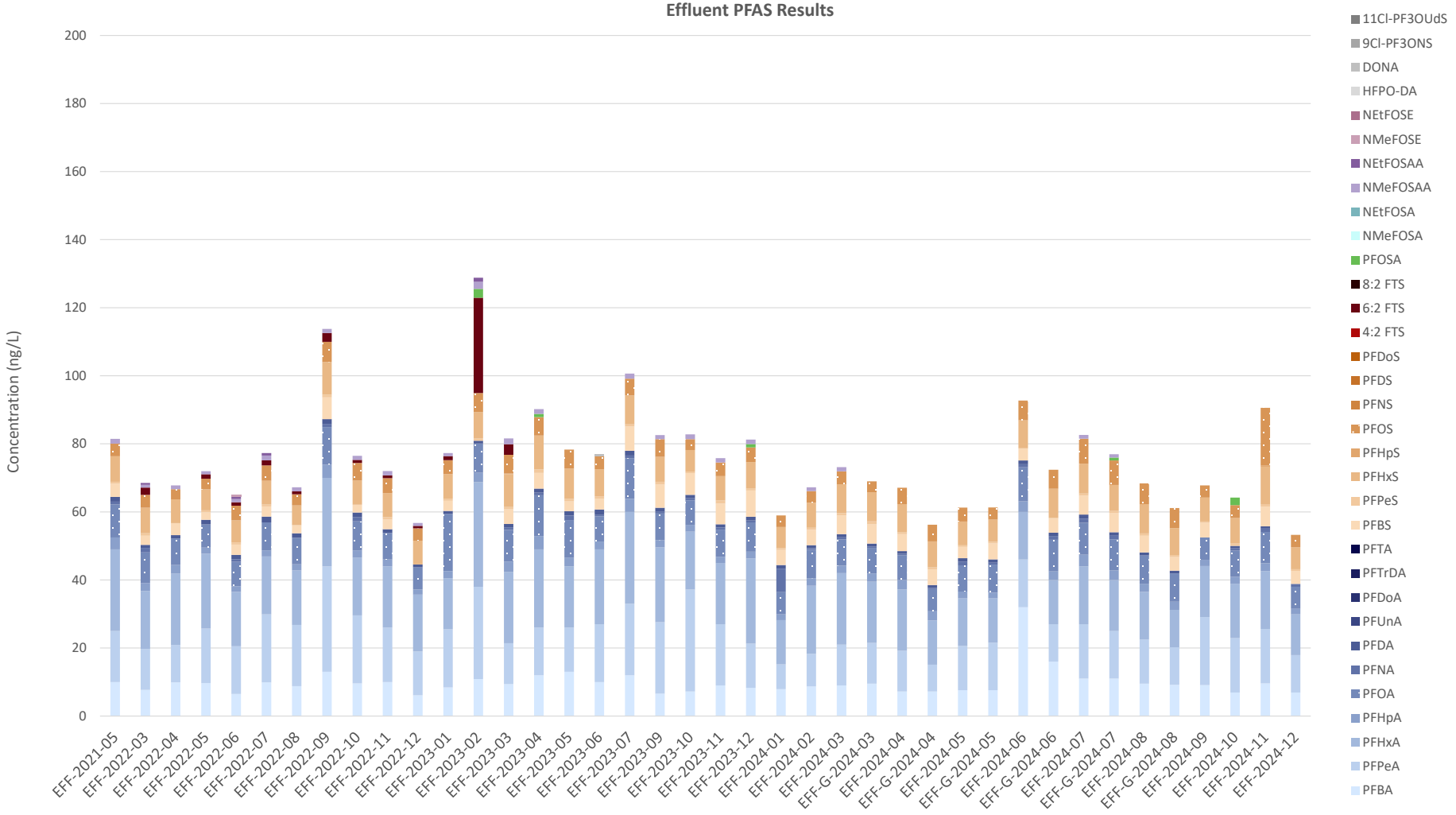


Figure 4a
Effluent PFOA Time Series

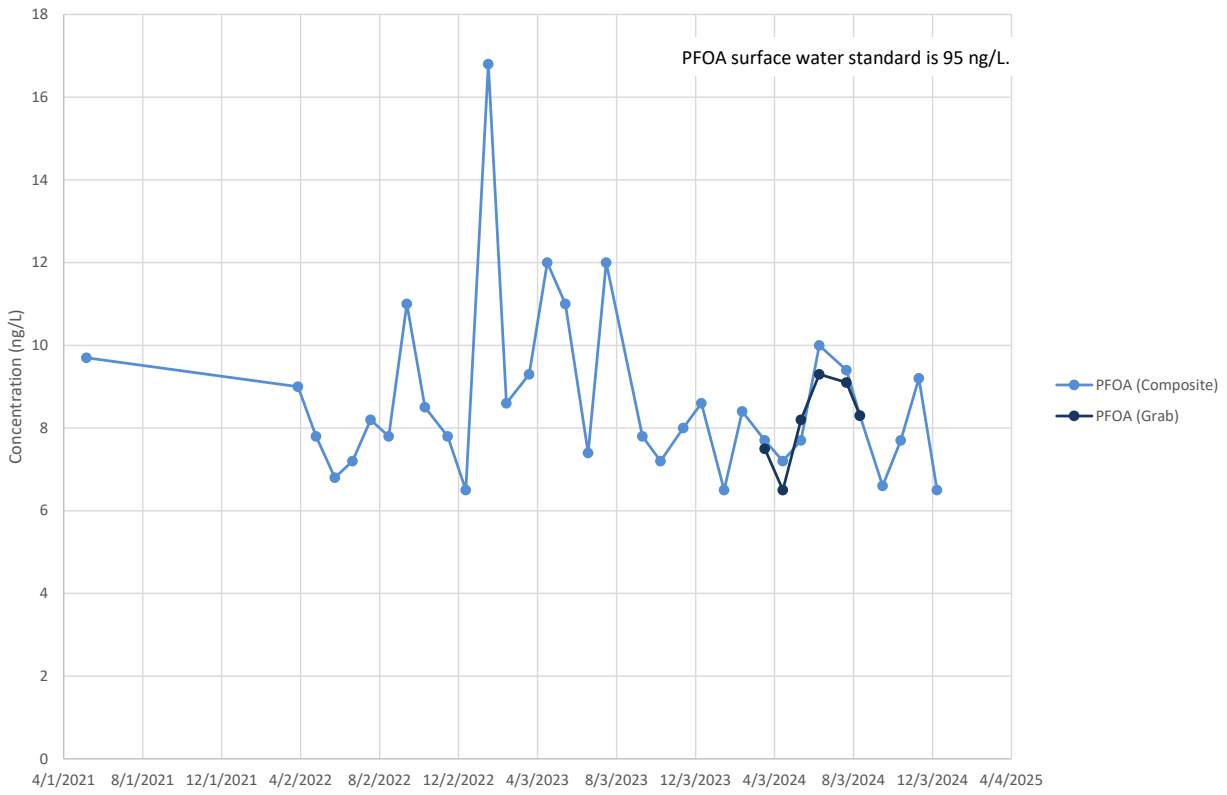


Figure 4b
Effluent PFOS Time Series

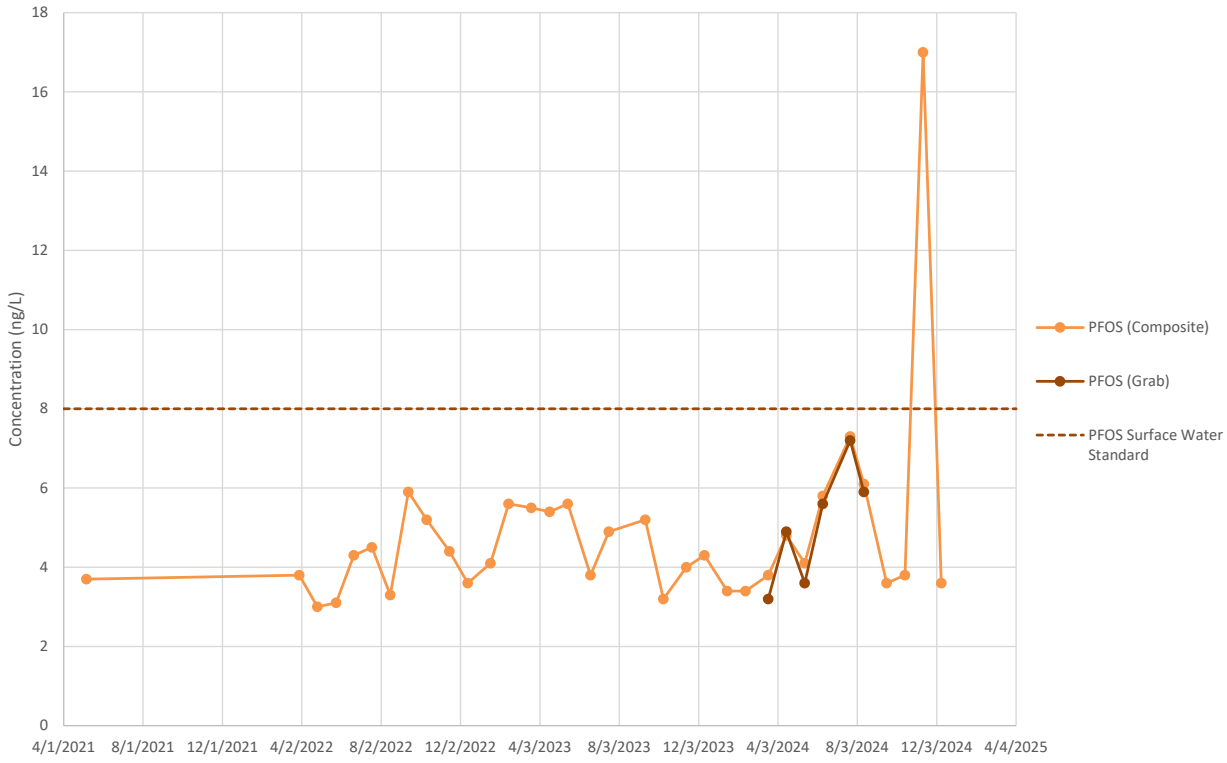
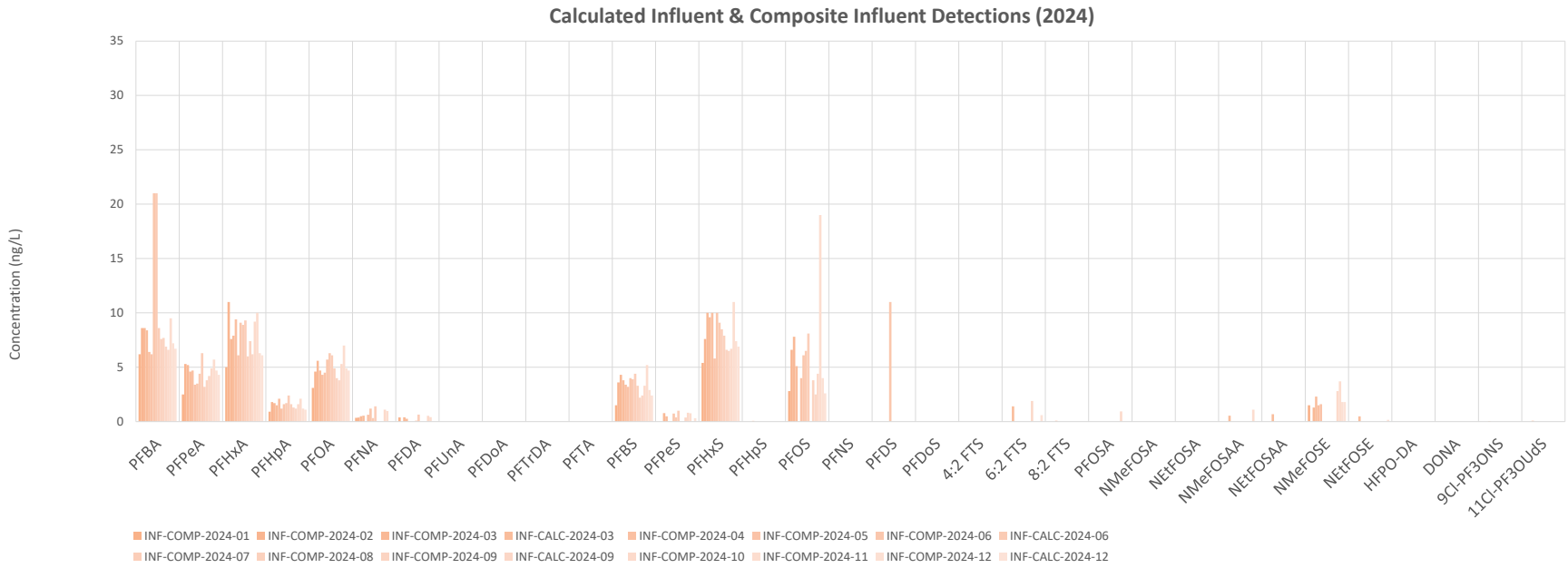


Figure 5
Influent vs. Effluent PFAS Detections



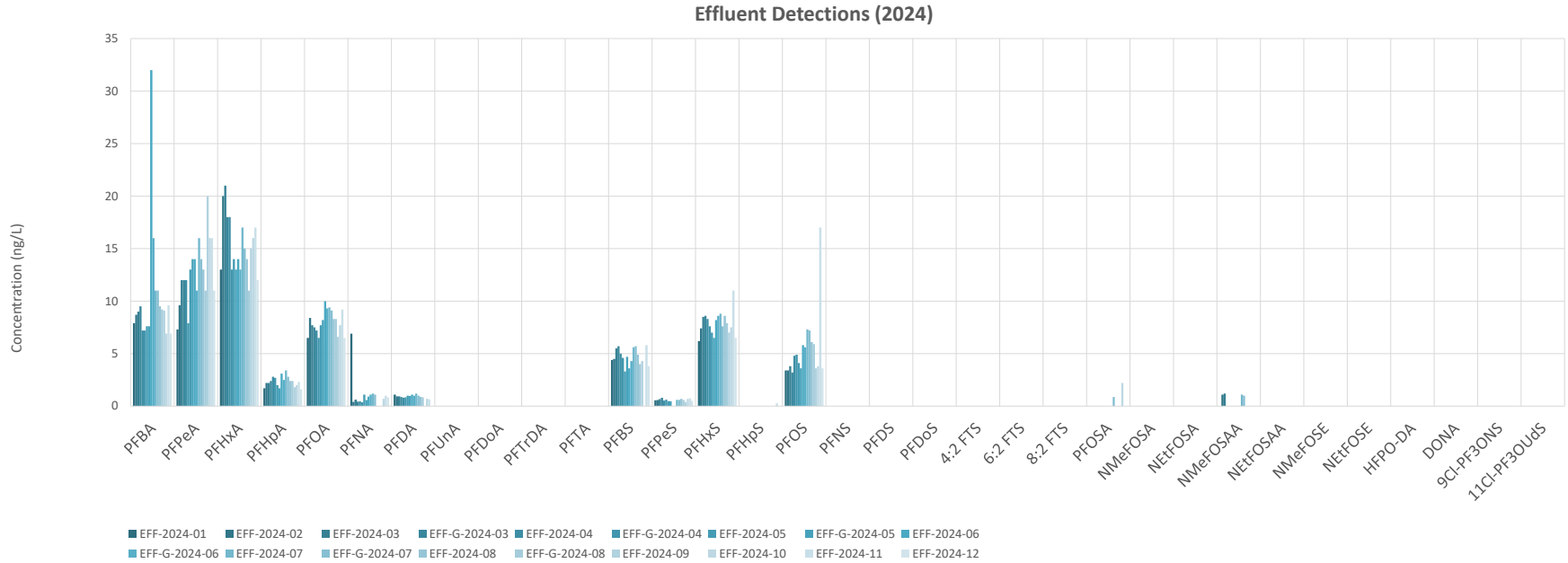


Figure 6
Class B Biosolids PFAS Results

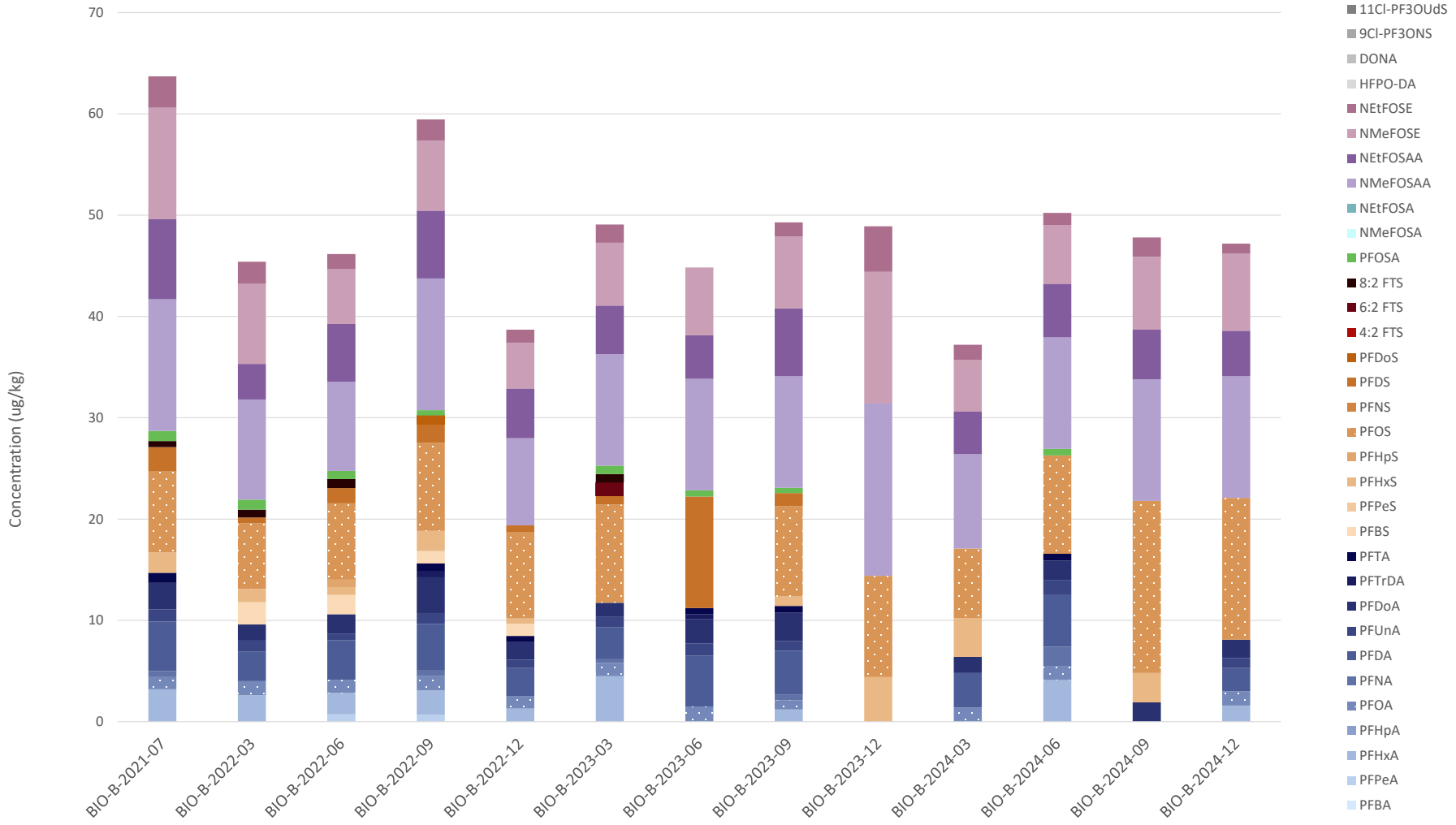


Figure 7a
Biosolids Class B PFOA and PFOS Time Series

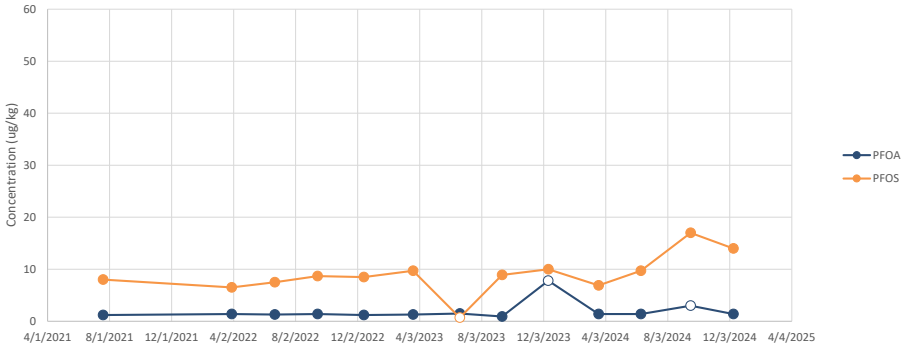


Figure 7b
Biosolids Class A (2022 Pile) PFOA and PFOS Time Series

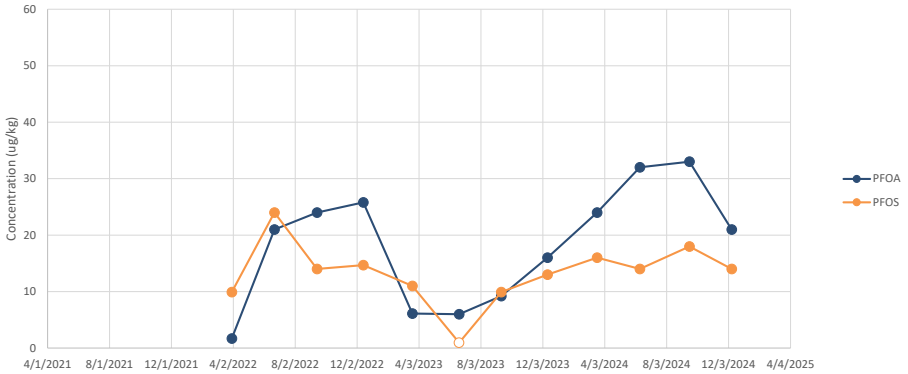


Figure 7c
Biosolids Class A (2023 Pile*) PFOA and PFOS Time Series

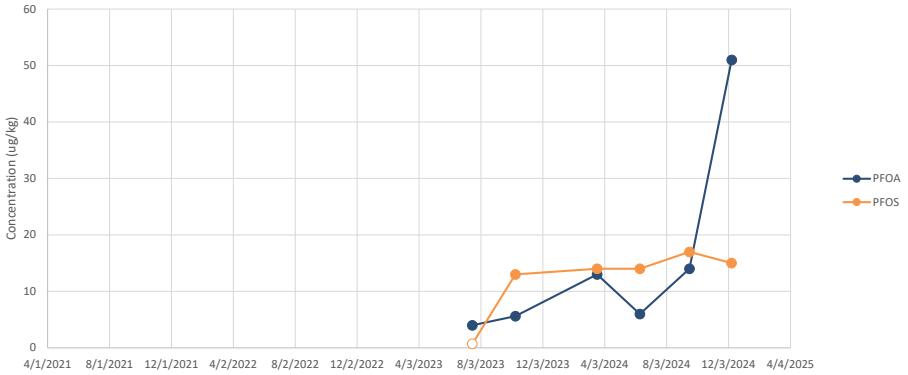
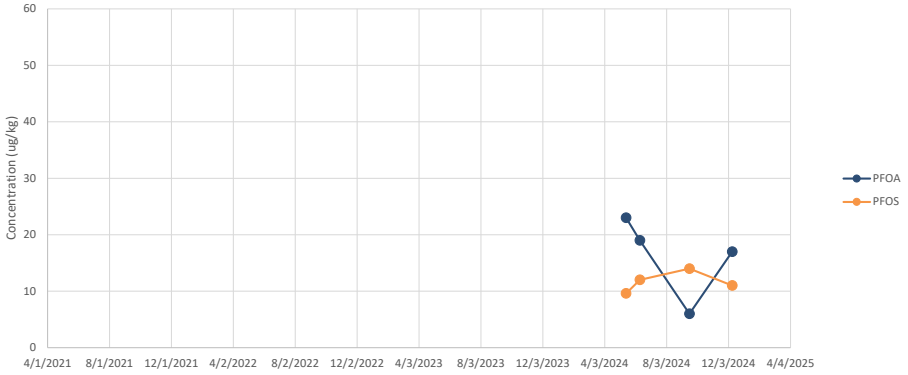


Figure 7d
Biosolids Class A (2024 Pile) PFOA and PFOS Time Series



Notes:
Nondetect results plotted with hollow symbols at the detection limit.
* Graph for 2023 Class A Cake pile includes results for the composite samples collected in 2023, which consisted only of shallow grab samples, and the composite samples collected in 2024, which consisted of both shallow and deeper grab samples.

Figure 8a
Class A Cake (2022 Pile) PFAS Results

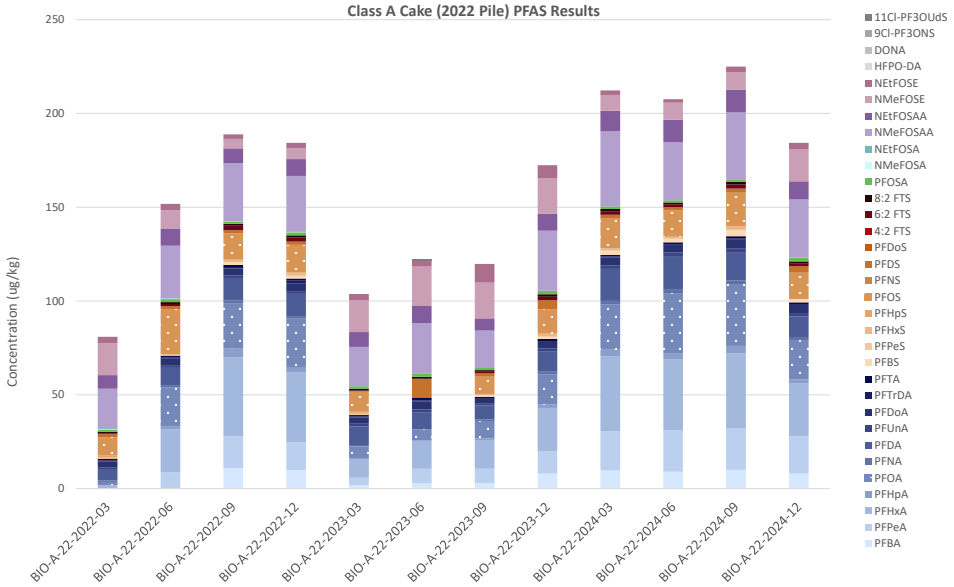


Figure 8b
Class A Cake (2023 Pile*) PFAS Results

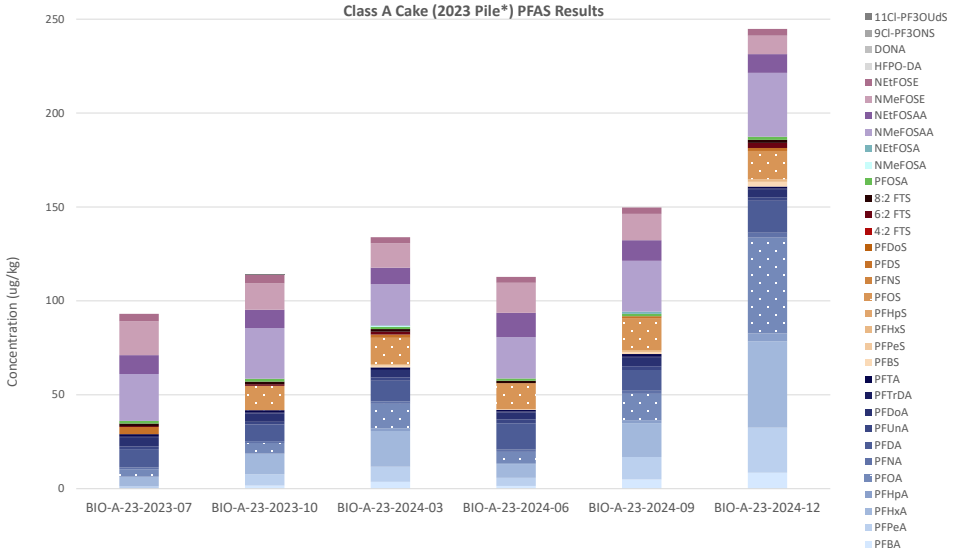
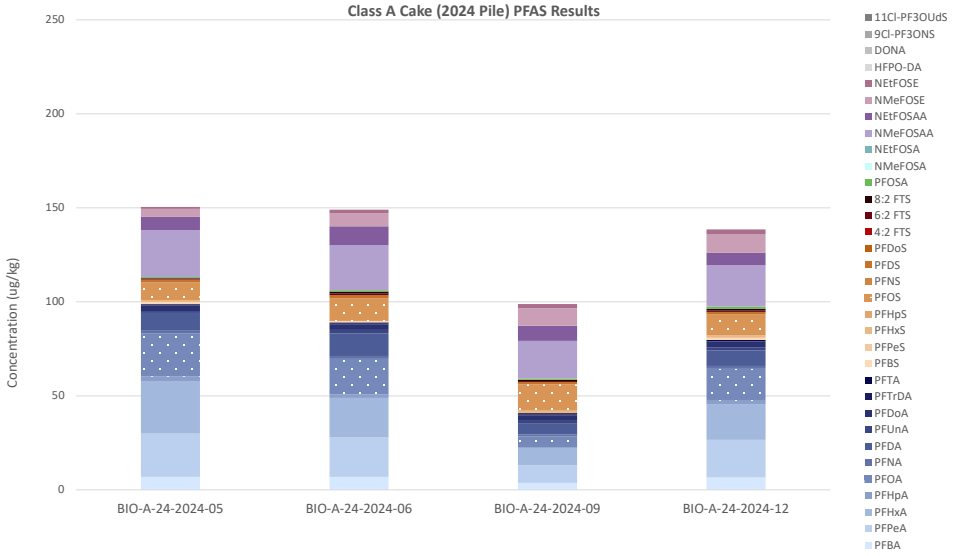


Figure 8c
Class A Cake (2024 Pile) PFAS Results



Notes:
* Graph for 2023 Class A Cake pile includes results for the composite samples collected in 2023, which consisted only of shallow grab samples, and the composite samples collected in 2024, which consisted of both shallow and deeper grab samples.

Appendix A: Laboratory Reports

January 2024

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Julie Maas
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

Generated 1/30/2024 5:27:18 PM

JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-108876-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization

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1/30/2024 5:27:18 PM

Authorized for release by
Micah Smith, Project Manager II
Micah.Smith@et.eurofinsus.com
(916)374-4302

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Definitions/Glossary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-108876-1

Qualifiers

LCMS

Qualifier	Qualifier Description
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-108876-1

Receipt
The samples were received on 1/22/2024 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: Inf Comp 20240115 (320-108876-1) and Eff 20240116 (320-108876-2).

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

General Chemistry
Method SM 2540D: The following samples in analytical batch 320-735337 were diluted due to the nature of the sample matrix: Inf Comp 20240115 (320-108876-1) and (320-108876-A-1 DU). The sample would not filter when using 100ml of sample. Elevated reporting limits (RLs) are provided.

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

Organic Prep
Method 3535: During the solid phase extraction(SPE) process, the following sample contained non-settable particulates which clogged the solid phase extraction column: Inf Comp 20240115 (320-108876-1) . The volume of the sample that was extracted via SPE prior to the clogging of the SPE cartridge is as follows: 64.1%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent.

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-735478.

Method 3535: The following samples were observed to have a yellow color and contained particulates in the bottle prior to extraction: Inf Comp 20240115 (320-108876-1) and Eff 20240116 (320-108876-2).

Method 3535: The following samples were observed to have a yellow color after extraction/final volume: Inf Comp 20240115 (320-108876-1) and Eff 20240116 (320-108876-2).

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-108876-1

Client Sample ID: Inf Comp 20240115 — Lab Sample ID: 320-108876-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.2		4.6	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.5		1.9	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	5.0	I	1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.91	J	1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.1		1.9	0.79	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.35	J	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.39	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.4		1.9	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.8		1.9	0.50	ng/L	1		537 (modified)	Total/NA
NMeFOSE	1.5	J	3.7	1.3	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	230		17	17	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Eff 20240116 — Lab Sample ID: 320-108876-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.9		4.7	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	7.3		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	13		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.7	J	1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	6.5		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	6.9		1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.1	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.4	I	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.56	J	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.2		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		1.9	0.51	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	4.9		1.3	1.3	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-108876-1

Client Sample ID: Inf Comp 20240115

Date Collected: 01/15/24 23:59
Date Received: 01/22/24 09:50

Lab Sample ID: 320-108876-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.2**		4.6	2.2	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluoropentanoic acid (PFPeA)	**2.5**		1.9	0.45	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorohexanoic acid (PFHxA)	**5.0**	**I**	1.9	0.54	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluoroheptanoic acid (PFHpA)	**0.91**	**J**	1.9	0.23	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorooctanoic acid (PFOA)	**3.1**		1.9	0.79	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorononanoic acid (PFNA)	**0.35**	**J**	1.9	0.25	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorodecanoic acid (PFDA)	**0.39**	**J**	1.9	0.29	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.68	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	**J**	1.9	0.19	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.28	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorohexanesulfonic acid (PFHxS)	**5.4**		1.9	0.53	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorooctanesulfonic acid (PFOS)	**2.8**		1.9	0.50	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.34	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.90	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.91	ng/L		01/23/24 04:51	01/26/24 16:40	1
NEtFOSA	ND		1.9	0.81	ng/L		01/23/24 04:51	01/26/24 16:40	1
NMeFOSA	ND		1.9	0.40	ng/L		01/23/24 04:51	01/26/24 16:40	1
NMeFOSAA	ND		4.6	1.1	ng/L		01/23/24 04:51	01/26/24 16:40	1
NEtFOSAA	ND		4.6	1.2	ng/L		01/23/24 04:51	01/26/24 16:40	1
NMeFOSE	**1.5**	**J**	3.7	1.3	ng/L		01/23/24 04:51	01/26/24 16:40	1
NEtFOSE	ND		1.9	0.79	ng/L		01/23/24 04:51	01/26/24 16:40	1
4:2 FTS	ND		1.9	0.22	ng/L		01/23/24 04:51	01/26/24 16:40	1
6:2 FTS	ND		4.6	2.3	ng/L		01/23/24 04:51	01/26/24 16:40	1
8:2 FTS	ND		1.9	0.43	ng/L		01/23/24 04:51	01/26/24 16:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.37	ng/L		01/23/24 04:51	01/26/24 16:40	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		01/23/24 04:51	01/26/24 16:40	1
9Cl-PF3ONS	ND		1.9	0.22	ng/L		01/23/24 04:51	01/26/24 16:40	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		01/23/24 04:51	01/26/24 16:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C5 PFPeA	*87*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C2 PFHxA	*88*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C4 PFHpA	*89*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C4 PFOA	*86*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C5 PFNA	*74*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C2 PFDA	*56*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C2 PFUnA	*46*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C2 PFDoA	*28*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C2 PFTeDA	*29*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*

Client Sample ID: Inf Comp 20240115

Lab Sample ID: 320-108876-1

Date Collected: 01/15/24 23:59
Matrix: Water
Date Received: 01/22/24 09:50

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*65*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
18O2 PFHxS	*73*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C4 PFOS	*64*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C8 FOSA	*45*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d3-NMeFOSAA	*32*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d5-NEtFOSAA	*27*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d-N-MeFOSA-M	*23*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d-N-EtFOSA-M	*31*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d7-N-MeFOSE-M	*24*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d9-N-EtFOSE-M	*27*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
M2-4:2 FTS	*87*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
M2-6:2 FTS	*130*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
M2-8:2 FTS	*64*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C3 HFPO-DA	*89*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**230**		17	17	mg/L			01/22/24 12:44	1

Client Sample ID: Eff 20240116

Lab Sample ID: 320-108876-2

Date Collected: 01/16/24 23:59
Matrix: Water
Date Received: 01/22/24 09:50

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.9**		4.7	2.3	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluoropentanoic acid (PFPeA)	**7.3**		1.9	0.46	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorohexanoic acid (PFHxA)	**13**		1.9	0.55	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluoroheptanoic acid (PFHpA)	**1.7**	**J**	1.9	0.24	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorooctanoic acid (PFOA)	**6.5**		1.9	0.80	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorononanoic acid (PFNA)	**6.9**		1.9	0.25	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorodecanoic acid (PFDA)	**1.1**	**J**	1.9	0.29	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorobutanesulfonic acid (PFBS)	**4.4**	**I**	1.9	0.19	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluoropentanesulfonic acid (PFPeS)	**0.56**	**J**	1.9	0.28	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorohexanesulfonic acid (PFHxS)	**6.2**		1.9	0.54	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorooctanesulfonic acid (PFOS)	**3.4**		1.9	0.51	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.91	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.92	ng/L		01/23/24 04:51	01/26/24 16:51	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-108876-1

Client Sample ID: Eff 20240116

Date Collected: 01/16/24 23:59
Date Received: 01/22/24 09:50

Lab Sample ID: 320-108876-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.82	ng/L		01/23/24 04:51	01/26/24 16:51	1
NMeFOSA	ND		1.9	0.41	ng/L		01/23/24 04:51	01/26/24 16:51	1
NMeFOSAA	ND		4.7	1.1	ng/L		01/23/24 04:51	01/26/24 16:51	1
NEtFOSAA	ND		4.7	1.2	ng/L		01/23/24 04:51	01/26/24 16:51	1
NMeFOSE	ND		3.8	1.3	ng/L		01/23/24 04:51	01/26/24 16:51	1
NEtFOSE	ND		1.9	0.80	ng/L		01/23/24 04:51	01/26/24 16:51	1
4:2 FTS	ND		1.9	0.23	ng/L		01/23/24 04:51	01/26/24 16:51	1
6:2 FTS	ND		4.7	2.4	ng/L		01/23/24 04:51	01/26/24 16:51	1
8:2 FTS	ND		1.9	0.43	ng/L		01/23/24 04:51	01/26/24 16:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		01/23/24 04:51	01/26/24 16:51	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		01/23/24 04:51	01/26/24 16:51	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		01/23/24 04:51	01/26/24 16:51	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		01/23/24 04:51	01/26/24 16:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C5 PFPeA	*86*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C2 PFHxA	*107*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C4 PFHpA	*100*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C4 PFOA	*98*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C5 PFNA	*79*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C2 PFDA	*78*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C2 PFUnA	*93*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C2 PFDoA	*83*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C2 PFTeDA	*58*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C3 PFBS	*75*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
18O2 PFHxS	*87*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C4 PFOS	*80*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C8 FOSA	*77*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d-N-MeFOSA-M	*68*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d-N-EtFOSA-M	*69*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d7-N-MeFOSE-M	*68*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d9-N-EtFOSE-M	*63*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
M2-4:2 FTS	*83*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
M2-6:2 FTS	*101*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
M2-8:2 FTS	*78*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C3 HFPO-DA	*104*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**4.9**		1.3	1.3	mg/L			01/22/24 12:44	1

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-108876-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-108876-1	Inf Comp 20240115	76	87	88	89	86	74	56	46
320-108876-2	Eff 20240116	83	86	107	100	98	79	78	93
LCS 320-735478/2-A	Lab Control Sample	95	107	110	113	102	97	103	100
LCSD 320-735478/3-A	Lab Control Sample Dup	95	101	100	101	100	92	93	95
MB 320-735478/1-A	Method Blank	103	107	108	104	109	98	101	98

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-108876-1	Inf Comp 20240115	28	29	65	73	64	45	32	27
320-108876-2	Eff 20240116	83	58	75	87	80	77	82	84
LCS 320-735478/2-A	Lab Control Sample	93	84	104	104	96	95	95	87
LCSD 320-735478/3-A	Lab Control Sample Dup	91	81	93	91	86	85	95	88
MB 320-735478/1-A	Method Blank	94	83	101	98	91	95	97	94

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-108876-1	Inf Comp 20240115	23	31	24	27	87	130	64	89
320-108876-2	Eff 20240116	68	69	68	63	83	101	78	104
LCS 320-735478/2-A	Lab Control Sample	80	81	87	85	92	93	81	110
LCSD 320-735478/3-A	Lab Control Sample Dup	74	73	80	79	77	98	83	102
MB 320-735478/1-A	Method Blank	75	81	82	82	81	94	91	109

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-735478/1-A
Matrix: Water
Analysis Batch: 736445

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 735478

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		01/23/24 04:51	01/26/24 16:05	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		01/23/24 04:51	01/26/24 16:05	1
NEtFOSA	ND		2.0	0.87	ng/L		01/23/24 04:51	01/26/24 16:05	1
NMeFOSA	ND		2.0	0.43	ng/L		01/23/24 04:51	01/26/24 16:05	1
NMeFOSAA	ND		5.0	1.2	ng/L		01/23/24 04:51	01/26/24 16:05	1
NEtFOSAA	ND		5.0	1.3	ng/L		01/23/24 04:51	01/26/24 16:05	1
NMeFOSE	ND		4.0	1.4	ng/L		01/23/24 04:51	01/26/24 16:05	1
NEtFOSE	ND		2.0	0.85	ng/L		01/23/24 04:51	01/26/24 16:05	1
4:2 FTS	ND		2.0	0.24	ng/L		01/23/24 04:51	01/26/24 16:05	1
6:2 FTS	ND		5.0	2.5	ng/L		01/23/24 04:51	01/26/24 16:05	1
8:2 FTS	ND		2.0	0.46	ng/L		01/23/24 04:51	01/26/24 16:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		01/23/24 04:51	01/26/24 16:05	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		01/23/24 04:51	01/26/24 16:05	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		01/23/24 04:51	01/26/24 16:05	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		01/23/24 04:51	01/26/24 16:05	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:05*	*1*
13C5 PFPeA	*107*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:05*	*1*
13C2 PFHxA	*108*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:05*	*1*
13C4 PFHpA	*104*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:05*	*1*
13C4 PFOA	*109*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:05*	*1*
13C5 PFNA	*98*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:05*	*1*
13C2 PFDA	*101*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:05*	*1*
13C2 PFUnA	*98*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:05*	*1*
13C2 PFDoA	*94*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:05*	*1*
13C2 PFTeDA	*83*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:05*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-735478/1-A
Matrix: Water
Analysis Batch: 736445

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 735478

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	101		25 - 150	01/23/24 04:51	01/26/24 16:05	1
18O2 PFHxS	98		25 - 150	01/23/24 04:51	01/26/24 16:05	1
13C4 PFOS	91		25 - 150	01/23/24 04:51	01/26/24 16:05	1
13C8 FOSA	95		10 - 150	01/23/24 04:51	01/26/24 16:05	1
d3-NMeFOSAA	97		25 - 150	01/23/24 04:51	01/26/24 16:05	1
d5-NEtFOSAA	94		25 - 150	01/23/24 04:51	01/26/24 16:05	1
d-N-MeFOSA-M	75		10 - 150	01/23/24 04:51	01/26/24 16:05	1
d-N-EtFOSA-M	81		10 - 150	01/23/24 04:51	01/26/24 16:05	1
d7-N-MeFOSE-M	82		10 - 150	01/23/24 04:51	01/26/24 16:05	1
d9-N-EtFOSE-M	82		10 - 150	01/23/24 04:51	01/26/24 16:05	1
M2-4:2 FTS	81		25 - 150	01/23/24 04:51	01/26/24 16:05	1
M2-6:2 FTS	94		25 - 150	01/23/24 04:51	01/26/24 16:05	1
M2-8:2 FTS	91		25 - 150	01/23/24 04:51	01/26/24 16:05	1
13C3 HFPO-DA	109		25 - 150	01/23/24 04:51	01/26/24 16:05	1

Lab Sample ID: LCS 320-735478/2-A
Matrix: Water
Analysis Batch: 736445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 735478

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	8.09		ng/L		101	60 - 135
Perfluoropentanoic acid (PFPeA)	8.00	7.27		ng/L		91	60 - 135
Perfluorohexanoic acid (PFHxA)	8.00	8.05		ng/L		101	60 - 135
Perfluoroheptanoic acid (PFHpA)	8.00	6.73		ng/L		84	60 - 135
Perfluorooctanoic acid (PFOA)	8.00	7.99		ng/L		100	60 - 135
Perfluorononanoic acid (PFNA)	8.00	8.18		ng/L		102	60 - 135
Perfluorodecanoic acid (PFDA)	8.00	7.17		ng/L		90	60 - 135
Perfluoroundecanoic acid (PFUnA)	8.00	8.03		ng/L		100	60 - 135
Perfluorododecanoic acid (PFDoA)	8.00	8.09		ng/L		101	60 - 135
Perfluorotridecanoic acid (PFTrDA)	8.00	6.57		ng/L		82	60 - 135
Perfluorotetradecanoic acid (PFTeA)	8.00	7.32		ng/L		92	60 - 135
Perfluorobutanesulfonic acid (PFBS)	7.10	6.76		ng/L		95	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	7.52	6.48		ng/L		86	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	7.30	6.86		ng/L		94	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	7.63	6.64		ng/L		87	60 - 135
Perfluorooctanesulfonic acid (PFOS)	7.44	7.28		ng/L		98	60 - 135
Perfluorononanesulfonic acid (PFNS)	7.70	7.40		ng/L		96	60 - 135
Perfluorodecanesulfonic acid (PFDS)	7.71	6.39		ng/L		83	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	7.76	4.89		ng/L		63	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-735478/2-A
Matrix: Water
Analysis Batch: 736445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 735478

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	8.00	7.78		ng/L		97	60 - 135
NEtFOSA	8.00	8.65		ng/L		108	60 - 135
NMeFOSA	8.00	7.63		ng/L		95	60 - 135
NMeFOSAA	8.00	7.40		ng/L		92	60 - 135
NEtFOSAA	8.00	7.95		ng/L		99	60 - 135
NMeFOSE	8.00	7.20		ng/L		90	60 - 135
NEtFOSE	8.00	7.24		ng/L		91	60 - 135
4:2 FTS	7.50	7.58		ng/L		101	60 - 135
6:2 FTS	7.62	7.34		ng/L		96	60 - 135
8:2 FTS	7.68	8.06		ng/L		105	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	8.13		ng/L		107	60 - 135
HFPO-DA (GenX)	8.00	7.15		ng/L		89	60 - 135
9Cl-PF3ONS	7.47	7.09		ng/L		95	60 - 135
11Cl-PF3OUdS	7.55	5.86		ng/L		78	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*95*		*25 - 150*
13C5 PFPeA	*107*		*25 - 150*
13C2 PFHxA	*110*		*25 - 150*
13C4 PFHpA	*113*		*25 - 150*
13C4 PFOA	*102*		*25 - 150*
13C5 PFNA	*97*		*25 - 150*
13C2 PFDA	*103*		*25 - 150*
13C2 PFUnA	*100*		*25 - 150*
13C2 PFDoA	*93*		*25 - 150*
13C2 PFTeDA	*84*		*25 - 150*
13C3 PFBS	*104*		*25 - 150*
18O2 PFHxS	*104*		*25 - 150*
13C4 PFOS	*96*		*25 - 150*
13C8 FOSA	*95*		*10 - 150*
d3-NMeFOSAA	*95*		*25 - 150*
d5-NEtFOSAA	*87*		*25 - 150*
d-N-MeFOSA-M	*80*		*10 - 150*
d-N-EtFOSA-M	*81*		*10 - 150*
d7-N-MeFOSE-M	*87*		*10 - 150*
d9-N-EtFOSE-M	*85*		*10 - 150*
M2-4:2 FTS	*92*		*25 - 150*
M2-6:2 FTS	*93*		*25 - 150*
M2-8:2 FTS	*81*		*25 - 150*
13C3 HFPO-DA	*110*		*25 - 150*

Lab Sample ID: LCSD 320-735478/3-A
Matrix: Water
Analysis Batch: 736445

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 735478

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	8.00	8.12		ng/L		101	60 - 135	0	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-735478/3-A
Matrix: Water
Analysis Batch: 736445

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 735478

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			8.00	7.89		ng/L		99	60 - 135	8	30
Perfluorohexanoic acid (PFHxA)			8.00	7.66		ng/L		96	60 - 135	5	30
Perfluoroheptanoic acid (PFHpA)			8.00	7.71		ng/L		96	60 - 135	13	30
Perfluorooctanoic acid (PFOA)			8.00	8.15		ng/L		102	60 - 135	2	30
Perfluorononanoic acid (PFNA)			8.00	8.73		ng/L		109	60 - 135	6	30
Perfluorodecanoic acid (PFDA)			8.00	7.79		ng/L		97	60 - 135	8	30
Perfluoroundecanoic acid (PFUnA)			8.00	8.30		ng/L		104	60 - 135	3	30
Perfluorododecanoic acid (PFDoA)			8.00	8.04		ng/L		100	60 - 135	1	30
Perfluorotridecanoic acid (PFTrDA)			8.00	6.16		ng/L		77	60 - 135	6	30
Perfluorotetradecanoic acid (PFTeA)			8.00	7.47		ng/L		93	60 - 135	2	30
Perfluorobutanesulfonic acid (PFBS)			7.10	7.14		ng/L		100	60 - 135	5	30
Perfluoropentanesulfonic acid (PFPeS)			7.52	6.95		ng/L		92	60 - 135	7	30
Perfluorohexanesulfonic acid (PFHxS)			7.30	7.16		ng/L		98	60 - 135	4	30
Perfluoroheptanesulfonic acid (PFHpS)			7.63	7.67		ng/L		100	60 - 135	14	30
Perfluorooctanesulfonic acid (PFOS)			7.44	7.73		ng/L		104	60 - 135	6	30
Perfluorononanesulfonic acid (PFNS)			7.70	8.10		ng/L		105	60 - 135	9	30
Perfluorodecanesulfonic acid (PFDS)			7.71	6.49		ng/L		84	60 - 135	2	30
Perfluorododecanesulfonic acid (PFDoS)			7.76	4.97		ng/L		64	60 - 135	1	30
Perfluorooctanesulfonamide (FOSA)			8.00	7.86		ng/L		98	60 - 135	1	30
NEtFOSA			8.00	8.95		ng/L		112	60 - 135	3	30
NMeFOSA			8.00	8.22		ng/L		103	60 - 135	7	30
NMeFOSAA			8.00	7.67		ng/L		96	60 - 135	4	30
NEtFOSAA			8.00	8.67		ng/L		108	60 - 135	9	30
NMeFOSE			8.00	7.58		ng/L		95	60 - 135	5	30
NEtFOSE			8.00	7.53		ng/L		94	60 - 135	4	30
4:2 FTS			7.50	8.09		ng/L		108	60 - 135	6	30
6:2 FTS			7.62	6.82		ng/L		90	60 - 135	7	30
8:2 FTS			7.68	8.07		ng/L		105	60 - 135	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			7.57	8.72		ng/L		115	60 - 135	7	30
HFPO-DA (GenX)			8.00	7.56		ng/L		94	60 - 135	5	30
9Cl-PF3ONS			7.47	7.63		ng/L		102	60 - 135	7	30
11Cl-PF3OUdS			7.55	6.39		ng/L		85	60 - 135	9	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*95*		*25 - 150*
13C5 PFPeA	*101*		*25 - 150*
13C2 PFHxA	*100*		*25 - 150*
13C4 PFHpA	*101*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-735478/3-A
Matrix: Water
Analysis Batch: 736445

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 735478

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFOA	*100*		*25 - 150*
13C5 PFNA	*92*		*25 - 150*
13C2 PFDA	*93*		*25 - 150*
13C2 PFUnA	*95*		*25 - 150*
13C2 PFDoA	*91*		*25 - 150*
13C2 PFTeDA	*81*		*25 - 150*
13C3 PFBS	*93*		*25 - 150*
18O2 PFHxS	*91*		*25 - 150*
13C4 PFOS	*86*		*25 - 150*
13C8 FOSA	*85*		*10 - 150*
d3-NMeFOSAA	*95*		*25 - 150*
d5-NEtFOSAA	*88*		*25 - 150*
d-N-MeFOSA-M	*74*		*10 - 150*
d-N-EtFOSA-M	*73*		*10 - 150*
d7-N-MeFOSE-M	*80*		*10 - 150*
d9-N-EtFOSE-M	*79*		*10 - 150*
M2-4:2 FTS	*77*		*25 - 150*
M2-6:2 FTS	*98*		*25 - 150*
M2-8:2 FTS	*83*		*25 - 150*
13C3 HFPO-DA	*102*		*25 - 150*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 320-735337/1
Matrix: Water
Analysis Batch: 735337

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	5.0	mg/L			01/22/24 12:44	1

Lab Sample ID: LCS 320-735337/2
Matrix: Water
Analysis Batch: 735337

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			100	100		mg/L		100	85 - 115		

Lab Sample ID: 320-108876-1 DU
Matrix: Water
Analysis Batch: 735337

Client Sample ID: Inf Comp 20240115
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	230			223		mg/L				2	20

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-108876-1

LCMS

Prep Batch: 735478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-108876-1	Inf Comp 20240115	Total/NA	Water	3535	
320-108876-2	Eff 20240116	Total/NA	Water	3535	
MB 320-735478/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-735478/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-735478/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 736445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-108876-1	Inf Comp 20240115	Total/NA	Water	537 (modified)	735478
320-108876-2	Eff 20240116	Total/NA	Water	537 (modified)	735478
MB 320-735478/1-A	Method Blank	Total/NA	Water	537 (modified)	735478
LCS 320-735478/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	735478
LCSD 320-735478/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	735478

General Chemistry

Analysis Batch: 735337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-108876-1	Inf Comp 20240115	Total/NA	Water	SM 2540D	
320-108876-2	Eff 20240116	Total/NA	Water	SM 2540D	
MB 320-735337/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 320-735337/2	Lab Control Sample	Total/NA	Water	SM 2540D	
320-108876-1 DU	Inf Comp 20240115	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-108876-1

Client Sample ID: Inf Comp 20240115

Lab Sample ID: 320-108876-1

Date Collected: 01/15/24 23:59
Matrix: Water
Date Received: 01/22/24 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			270.1 mL	10.0 mL	735478	01/23/24 04:51	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	736445	01/26/24 16:40	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	75 mL	250 mL	735337	01/22/24 12:44	JCB	EET SAC

Client Sample ID: Eff 20240116

Lab Sample ID: 320-108876-2

Date Collected: 01/16/24 23:59
Matrix: Water
Date Received: 01/22/24 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			265.1 mL	10.0 mL	735478	01/23/24 04:51	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	736445	01/26/24 16:51	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	1000 mL	250 mL	735337	01/22/24 12:44	JCB	EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-108876-1

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-24
Wisconsin	State	998204680	08-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 2540D		Water	Total Suspended Solids

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-108876-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET SAC
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-108876-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-108876-1	Inf Comp 20240115	Water	01/15/24 23:59	01/22/24 09:50
320-108876-2	Eff 20240116	Water	01/16/24 23:59	01/22/24 09:50

Reports to mursin@trccompanies.com

Address. TRC Attn Mike Ursin
708 Heartland Tr Suite 2000
Madison, WI 53711

Chain of Custody Record 720888

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Regulatory Program ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TAL-8210

Client Contact	Project Manager: Jessica McCammon	Site Contact:	Date 1/17/24	COC No: 720888
Company Name: Madison Metropolitan Sewerage Dist	Tel/Email: jessca@madsewer.org	Lab Contact: Mary Powers	Carrier: Fed Ex	1 of 1 COCs
Address: 1610 Moorland	Analysis Turnaround Time			Sampler:
City/State/Zip: Madison, WI 53713-2398	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone: 608 222-1201	TAT if different from Below _____			Walk-in Client:
Fax:	☒ 2 weeks			Lab Sampling:
Project Name: MMSD Phase 3	☐ 1 week			
Site: MMSD	☐ 2 days			Job / SDG No.
PO # 2200422	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TSS	PFAS	Sample Specific Notes:
InfComp 20240115	1/15/24	23 59	C	Ww	3	N	N	X	X	
Eff 20240116	1/16/24	23 59	C	Ww	3	↓	↓	X	X	

320-108876 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4, 4=HNO3, 5=NaOH 6= Other _____

Possible Hazard Identification
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments
For Influent Samples follow EPA 19-001 (WI PFAS method expectations) See V13 procedures for particulates in aqueous samples
Centrifuge as needed

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No. | Cooler Temp (°C): Obs'd: 9.1 Corr'd 2.4 | Therm ID No. 64

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Jennifer Faust	MMSD	700 1-17-24	[signature]	EETSBE	1/22/24 0950
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

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Sacramento Sample Receiving Notes (SSRN)

Tracking # 6570 6546 8364

Loc 320
108876

Job.____ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal Cooler Custody Seal Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID. Lo1 Corr Factor (+/-) N/A °C

Ice ✓ Wet ✓ Gel ____ Other ____

Cooler Custody Seal 2485308/2485309

Cooler ID: _____

Temp Observed 2.4 °C Corrected 2.4 °C
From Temp Blank ☐ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials. SO Date. 11/22/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314 331 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials. SO Date. 11/22/24

Notes _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials SO Date. 11/22/24

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-108876-1

Login Number: 108876
List Number: 1
Creator: Oropeza, Salvador

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	REFER TO SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

February 2024

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ANALYTICAL REPORT

PREPARED FOR

Attn: Julie Maas
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

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JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-109678-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization

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Authorized for release by
Micah Smith, Project Manager II
Micah.Smith@et.eurofinsus.com
(916)374-4302

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Definitions/Glossary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-109678-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-109678-1

Receipt
The samples were received on 2/15/2024 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.0º C.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: Inf Comp20240212 (320-109678-1), Eff 20240213 (320-109678-2) and (LLCS 320-743233/22-A).

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample are below the method recommended limit: Inf Comp20240212 (320-109678-1). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method 537 (modified): The transition mass ratio was outside of the established ratio limit for Perfluorooctanoic acid (PFOA) in (CCB 320-744540/4) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the CCB, there is no adverse impact to the data.

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

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

Organic Prep
Method 3535: The following samples in preparation batch 320-743233 were light green and were observed to have floating particulates present in the sample bottle. Inf Comp20240212 (320-109678-1) and Eff 20240213 (320-109678-2)

Method 3535: During the solid phase extraction(SPE) process, the following sample contained non-settable particulates which clogged the solid phase extraction column: Inf Comp20240212 (320-109678-1). The volume of the sample that was extracted via SPE prior to the clogging of the SPE cartridge is as follows: 88.7%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent.

Method 3535: The following samples in preparation batch 320-743233 were light green in color following extraction. Inf Comp20240212 (320-109678-1) and Eff 20240213 (320-109678-2)

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-109678-1

Client Sample ID: Inf Comp20240212 — Lab Sample ID: 320-109678-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	8.6		4.3	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	5.3		1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	11		1.7	0.50	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.8		1.7	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.6		1.7	0.74	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.37	J	1.7	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.6	I	1.7	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.6	I	1.7	0.49	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.6		1.7	0.47	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	240		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Eff 20240213 — Lab Sample ID: 320-109678-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	8.7		4.4	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	9.6		1.8	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	20		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.2		1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.4		1.8	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.41	J I	1.8	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.93	J	1.8	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.5	I	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.58	J	1.8	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.4		1.8	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4		1.8	0.47	ng/L	1		537 (modified)	Total/NA
NMeFOSAA	1.1	J	4.4	1.1	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	8.4		5.0	1.9	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-109678-1

Client Sample ID: Inf Comp20240212

Date Collected: 02/12/24 23:59
Date Received: 02/15/24 09:40

Lab Sample ID: 320-109678-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.6**		4.3	2.1	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluoropentanoic acid (PFPeA)	**5.3**		1.7	0.42	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorohexanoic acid (PFHxA)	**11**		1.7	0.50	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluoroheptanoic acid (PFHpA)	**1.8**		1.7	0.22	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorooctanoic acid (PFOA)	**4.6**		1.7	0.74	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorononanoic acid (PFNA)	**0.37**	**J**	1.7	0.23	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.95	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.63	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorobutanesulfonic acid (PFBS)	**3.6**	**I**	1.7	0.17	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.26	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorohexanesulfonic acid (PFHxS)	**7.6**	**I**	1.7	0.49	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorooctanesulfonic acid (PFOS)	**6.6**		1.7	0.47	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.32	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.28	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.84	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.85	ng/L		02/28/24 05:00	03/03/24 12:20	1
NEtFOSA	ND		1.7	0.75	ng/L		02/28/24 05:00	03/03/24 12:20	1
NMeFOSA	ND		1.7	0.37	ng/L		02/28/24 05:00	03/03/24 12:20	1
NMeFOSAA	ND		4.3	1.0	ng/L		02/28/24 05:00	03/03/24 12:20	1
NEtFOSAA	ND		4.3	1.1	ng/L		02/28/24 05:00	03/03/24 12:20	1
NMeFOSE	ND		3.5	1.2	ng/L		02/28/24 05:00	03/03/24 12:20	1
NEtFOSE	ND		1.7	0.74	ng/L		02/28/24 05:00	03/03/24 12:20	1
4:2 FTS	ND		1.7	0.21	ng/L		02/28/24 05:00	03/03/24 12:20	1
6:2 FTS	ND		4.3	2.2	ng/L		02/28/24 05:00	03/03/24 12:20	1
8:2 FTS	ND		1.7	0.40	ng/L		02/28/24 05:00	03/03/24 12:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.35	ng/L		02/28/24 05:00	03/03/24 12:20	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		02/28/24 05:00	03/03/24 12:20	1
9Cl-PF3ONS	ND		1.7	0.21	ng/L		02/28/24 05:00	03/03/24 12:20	1
11Cl-PF3OUdS	ND		1.7	0.28	ng/L		02/28/24 05:00	03/03/24 12:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C5 PFPeA	*112*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C2 PFHxA	*101*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C4 PFHpA	*100*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C4 PFOA	*103*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C5 PFNA	*93*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C2 PFDA	*85*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C2 PFUnA	*63*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C2 PFDoA	*39*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C2 PFTeDA	*24*	**5-*	*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*

Client Sample ID: Inf Comp20240212

Lab Sample ID: 320-109678-1

Date Collected: 02/12/24 23:59
Matrix: Water
Date Received: 02/15/24 09:40

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*102*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
18O2 PFHxS	*109*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C4 PFOS	*92*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C8 FOSA	*53*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d3-NMeFOSAA	*26*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d5-NEtFOSAA	*52*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d-N-MeFOSA-M	*37*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d-N-EtFOSA-M	*35*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d7-N-MeFOSE-M	*30*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d9-N-EtFOSE-M	*40*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
M2-4:2 FTS	*68*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
M2-6:2 FTS	*144*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
M2-8:2 FTS	*114*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C3 HFPO-DA	*91*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**240**		50	19	mg/L			02/19/24 14:29	1

Client Sample ID: Eff 20240213

Lab Sample ID: 320-109678-2

Date Collected: 02/13/24 23:59
Matrix: Water
Date Received: 02/15/24 09:40

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.7**		4.4	2.1	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluoropentanoic acid (PFPeA)	**9.6**		1.8	0.43	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorohexanoic acid (PFHxA)	**20**		1.8	0.51	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluoroheptanoic acid (PFHpA)	**2.2**		1.8	0.22	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorooctanoic acid (PFOA)	**8.4**		1.8	0.75	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorononanoic acid (PFNA)	**0.41**	**J I**	1.8	0.24	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorodecanoic acid (PFDA)	**0.93**	**J**	1.8	0.27	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.1	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.64	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorobutanesulfonic acid (PFBS)	**4.5**	**I**	1.8	0.18	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluoropentanesulfonic acid (PFPeS)	**0.58**	**J**	1.8	0.26	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorohexanesulfonic acid (PFHxS)	**7.4**		1.8	0.50	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorooctanesulfonic acid (PFOS)	**3.4**		1.8	0.47	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.85	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.86	ng/L		02/28/24 05:00	03/03/24 12:50	1

Client Sample ID: Eff 20240213

Lab Sample ID: 320-109678-2

Date Collected: 02/13/24 23:59

Matrix: Water

Date Received: 02/15/24 09:40

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.8	0.76	ng/L		02/28/24 05:00	03/03/24 12:50	1
NMeFOSA	ND		1.8	0.38	ng/L		02/28/24 05:00	03/03/24 12:50	1
NMeFOSAA	**1.1**	**J**	4.4	1.1	ng/L		02/28/24 05:00	03/03/24 12:50	1
NEtFOSAA	ND		4.4	1.1	ng/L		02/28/24 05:00	03/03/24 12:50	1
NMeFOSE	ND		3.5	1.2	ng/L		02/28/24 05:00	03/03/24 12:50	1
NEtFOSE	ND		1.8	0.75	ng/L		02/28/24 05:00	03/03/24 12:50	1
4:2 FTS	ND		1.8	0.21	ng/L		02/28/24 05:00	03/03/24 12:50	1
6:2 FTS	ND		4.4	2.2	ng/L		02/28/24 05:00	03/03/24 12:50	1
8:2 FTS	ND		1.8	0.40	ng/L		02/28/24 05:00	03/03/24 12:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		02/28/24 05:00	03/03/24 12:50	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		02/28/24 05:00	03/03/24 12:50	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		02/28/24 05:00	03/03/24 12:50	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		02/28/24 05:00	03/03/24 12:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C5 PFPeA	*101*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C2 PFHxA	*104*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C4 PFHpA	*100*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C4 PFOA	*103*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C5 PFNA	*98*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C2 PFDA	*104*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C2 PFUnA	*90*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C2 PFDoA	*83*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C2 PFTeDA	*56*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C3 PFBS	*99*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
18O2 PFHxS	*107*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C4 PFOS	*104*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C8 FOSA	*101*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d3-NMeFOSAA	*100*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d5-NEtFOSAA	*110*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d-N-MeFOSA-M	*94*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d-N-EtFOSA-M	*91*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d7-N-MeFOSE-M	*81*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d9-N-EtFOSE-M	*80*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
M2-4:2 FTS	*93*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
M2-6:2 FTS	*103*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
M2-8:2 FTS	*94*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C3 HFPO-DA	*92*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**8.4**		5.0	1.9	mg/L			02/20/24 13:32	1

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-109678-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA	PFUnA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-109678-1	Inf Comp20240212	87	112	101	100	103	93	85	63
320-109678-2	Eff 20240213	86	101	104	100	103	98	104	90
LCS 320-743233/2-A	Lab Control Sample	91	105	103	101	95	99	99	98
LLCS 320-743233/22-A	Lab Control Sample	106	109	103	111	111	106	111	107
MB 320-743233/1-A	Method Blank	100	107	97	101	108	98	106	104

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	PFHxS	PFOS	PFOSA	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(10-150)	(25-150)	(25-150)
320-109678-1	Inf Comp20240212	39	24 *5-	102	109	92	53	26	52
320-109678-2	Eff 20240213	83	56	99	107	104	101	100	110
LCS 320-743233/2-A	Lab Control Sample	96	103	98	113	111	101	102	108
LLCS 320-743233/22-A	Lab Control Sample	105	115	97	109	106	101	97	112
MB 320-743233/1-A	Method Blank	98	114	95	106	105	102	110	115

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		dMeFOSA	dEtFOSA	NMFM	NEFM	M242FTS	M262FTS	M282FTS	HFPODA
Lab Sample ID	Client Sample ID	(10-150)	(10-150)	(10-150)	(10-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-109678-1	Inf Comp20240212	37	35	30	40	68	144	114	91
320-109678-2	Eff 20240213	94	91	81	80	93	103	94	92
LCS 320-743233/2-A	Lab Control Sample	84	88	95	93	99	99	89	112
LLCS 320-743233/22-A	Lab Control Sample	76	79	99	99	81	94	101	106
MB 320-743233/1-A	Method Blank	87	88	100	97	85	94	97	98

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-743233/1-A
Matrix: Water
Analysis Batch: 744090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 743233

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		02/28/24 05:00	03/03/24 10:48	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		02/28/24 05:00	03/03/24 10:48	1
NEtFOSA	ND		2.0	0.87	ng/L		02/28/24 05:00	03/03/24 10:48	1
NMeFOSA	ND		2.0	0.43	ng/L		02/28/24 05:00	03/03/24 10:48	1
NMeFOSAA	ND		5.0	1.2	ng/L		02/28/24 05:00	03/03/24 10:48	1
NEtFOSAA	ND		5.0	1.3	ng/L		02/28/24 05:00	03/03/24 10:48	1
NMeFOSE	ND		4.0	1.4	ng/L		02/28/24 05:00	03/03/24 10:48	1
NEtFOSE	ND		2.0	0.85	ng/L		02/28/24 05:00	03/03/24 10:48	1
4:2 FTS	ND		2.0	0.24	ng/L		02/28/24 05:00	03/03/24 10:48	1
6:2 FTS	ND		5.0	2.5	ng/L		02/28/24 05:00	03/03/24 10:48	1
8:2 FTS	ND		2.0	0.46	ng/L		02/28/24 05:00	03/03/24 10:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		02/28/24 05:00	03/03/24 10:48	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		02/28/24 05:00	03/03/24 10:48	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		02/28/24 05:00	03/03/24 10:48	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		02/28/24 05:00	03/03/24 10:48	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C5 PFPeA	*107*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C2 PFHxA	*97*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C4 PFHpA	*101*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C4 PFOA	*108*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C5 PFNA	*98*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C2 PFDA	*106*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C2 PFUnA	*104*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C2 PFDoA	*98*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C2 PFTeDA	*114*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-743233/1-A
Matrix: Water
Analysis Batch: 744090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 743233

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*95*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
18O2 PFHxS	*106*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C4 PFOS	*105*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C8 FOSA	*102*		*10 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
d3-NMeFOSAA	*110*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
d5-NEtFOSAA	*115*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
d-N-MeFOSA-M	*87*		*10 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
d-N-EtFOSA-M	*88*		*10 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
d7-N-MeFOSE-M	*100*		*10 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
d9-N-EtFOSE-M	*97*		*10 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
M2-4:2 FTS	*85*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
M2-6:2 FTS	*94*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
M2-8:2 FTS	*97*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*
13C3 HFPO-DA	*98*		*25 - 150*	*02/28/24 05:00*	*03/03/24 10:48*	*1*

Lab Sample ID: LCS 320-743233/2-A
Matrix: Water
Analysis Batch: 744090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 743233

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	160	138		ng/L		86	60 - 135
Perfluoropentanoic acid (PFPeA)	160	128		ng/L		80	60 - 135
Perfluorohexanoic acid (PFHxA)	160	118		ng/L		74	60 - 135
Perfluoroheptanoic acid (PFHpA)	160	127		ng/L		80	60 - 135
Perfluorooctanoic acid (PFOA)	160	133		ng/L		83	60 - 135
Perfluorononanoic acid (PFNA)	160	128		ng/L		80	60 - 135
Perfluorodecanoic acid (PFDA)	160	137		ng/L		86	60 - 135
Perfluoroundecanoic acid (PFUnA)	160	129		ng/L		81	60 - 135
Perfluorododecanoic acid (PFDoA)	160	124		ng/L		77	60 - 135
Perfluorotridecanoic acid (PFTrDA)	160	131		ng/L		82	60 - 135
Perfluorotetradecanoic acid (PFTeA)	160	163		ng/L		102	60 - 135
Perfluorobutanesulfonic acid (PFBS)	142	121		ng/L		85	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	150	128		ng/L		85	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	146	110		ng/L		75	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	153	135		ng/L		88	60 - 135
Perfluorooctanesulfonic acid (PFOS)	149	119		ng/L		80	60 - 135
Perfluorononanesulfonic acid (PFNS)	154	128		ng/L		83	60 - 135
Perfluorodecanesulfonic acid (PFDS)	154	135		ng/L		87	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	155	134		ng/L		86	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-743233/2-A
Matrix: Water
Analysis Batch: 744090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 743233

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	160	139		ng/L		87	60 - 135
NEtFOSA	160	143		ng/L		89	60 - 135
NMeFOSA	160	145		ng/L		91	60 - 135
NMeFOSAA	160	144		ng/L		90	60 - 135
NEtFOSAA	160	137		ng/L		86	60 - 135
NMeFOSE	160	130		ng/L		81	60 - 135
NEtFOSE	160	130		ng/L		81	60 - 135
4:2 FTS	150	120		ng/L		80	60 - 135
6:2 FTS	152	107		ng/L		70	60 - 135
8:2 FTS	154	125		ng/L		81	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	151	102		ng/L		67	60 - 135
HFPO-DA (GenX)	160	126		ng/L		79	60 - 135
9Cl-PF3ONS	149	112		ng/L		75	60 - 135
11Cl-PF3OUdS	151	105		ng/L		69	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*91*		*25 - 150*
13C5 PFPeA	*105*		*25 - 150*
13C2 PFHxA	*103*		*25 - 150*
13C4 PFHpA	*101*		*25 - 150*
13C4 PFOA	*95*		*25 - 150*
13C5 PFNA	*99*		*25 - 150*
13C2 PFDA	*99*		*25 - 150*
13C2 PFUnA	*98*		*25 - 150*
13C2 PFDoA	*96*		*25 - 150*
13C2 PFTeDA	*103*		*25 - 150*
13C3 PFBS	*98*		*25 - 150*
18O2 PFHxS	*113*		*25 - 150*
13C4 PFOS	*111*		*25 - 150*
13C8 FOSA	*101*		*10 - 150*
d3-NMeFOSAA	*102*		*25 - 150*
d5-NEtFOSAA	*108*		*25 - 150*
d-N-MeFOSA-M	*84*		*10 - 150*
d-N-EtFOSA-M	*88*		*10 - 150*
d7-N-MeFOSE-M	*95*		*10 - 150*
d9-N-EtFOSE-M	*93*		*10 - 150*
M2-4:2 FTS	*99*		*25 - 150*
M2-6:2 FTS	*99*		*25 - 150*
M2-8:2 FTS	*89*		*25 - 150*
13C3 HFPO-DA	*112*		*25 - 150*

Lab Sample ID: LLCS 320-743233/22-A
Matrix: Water
Analysis Batch: 744090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 743233

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	8.57		ng/L		107	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-743233/22-A
Matrix: Water
Analysis Batch: 744090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 743233

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)	8.00	8.42		ng/L		105	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	9.01		ng/L		113	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	9.01	I	ng/L		113	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	8.17		ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	8.00	8.52		ng/L		106	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	8.77		ng/L		110	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	8.66		ng/L		108	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	8.68		ng/L		109	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	7.69		ng/L		96	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	7.50		ng/L		94	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	7.67		ng/L		108	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	8.52		ng/L		113	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.26		ng/L		100	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	8.17		ng/L		107	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	7.80		ng/L		105	50 - 150
Perfluorononanesulfonic acid (PFNS)	7.70	8.17		ng/L		106	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	7.87		ng/L		102	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	6.18		ng/L		80	50 - 150
Perfluorooctanesulfonamide (FOSA)	8.00	8.88		ng/L		111	50 - 150
NEtFOSA	8.00	8.63		ng/L		108	50 - 150
NMeFOSA	8.00	7.51		ng/L		94	50 - 150
NMeFOSAA	8.00	9.34		ng/L		117	50 - 150
NEtFOSAA	8.00	8.11		ng/L		101	50 - 150
NMeFOSE	8.00	4.07		ng/L		51	50 - 150
NEtFOSE	8.00	7.41		ng/L		93	50 - 150
4:2 FTS	7.50	8.58		ng/L		114	50 - 150
6:2 FTS	7.62	7.50		ng/L		98	50 - 150
8:2 FTS	7.68	7.40		ng/L		96	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	8.49		ng/L		112	50 - 150
HFPO-DA (GenX)	8.00	8.43		ng/L		105	50 - 150
9Cl-PF3ONS	7.47	7.40		ng/L		99	50 - 150
11Cl-PF3OUdS	7.55	7.23		ng/L		96	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*106*		*25 - 150*
13C5 PFPeA	*109*		*25 - 150*
13C2 PFHxA	*103*		*25 - 150*
13C4 PFHpA	*111*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-743233/22-A
Matrix: Water
Analysis Batch: 744090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 743233

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFOA	*111*		*25 - 150*
13C5 PFNA	*106*		*25 - 150*
13C2 PFDA	*111*		*25 - 150*
13C2 PFUnA	*107*		*25 - 150*
13C2 PFDoA	*105*		*25 - 150*
13C2 PFTeDA	*115*		*25 - 150*
13C3 PFBS	*97*		*25 - 150*
18O2 PFHxS	*109*		*25 - 150*
13C4 PFOS	*106*		*25 - 150*
13C8 FOSA	*101*		*10 - 150*
d3-NMeFOSAA	*97*		*25 - 150*
d5-NEtFOSAA	*112*		*25 - 150*
d-N-MeFOSA-M	*76*		*10 - 150*
d-N-EtFOSA-M	*79*		*10 - 150*
d7-N-MeFOSE-M	*99*		*10 - 150*
d9-N-EtFOSE-M	*99*		*10 - 150*
M2-4:2 FTS	*81*		*25 - 150*
M2-6:2 FTS	*94*		*25 - 150*
M2-8:2 FTS	*101*		*25 - 150*
13C3 HFPO-DA	*106*		*25 - 150*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-754686/1
Matrix: Water
Analysis Batch: 754686

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			02/19/24 13:40	1

Lab Sample ID: LCS 500-754686/2
Matrix: Water
Analysis Batch: 754686

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			200	197		mg/L		98	80 - 120		

Lab Sample ID: MB 500-754851/1
Matrix: Water
Analysis Batch: 754851

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			02/20/24 11:50	1

Lab Sample ID: LCS 500-754851/2
Matrix: Water
Analysis Batch: 754851

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			200	174		mg/L		87	80 - 120		

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-109678-1

LCMS

Prep Batch: 743233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-109678-1	Inf Comp20240212	Total/NA	Water	3535	
320-109678-2	Eff 20240213	Total/NA	Water	3535	
MB 320-743233/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-743233/2-A	Lab Control Sample	Total/NA	Water	3535	
LLCS 320-743233/22-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 744090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-109678-1	Inf Comp20240212	Total/NA	Water	537 (modified)	743233
320-109678-2	Eff 20240213	Total/NA	Water	537 (modified)	743233
MB 320-743233/1-A	Method Blank	Total/NA	Water	537 (modified)	743233
LCS 320-743233/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	743233
LLCS 320-743233/22-A	Lab Control Sample	Total/NA	Water	537 (modified)	743233

General Chemistry

Analysis Batch: 754686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-109678-1	Inf Comp20240212	Total/NA	Water	SM 2540D	
MB 500-754686/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-754686/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 754851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-109678-2	Eff 20240213	Total/NA	Water	SM 2540D	
MB 500-754851/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-754851/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-109678-1

Client Sample ID: Inf Comp20240212

Lab Sample ID: 320-109678-1

Date Collected: 02/12/24 23:59
Matrix: Water
Date Received: 02/15/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			288.5 mL	10.0 mL	743233	02/28/24 05:00	GAT	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	744090	03/03/24 12:20	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	754686	02/19/24 14:29	SO	EET CHI
							Completed:	02/19/24 14:32 [1]		

Client Sample ID: Eff 20240213

Lab Sample ID: 320-109678-2

Date Collected: 02/13/24 23:59
Matrix: Water
Date Received: 02/15/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			284.5 mL	10.0 mL	743233	02/28/24 05:00	GAT	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	744090	03/03/24 12:50	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	754851	02/20/24 13:32	SO	EET CHI
							Completed:	02/20/24 13:37 [1]		

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-109678-1

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25
Wisconsin	State	998204680	08-31-24

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-24

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-109678-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-109678-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-109678-1	Inf Comp20240212	Water	02/12/24 23:59	02/15/24 09:40
320-109678-2	Eff 20240213	Water	02/13/24 23:59	02/15/24 09:40

Attn Mike [illegible] turnbetrecorpanies.com

Address: TRC Attn Mike Gibson
708 Heartland Tr Suite 2000
Madison, WI 53717

Chain of Custody Record 721426

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Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TAL-8210

Client Contact		Project Manager: Jessica McGuire	Site Contact:	Date: 2/14/24	COC No
Company Name	Madison Metro Sewerage Dist	Tel/Email: jessica@madsewer.org	Lab Contact: Mary Powers	Carrier: FedEx	____ of ____ COCs
Address	1610 Moorland	Analysis Turnaround Time			Sampler
City/State/Zip	Madison, WI 53713 3311	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone	608 222-1201	TAT if different from Below ____			Walk-in Client
Fax		☒ 2 weeks			Lab Sampling
Project Name	MMSD Phase 3	☐ 1 week			
Site	MMSD	☐ 2 days			Job / SDG No
P O #	2201127	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	TSS	PFAS	Sample Specific Notes
Inf Comp 26x46x212	2/12/24	2357	C	WW	3	N	N	X	X	
Eff 26x46x13	2/13/24	2344	C	WW	3	↓	↓	X	X	

320-109678 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☒ Non-Hazard ☒ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:
For influent sample fill in EPA [illegible] (w/ PFAS rotational exp status) See via procedure to particulates aqueous samples
Contingency needed

Custody Seals Intact	Custody Seal No	Cooler Temp (°C) Obs'd.	Corr'd	Therm ID No
☒ Yes ☐ No	2480502, 2480503	1.0	1.0	L06

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
James Lemmel	MMSD	2/14/24 [illegible]	[signature]	EETSAC	02/14/24 0940
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

3/7/2024

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Sacramento Sample Receiving Notes (SSRN)

Loc: 320
109678

Tracking # : 6570 6547 7093

Job:_____ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: L06 Corr. Factor: (+ / -) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 2480502, 2480503

Cooler ID: _____

Temp Observed: 1.0 °C Corrected: 1.0 °C
From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date: 02/15/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: SO Date: 2/15/24

Notes:_____

Trizma Lot #(s): _____

Ammonium
Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: SO Date: 2/15/24

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2480502

ORIGIN ID:BLUA (608) 222-1201
JENNIFER FAUST
MADISON METROPOLITAN SEWERAGE DISTR
1610 MOORLAND ROAD

MADISON, WI 53713
UNITED STATES US

SHIP DATE: 01FEB24
ACTWGT: 10.00 LB MAN
CAD: 0575589/CAFE3755

0 SAMPLE RECEIVING
TESTAMERICA WEST SACRAMENTO
880 RIVERSIDE PARKWAY

WEST SACRAMENTO CA 95605
(916) 373--5600
REF: S320 – 58442

RMA:

FedEx Express

Custody Seal
DATE 2-14-24
SIGNATURE

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2480502

FedEx
TRK# 0221 6570 6547 7093

THU - 15 FEB AA
PRIORITY OVERNIGHT

XW BLUA

95605
CA-US
SMF

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2480503

Custody Seal 2-14-24
DATE
SIGNATURE Jennifer Faust

eurofins | Environment Testing TestAmerica

2480503

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916-373-5600 Fax 916-372 1059

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Smith, Micah	Carrier Tracking No(s):	COC No: 320-331241 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Micah Smith@et eurofinsus com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): NELAP - Oregon, State - Wisconsin		Job #: 320-109678-1

Address: 2417 Bond Street, ,
City: University Park
State Zip: IL, 60484
Phone: 708-534-5200(Tel) 708-534-5211(Fax)
Email:
Project Name: PFAS Sampling
Site:

320-109678 COC

Due Date Requested: 3/13/2024
TAT Requested (days):
PO #:
WO #:
Project #: 32021779
SSOW#:

Analysis Requested

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

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Inf Comp20240212 (320 109678-1)	2/12/24	23 59 Central		Water			X	1	
Eff 20240213 (320-109678-2)	2/13/24	23 59 Central		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northern California, LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northern California, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northern California, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northern California, LLC

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
DSMayrm	02/16/24 1630	EETsac	Stephanie Hernandez	2/17/24 0920	EEIA

Custody Seals Intact: Δ Yes Δ No
Custody Seal No
Cooler Temperature(s) °C and Other Remarks 1.4→1.9

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-109678-1

Login Number: 109678
List Number: 1
Creator: Oropeza, Salvador

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	REFER TO SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-109678-1

Login Number: 109678
List Number: 2
Creator: Hernandez, Stephanie

List Source: Eurofins Chicago
List Creation: 02/17/24 10:46 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

March 2024

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Julie Maas
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

Generated 5/2/2024 3:54:20 PM Revision 1

JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-110655-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization

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Revision 1

Authorized for release by
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Qualifiers

LCMS

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-110655-1

Revision
The report being provided is a revision of the original report sent on 4/22/2024. The report (revision 1) is being revised to correct several errors in the report.

The corrections are as follows:

The sample ID for sample Eff-G-20240319 (320-110655-8) was changed from Eff-6-20240319 to Eff-G-20240319.
The collection time for sample Eff-G-20240319 (320-110655-8) was changed from 10:35 to 10:25.
The erroneous "H" flag was removed from the data.
The analyte 6:2 FTS was reported from the re-extracted data.
The extraction date for the method blank from batch 749750 was corrected.
The extraction date for the method blank from batch 749751 was corrected.
The extraction date for the method blank from batch 753348 was corrected.
The extraction date for the method blank from batch 753365 was corrected.
The case narrative that discusses batch 754027 was removed because it was included in error.

Receipt
The samples were received on 3/21/2024 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.6º C.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: Inf-02 20240318 (320-110655-1), Inf-07 20240318 (320-110655-2), Inf-08 20240318 (320-110655-3), Inf-11 20240318 (320-110655-4), Inf-18 20240318 (320-110655-5), Eff-20240319 (320-110655-7) and Eff-G-20240319 (320-110655-8).

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: Inf-02 20240318 (320-110655-1), Inf-07 20240318 (320-110655-2), Inf-08 20240318 (320-110655-3), Inf-11 20240318 (320-110655-4) and Inf-Comp 20240318 (320-110655-6). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).

Method 537 (modified): The continuing calibration verification (CCV) associated with batch 320-751426 recovered above the upper control limit for 4:2 FTS. The sample associated with this CCV was non-detect for the affected analyte; therefore, the data have been reported. The associated samples are impacted: Eff-20240319 (320-110655-7) and (CCV 320-751426/7).

Method 537 (modified): The continuing calibration verification internal standard (CCVIS) associated with batch 320-751426 recovered above the upper control limit for 4:2 FTS. The sample associated with this CCV was non-detect for the affected analyte; therefore, the data have been reported. The associated sample are impacted: Eff-20240319 (320-110655-7) and (CCVIS 320-751426/3).

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: Eff-20240319 (320-110655-7). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: Eff-20240319 (320-110655-7). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).

Method 537 (modified): The continuing calibration verification (CCV) associated with batch 320-751293 recovered above the upper control limit for 4:2 FTS. The samples associated with this CCV was non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: Eff-20240319 (320-110655-7), (CCV 320-751293/1) and (CCV 320-751293/12).

Method 537 (modified): The labeled analyte M2-4:2 FTS is employed in this analysis as a "Reverse Surrogate". It is used to monitor the oxidation efficiency of the TOP assay. This analyte is fortified into all sample fractions prior to any processing. The recovery of this analyte should be 0% in Post-Treatment fractions, indicating complete oxidation of the sample. The following sample is associated with this narration: Eff-20240319 (320-110655-7).

Job ID: 320-110655-1 (Continued) Eurofins Sacramento

Method 537 (modified): Zero to ten percent recovery (0 - 10%) of precursor analytes (such as 4:2 FTS, 6:2 FTS, 8:2 FTS, FOSA, NMeFOSAA, NEtFOSAA, etc.) and enhanced recoveries of PFCA is observed in the Post-Treatment Laboratory Control Sample (LCS) and Post-Treatment Laboratory Control Sample Duplicate (LCSD) associated with these samples, consistent with the expected oxidation of precursor analytes. The existing LCS control limits are based upon our historical performance for a set of 24-36 analytes in the LCS solution. We have recently expanded to 70+ analytes. As the LCS solution now contains new/additional precursor analytes we are seeing enhanced recoveries for some PFCA vs. the historical limits as a result. The LCS results are flagged as being high and outside of the established limits for some analytes; however, this is a function of the new analytes in the LCS solution and not indicative of an "out of control" process. The following sample is associated with this narration: Eff-20240319 (320-110655-7).

Method 537 (modified): The laboratory control sample duplicate (LCSD) for preparation batch 320-749750 and analytical batch 320-751426 recovered outside control limits for the following analytes: 4:2 FTS. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 537 (modified): The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-749751 and analytical batch 320-751293 recovered outside control limits for several analytes.

Method 537 (modified): The continuing calibration verification (CCV) associated with batch 320-751790 recovered above the upper control limit for isotope dilution analytes (IDA) M2-6:2 FTS. The associated target analyte, 6:2 FTS, was within control limits in the CCV; therefore, the data is reported:

Method 537 (modified): The labeled analyte M2-4:2 FTS is employed in this analysis as a "Reverse Surrogate". It is used to monitor the oxidation efficiency of the TOP assay. This analyte is fortified into all sample fractions prior to any processing. The recovery of this analyte should be 0% in Post-Treatment fractions, indicating complete oxidation of the sample. The following samples are associated with this narration: BIO-A-22-20240319 (320-110655-9), BIO-A-23-20240319 (320-110655-10), BIO-B-20240320 (320-110655-12), (LCS 320-749269/2-A), (LCS 320-749270/2-A), (LCSD 320-749269/3-A), (LCSD 320-749270/3-A), (MB 320-749269/1-A) and (MB 320-749270/1-A).

Method 537 (modified): Zero to ten percent recovery (0 - 10%) of precursor analytes (such as 4:2 FTS, 6:2 FTS, 8:2 FTS, FOSA, NMeFOSAA, NEtFOSAA, etc.) and enhanced recoveries of PFCA is observed in the Post-Treatment Laboratory Control Sample (LCS) and Post-Treatment Laboratory Control Sample Duplicate (LCSD) associated with these samples, consistent with the expected oxidation of precursor analytes. The existing LCS control limits are based upon our historical performance for a set of 24-36 analytes in the LCS solution. We have recently expanded to 70+ analytes. As the LCS solution now contains new/additional precursor analytes we are seeing enhanced recoveries for some PFCA vs. the historical limits as a result. The LCS results are flagged as being high and outside of the established limits for some analytes; however, this is a function of the new analytes in the LCS solution and not indicative of an "out of control" process. The following samples are associated with this narration: BIO-A-22-20240319 (320-110655-9), BIO-A-23-20240319 (320-110655-10), BIO-B-20240320 (320-110655-12), (LCS 320-749270/2-A), (LCSD 320-749270/3-A) and (MB 320-749270/1-A).

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: BIO-A-22-20240319 (320-110655-9), BIO-A-23-20240319 (320-110655-10), (LCS 320-749269/2-A) and (MB 320-749269/1-A). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: BIO-A-22-20240319 (320-110655-9), BIO-A-23-20240319 (320-110655-10), BIO-B-20240320 (320-110655-12), (LCS 320-749269/2-A), (LCSD 320-749269/3-A) and (MB 320-749269/1-A). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. The following samples are associated with this narration: BIO-A-22-20240319 (320-110655-9) and BIO-B-20240320 (320-110655-12).

Method 537 (modified): The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-749269 and 320-749270 and analytical batch 320-751790 recovered outside control limits for the following analytes: Several analytes.

Method 537 (modified): The continuing calibration verification (CCV) associated with batch 320-752438 recovered above the upper control limit for 6:2 FTS and 4,8-Dioxa-3H-perfluorononanoic acid (ADONA). The samples associated with this CCV were non-detect for the affected analytes; therefore, the data have been reported. The associated samples are impacted: BIO-B-20240320 (320-110655-12) and (CCV 320-752438/13).

Job ID: 320-110655-1 (Continued)

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: BIO-A-22-20240319 (320-110655-9) and BIO-B-20240320 (320-110655-12).

Method 537 (modified): Zero to ten percent recovery (0 - 10%) of precursor analytes (such as 4:2 FTS, 6:2 FTS, 8:2 FTS, FOSA, NMeFOSAA, NEtFOSAA, etc.) and enhanced recoveries of PFCA is observed in the Post-Treatment Laboratory Control Sample (LCS) and Post-Treatment Laboratory Control Sample Duplicate (LCSD) associated with these samples, consistent with the expected oxidation of precursor analytes. The existing LCS control limits are based upon our historical performance for a set of 24-36 analytes in the LCS solution. We have recently expanded to 70+ analytes. As the LCS solution now contains new/additional precursor analytes we are seeing enhanced recoveries for some PFCA vs. the historical limits as a result. The LCS results are flagged as being high and outside of the established limits for some analytes; however, this is a function of the new analytes in the LCS solution and not indicative of an "out of control" process. The following samples are associated with this narration: (LCS 320-753365/2-A) and (LCSD 320-753365/3-A).

Method 537 (modified): The labeled analyte M2-4:2FTS is employed in this analysis as a "Reverse Surrogate". It is used to monitor the oxidation efficiency of the TOP assay. This analyte is fortified into all sample fractions prior to any processing. The recovery of this analyte should be 0% in Post-Treatment fractions, indicating complete oxidation of the sample. The following samples are associated with this narration: BIO-A-22-20240319 (320-110655-9), BIO-A-23-20240319 (320-110655-10), BIO-B-20240320 (320-110655-12), (LCS 320-753348/2-A), (LCS 320-753365/2-A), (LCSD 320-753348/3-A), (LCSD 320-753365/3-A), (MB 320-753348/1-A) and (MB 320-753365/1-A).

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: BIO-A-22-20240319 (320-110655-9) and BIO-A-23-20240319 (320-110655-10). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.

Method 537 (modified): The laboratory control sample (LCS) and laboratory control sample duplicate for preparation batch 320-749269 and analytical batch 320-751790 recovered outside control limits for one or more of the following analytes: Perfluoropentanoic acid (PFPeA), Perfluorohexanoic acid (PFHxA), NMeFOSA, NEtFOSA, HFPO-DA (GenX) and 4,8-Dioxa-3H-perfluorononanoic acid (ADONA). The associated samples were re-prepared outside holding time and the best set of data is reported.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery for M2-6:2 FTS is very high above the method recommended limit for the following samples: BIO-A-22-20240319 (320-110655-9) and BIO-A-23-20240319 (320-110655-10). The associated samples were re-prepared outside holding time and both sets of data are reported for this IDA and the associated target analyte, 6:2 FTS.

Method 537 (modified): The labeled analyte M2-4:2FTS is converted to PFBA during the oxidation step of the TOP assay. The PFBA result in the Post-Treatment Method Blank (MB) indicates how much of a field sample's Post-Treatment PFBA result is contributed by the Reverse Surrogate, when adjusted for dilution factors. (MB 320-749270/1-A).

Method 537 (modified): The laboratory control sample (LCS) and laboratory control sample duplicate for preparation batch 320-749270 and analytical batch 320-751790 recovered outside control limits for the following analytes: 8:2 FTS and HFPO-DA (GenX). The associated samples were re-prepared outside holding time and the best set of data is reported.

Method 537 (modified): The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-749270 and analytical batch 320-751790 recovered outside control limits for several analytes.

Method 537 (modified): The labeled analyte M2-4:2 FTS is employed in this analysis as a "Reverse Surrogate". It is used to monitor the oxidation efficiency of the TOP assay. This analyte is fortified into all sample fractions prior to any processing. The recovery of this analyte should be 0% in Post-Treatment fractions, indicating complete oxidation of the sample. The following samples are associated with this narration: Eff-20240319 (320-110655-7), (LCS 320-749750/2-A), (LCSD 320-749750/3-A) and (MB 320-749750/1-A).

Method 537 (modified): The laboratory control sample (LCS) and the laboratory control sample duplicate (LCSD) for preparation batch 320-749750 and 320-749750 and analytical batch 320-751291 recovered outside control limits for NEtFOSA and NMeFOSA. The associated samples were re-prepared and re-analyzed with concurring results. The samples were manually examined for presumptive positive response at the RT of NEtFOSA and NMeFOSA, and no response was observed that would preclude reporting sample results as non-detect for these analytes. The original analysis was reported: Eff-20240319 (320-110655-7), (LCS 320-749750/2-A) and (LCSD 320-749750/3-A).

Job ID: 320-110655-1 (Continued) Eurofins Sacramento

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: Eff-20240319 (320-110655-7).

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

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

Organic Prep
Method 3535: The following samples in preparation batch 320-749216 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction. Inf-02 20240318 (320-110655-1), Inf-07 20240318 (320-110655-2), Inf-08 20240318 (320-110655-3), Inf-11 20240318 (320-110655-4), Inf-18 20240318 (320-110655-5), Inf-Comp 20240318 (320-110655-6), Eff-20240319 (320-110655-7) and Eff-6-20240319 (320-110655-8).

Method 3535: During the solid phase extraction(SPE) process, the following samples contained non-settable particulates which clogged the solid phase extraction column: Inf-02 20240318 (320-110655-1), Inf-07 20240318 (320-110655-2), Inf-08 20240318 (320-110655-3), Inf-11 20240318 (320-110655-4), Inf-18 20240318 (320-110655-5) and Inf-Comp 20240318 (320-110655-6). The volumes of the samples that was extracted via SPE prior to the clogging of the SPE cartridge are as follows: 46.6%, 68.5%, 73.3%, 78.1%, 75.2%, and 75.4%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent.

Method 3535: The following samples in preparation batch 320-749216 were yellow in color following extraction. Inf-02 20240318 (320-110655-1), Inf-07 20240318 (320-110655-2), Inf-08 20240318 (320-110655-3), Inf-11 20240318 (320-110655-4), Inf-18 20240318 (320-110655-5), Inf-Comp 20240318 (320-110655-6), Eff-20240319 (320-110655-7) and Eff-6-20240319 (320-110655-8).

Method TOP Pre - Prep: The following samples in preparation batch 320-749750 were yellow in color following extraction: Eff-20240319 (320-110655-7).

Method TOP Post Prep: The following samples in preparation batch 320-749751 were yellow in color following extraction: Eff-20240319 (320-110655-7).

Method TOP Pre-Prep: The following samples in preparation batch 320-749269 were yellow in color following extraction: BIO-A-22-20240319 (320-110655-9) and BIO-A-23-20240319 (320-110655-10).

Method TOP Post-Prep: The following samples in preparation batch 320-749270 were yellow in color following extraction: BIO-A-22-20240319 (320-110655-9) and BIO-A-23-20240319 (320-110655-10).

Method SHAKE: The following samples were observed to have a yellow color after extraction/final volume: BIO-A-22-20240319 (320-110655-9), BIO-A-23-20240319 (320-110655-10) and BIO-B-20240320 (320-110655-12).

Method TOP Pre-Prep: The following samples in preparation batch 320-753348 were yellow in color following extraction: BIO-A-22-20240319 (320-110655-9) and BIO-A-23-20240319 (320-110655-10).

Method TOP Post-Prep: The following samples in preparation batch 320-753365 were yellow in color following extraction:BIO-A-22-20240319 (320-110655-9) and BIO-A-23-20240319 (320-110655-10).

Method TOP Pre-Prep: The following sample in preparation batch 320-753348 was light yellow in color following extraction: BIO-B-20240320 (320-110655-12).

Method TOP Post-Prep: The following sample in preparation batch 320-753365 was light yellow in color following extraction: BIO-B-20240320 (320-110655-12).

Method TOP Pre-Prep: The following samples in preparation batch 320-753348 were yellow in color following extraction: BIO-A-22-20240319 (320-110655-9) and BIO-A-23-20240319 (320-110655-10).

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Inf-02 20240318 — Lab Sample ID: 320-110655-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.5	J	4.9	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.5		2.0	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.5		2.0	0.57	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.64	J I	2.0	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		2.0	0.83	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.41	J	2.0	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.7	I	2.0	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.5	I	2.0	0.56	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.8		2.0	0.53	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	260		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Inf-07 20240318 — Lab Sample ID: 320-110655-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	16		4.7	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	8.0		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.6		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	7.6		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.67	J	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.55	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	7.1		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.85	J	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.0		1.9	0.51	ng/L	1		537 (modified)	Total/NA
NMeFOSAA	1.1	J	4.7	1.1	ng/L	1		537 (modified)	Total/NA
NEtFOSAA	1.4	J I	4.7	1.2	ng/L	1		537 (modified)	Total/NA
NMeFOSE	1.8	J	3.8	1.3	ng/L	1		537 (modified)	Total/NA
6:2 FTS	2.7	J	4.7	2.4	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	210		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Inf-08 20240318 — Lab Sample ID: 320-110655-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.6	J	4.7	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.6		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.7	I	1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.60	J	1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.36	J	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.5	J I	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.7	I	1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6		1.9	0.51	ng/L	1		537 (modified)	Total/NA
NMeFOSE	2.3	J	3.8	1.3	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	270		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Inf-11 20240318 — Lab Sample ID: 320-110655-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.9	J	4.7	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.8	J	1.9	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.6	I	1.9	0.55	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: Inf-11 20240318 (Continued) — Lab Sample ID: 320-110655-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.79	J	1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		1.9	0.81	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.49	J I	1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.47	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.5	J I	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.3	I	1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.6	I	1.9	0.51	ng/L	1		537 (modified)	Total/NA
NMeFOSE	2.3	J	3.8	1.3	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	280		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Inf-18 20240318 — Lab Sample ID: 320-110655-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	12		4.7	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	6.8		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	8.8		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.6		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	9.0		1.9	0.81	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.71	J I	1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.1		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.6	J	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	21		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.39	J	1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	9.2		1.9	0.51	ng/L	1		537 (modified)	Total/NA
NMeFOSAA	1.5	J	4.7	1.1	ng/L	1		537 (modified)	Total/NA
NEtFOSAA	1.8	J	4.7	1.2	ng/L	1		537 (modified)	Total/NA
NMeFOSE	5.4		3.8	1.3	ng/L	1		537 (modified)	Total/NA
NEtFOSE	3.0		1.9	0.81	ng/L	1		537 (modified)	Total/NA
6:2 FTS	3.9	J	4.7	2.4	ng/L	1		537 (modified)	Total/NA
8:2 FTS	0.51	J	1.9	0.44	ng/L	1		537 (modified)	Total/NA
9Cl-PF3ONS	0.38	J	1.9	0.23	ng/L	1		537 (modified)	Total/NA
11Cl-PF3OUdS	0.47	J	1.9	0.30	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	230		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Inf-Comp 20240318 — Lab Sample ID: 320-110655-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	8.6		4.7	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	5.2		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	7.6		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.7	J	1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.6		1.9	0.81	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.50	J	1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.40	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.3		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.78	J	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	10		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.8		1.9	0.51	ng/L	1		537 (modified)	Total/NA
NMeFOSE	1.3	J	3.8	1.3	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	230		50	19	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Eff-20240319 — Lab Sample ID: 320-110655-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.0		4.7	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	12		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	21		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.2		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	7.7		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.62	J I	1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.94	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.5	I	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.67	J	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.5		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.8		1.9	0.51	ng/L	1		537 (modified)	Total/NA
NMeFOSAA	1.2	J	4.7	1.1	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	6.4	J	13	6.0	ng/L	1		537 (modified)	Pre-Treatment
Perfluoropentanoic acid (PFPeA)	8.3		5.0	1.2	ng/L	1		537 (modified)	Pre-Treatment
Perfluorohexanoic acid (PFHxA)	18		5.0	1.4	ng/L	1		537 (modified)	Pre-Treatment
Perfluoroheptanoic acid (PFHpA)	2.5	J I	5.0	0.63	ng/L	1		537 (modified)	Pre-Treatment
Perfluorooctanoic acid (PFOA)	6.4		5.0	2.1	ng/L	1		537 (modified)	Pre-Treatment
Perfluorobutanesulfonic acid (PFBS)	3.8	J	5.0	0.50	ng/L	1		537 (modified)	Pre-Treatment
Perfluorohexanesulfonic acid (PFHxS)	6.8		5.0	0.43	ng/L	1		537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	5.1		5.0	0.80	ng/L	1		537 (modified)	Pre-Treatment
Perfluorooctanesulfonamide (FOSA)	3.1	J	5.0	0.88	ng/L	1		537 (modified)	Pre-Treatment
NEtFOSAA	7.8	J	13	3.3	ng/L	1		537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	25	*+	13	6.0	ng/L	1		537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	23	*+	5.0	1.2	ng/L	1		537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	23	*+	5.0	1.4	ng/L	1		537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	3.4	J *+	5.0	0.63	ng/L	1		537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	8.6		5.0	2.1	ng/L	1		537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	0.71	J *+	5.0	0.68	ng/L	1		537 (modified)	Post-Treatment
Perfluorobutanesulfonic acid (PFBS)	2.9	J	5.0	0.50	ng/L	1		537 (modified)	Post-Treatment
Perfluorohexanesulfonic acid (PFHxS)	6.6		5.0	0.43	ng/L	1		537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	5.8		5.0	0.80	ng/L	1		537 (modified)	Post-Treatment
Total Suspended Solids	4.8	J	5.0	1.9	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Eff-G-20240319 — Lab Sample ID: 320-110655-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.5		4.5	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	12		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	18		1.8	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.4		1.8	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	7.5		1.8	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.43	J	1.8	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.87	J	1.8	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.7	I	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.79	J	1.8	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.6		1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		1.8	0.49	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	4.0	J	5.0	1.9	mg/L	1		SM 2540D	Total/NA

Client Sample ID: BIO-A-22-20240319 — Lab Sample ID: 320-110655-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.6		0.84	0.19	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	21		0.84	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	40		0.84	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.5		0.84	0.16	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	24		0.84	0.22	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	2.0		0.84	0.092	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	17		0.84	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.8		0.84	0.18	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	4.4		0.84	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.47	J	0.84	0.088	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.3		0.84	0.16	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.3	I	0.84	0.12	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	16	I	0.84	0.18	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	1.8		0.84	0.22	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	1.4		0.84	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	40		0.84	0.097	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	11		0.84	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	8.4		0.84	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	2.4		0.84	0.12	ug/Kg	1	☼	537 (modified)	Total/NA
8:2 FTS	1.4		0.84	0.15	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA) - RA	0.81	J	0.84	0.16	ug/Kg	1	☼	537 (modified)	Total/NA
6:2 FTS - RA	1.7		0.84	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.7	J	4.3	0.81	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanoic acid (PFOA)	21		4.3	1.1	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorononanoic acid (PFNA)	1.3	J	4.3	0.47	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanoic acid (PFDA)	13		4.3	1.0	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroundecanoic acid (PFUnA)	2.0	J	4.3	0.90	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorododecanoic acid (PFDoA)	3.7	J	4.3	0.64	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorotetradecanoic acid (PFTeA)	0.87	J	4.3	0.79	ug/Kg	1	☼	537 (modified)	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-A-22-20240319 (Continued)

Lab Sample ID: 320-110655-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	13		4.3	0.81	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanesulfonic acid (PFHxS)	7.6	I	4.3	0.62	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	24		4.3	0.92	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanesulfonic acid (PFDS)	1.7	J	4.3	1.1	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonamide (FOSA)	1.3	J	4.3	0.70	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSAA	30		4.3	0.49	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSAA	9.0		4.3	1.0	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSE	9.2		4.3	1.0	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSE	7.6		4.3	0.60	ug/Kg	1	☼	537 (modified)	Pre-Treatment
8:2 FTS	1.6	J	4.3	0.75	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA) - RE	7.9		4.2	0.97	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoropentanoic acid (PFPeA) - RE	18		4.2	0.87	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanoic acid (PFHxA) - RE	39		4.2	0.66	ug/Kg	1	☼	537 (modified)	Pre-Treatment
6:2 FTS - RE	2.2	J	4.2	0.57	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	190	B	4.2	0.97	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	97		4.2	0.87	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	76	*+	4.2	0.66	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	35	*+	4.2	0.80	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	56		4.2	1.1	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	14	*+	4.2	0.47	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	14		4.2	1.0	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroundecanoic acid (PFUnA)	5.6		4.2	0.89	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorododecanoic acid (PFDoA)	6.6		4.2	0.63	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotridecanoic acid (PFTrDA)	1.8	J	4.2	0.44	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotetradecanoic acid (PFTeA)	2.7	J	4.2	0.78	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorobutanesulfonic acid (PFBS)	24		4.2	0.80	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanesulfonic acid (PFHxS)	3.1	J	4.2	0.61	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	18		4.2	0.91	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanesulfonic acid (PFDS)	1.1	J	4.2	1.1	ug/Kg	1	☼	537 (modified)	Post-Treatment

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-A-23-20240319 — Lab Sample ID: 320-110655-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.7		0.71	0.16	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	8.0		0.71	0.15	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	19		0.71	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.5		0.71	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	13		0.71	0.19	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.3		0.71	0.078	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	11		0.71	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.7		0.71	0.15	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	4.0		0.71	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.53	J	0.71	0.074	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.0		0.71	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.78		0.71	0.10	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	14		0.71	0.15	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	1.7		0.71	0.18	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	1.3		0.71	0.12	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSA	0.33	J	0.71	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSA	0.29	J	0.71	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	22		0.71	0.081	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	8.8		0.71	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	13		0.71	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	3.2		0.71	0.099	ug/Kg	1	☼	537 (modified)	Total/NA
8:2 FTS	1.4		0.71	0.12	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA) - RA	0.87		0.71	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
6:2 FTS - RA	1.5		0.71	0.096	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.0	J	3.7	0.70	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanoic acid (PFOA)	13		3.7	0.98	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorononanoic acid (PFNA)	1.1	J	3.7	0.41	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanoic acid (PFDA)	10		3.7	0.89	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroundecanoic acid (PFUnA)	2.0	J	3.7	0.77	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorododecanoic acid (PFDoA)	3.7		3.7	0.55	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorotetradecanoic acid (PFTeA)	0.78	J	3.7	0.68	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanesulfonic acid (PFBS)	6.5		3.7	0.70	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	16		3.7	0.80	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonamide (FOSA)	1.3	J	3.7	0.61	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSAA	25		3.7	0.42	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSAA	7.8		3.7	0.89	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSE	8.4		3.7	0.87	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSE	5.8		3.7	0.52	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA) - RE	3.8		3.7	0.86	ug/Kg	1	☼	537 (modified)	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-A-23-20240319 (Continued) — Lab Sample ID: 320-110655-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA) - RE	10		3.7	0.77	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanoic acid (PFHxA) - RE	24		3.7	0.58	ug/Kg	1	☼	537 (modified)	Pre-Treatment
6:2 FTS - RE	2.5	J	3.7	0.50	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	210	B	3.7	0.84	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	100		3.7	0.75	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	76	*+	3.7	0.57	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	41	*+	3.7	0.69	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	57		3.7	0.97	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	19	*+	3.7	0.40	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	17		3.7	0.88	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroundecanoic acid (PFUnA)	7.8		3.7	0.77	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorododecanoic acid (PFDoA)	8.8		3.7	0.55	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotridecanoic acid (PFTrDA)	2.1	J	3.7	0.38	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotetradecanoic acid (PFTeA)	3.5	J	3.7	0.68	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorobutanesulfonic acid (PFBS)	33		3.7	0.69	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanesulfonic acid (PFHxS)	2.5	J	3.7	0.53	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	19		3.7	0.79	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanesulfonic acid (PFDS)	1.4	J	3.7	0.95	ug/Kg	1	☼	537 (modified)	Post-Treatment

Client Sample ID: EB-01-20240319 — Lab Sample ID: 320-110655-11

No Detections.

Client Sample ID: BIO-B-20240320 — Lab Sample ID: 320-110655-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	1.4	J	3.6	0.96	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	3.4	J	3.6	0.87	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	1.6	J	3.6	0.54	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.8	I	3.6	0.52	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	9.3		3.6	0.42	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	4.2		3.6	0.87	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	5.1		3.6	0.85	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	1.5	J	3.6	0.51	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA	6.9		3.6	0.78	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.8	J	18	3.4	ug/Kg	1	☼	537 (modified)	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-B-20240320 (Continued)

Lab Sample ID: 320-110655-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	20	I	18	3.9	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSAA	7.8	J	18	2.1	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSE	9.0	J	18	2.5	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanoic acid (PFHxA) - RE	4.1	J I	18	2.8	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	93	B	18	4.2	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	34		18	3.8	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	26	*+	18	2.8	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	16	J *+	18	3.5	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	23		18	4.9	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	9.9	J *+	18	2.0	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	7.7	J	18	4.4	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroundecanoic acid (PFUnA)	4.9	J	18	3.8	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorododecanoic acid (PFDoA)	4.0	J	18	2.7	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotridecanoic acid (PFTrDA)	1.9	J	18	1.9	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorobutanesulfonic acid (PFBS)	6.8	J	18	3.5	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	9.3	J	18	3.9	ug/Kg	1	☼	537 (modified)	Post-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Inf-02 20240318

Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.5**	**J**	4.9	2.3	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluoropentanoic acid (PFPeA)	**2.5**		2.0	0.48	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorohexanoic acid (PFHxA)	**4.5**		2.0	0.57	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluoroheptanoic acid (PFHpA)	**0.64**	**J I**	2.0	0.24	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorooctanoic acid (PFOA)	**2.0**		2.0	0.83	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorononanoic acid (PFNA)	**0.41**	**J**	2.0	0.26	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.30	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.71	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorobutanesulfonic acid (PFBS)	**2.7**	**I**	2.0	0.20	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.29	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorohexanesulfonic acid (PFHxS)	**4.5**	**I**	2.0	0.56	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorooctanesulfonic acid (PFOS)	**3.8**		2.0	0.53	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.36	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.31	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.95	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.96	ng/L		03/22/24 05:19	03/24/24 01:35	1
NEtFOSA	ND		2.0	0.85	ng/L		03/22/24 05:19	03/24/24 01:35	1
NMeFOSA	ND		2.0	0.42	ng/L		03/22/24 05:19	03/24/24 01:35	1
NMeFOSAA	ND		4.9	1.2	ng/L		03/22/24 05:19	03/24/24 01:35	1
NEtFOSAA	ND		4.9	1.3	ng/L		03/22/24 05:19	03/24/24 01:35	1
NMeFOSE	ND		3.9	1.4	ng/L		03/22/24 05:19	03/24/24 01:35	1
NEtFOSE	ND		2.0	0.83	ng/L		03/22/24 05:19	03/24/24 01:35	1
4:2 FTS	ND		2.0	0.23	ng/L		03/22/24 05:19	03/24/24 01:35	1
6:2 FTS	ND		4.9	2.4	ng/L		03/22/24 05:19	03/24/24 01:35	1
8:2 FTS	ND		2.0	0.45	ng/L		03/22/24 05:19	03/24/24 01:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.39	ng/L		03/22/24 05:19	03/24/24 01:35	1
HFPO-DA (GenX)	ND		3.9	1.5	ng/L		03/22/24 05:19	03/24/24 01:35	1
9Cl-PF3ONS	ND		2.0	0.23	ng/L		03/22/24 05:19	03/24/24 01:35	1
11Cl-PF3OUdS	ND		2.0	0.31	ng/L		03/22/24 05:19	03/24/24 01:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*51*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C5 PFPeA	*59*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C2 PFHxA	*63*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C4 PFHpA	*58*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C4 PFOA	*61*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C5 PFNA	*56*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C2 PFDA	*46*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C2 PFUnA	*45*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C2 PFDoA	*32*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C2 PFTeDA	*21*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*

Client Sample ID: Inf-02 20240318

Lab Sample ID: 320-110655-1

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
18O2 PFHxS	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C4 PFOS	*49*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C8 FOSA	*40*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d3-NMeFOSAA	*30*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d5-NEtFOSAA	*43*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d-N-MeFOSA-M	*26*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d-N-EtFOSA-M	*27*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d7-N-MeFOSE-M	*23*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d9-N-EtFOSE-M	*24*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
M2-4:2 FTS	*60*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
M2-6:2 FTS	*96*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
M2-8:2 FTS	*58*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C3 HFPO-DA	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		50	19	mg/L			03/25/24 16:37	1

Client Sample ID: Inf-07 20240318

Lab Sample ID: 320-110655-2

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**16**		4.7	2.3	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluoropentanoic acid (PFPeA)	**8.0**		1.9	0.46	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorohexanoic acid (PFHxA)	**14**		1.9	0.55	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluoroheptanoic acid (PFHpA)	**2.6**		1.9	0.24	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorooctanoic acid (PFOA)	**7.6**		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorononanoic acid (PFNA)	**0.67**	**J**	1.9	0.25	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorodecanoic acid (PFDA)	**0.55**	**J**	1.9	0.29	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorobutanesulfonic acid (PFBS)	**7.1**		1.9	0.19	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluoropentanesulfonic acid (PFPeS)	**0.85**	**J**	1.9	0.28	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorohexanesulfonic acid (PFHxS)	**15**		1.9	0.54	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorooctanesulfonic acid (PFOS)	**7.0**		1.9	0.51	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.91	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 01:45	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Inf-07 20240318

Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.82	ng/L		03/22/24 05:19	03/24/24 01:45	1
NMeFOSA	ND		1.9	0.41	ng/L		03/22/24 05:19	03/24/24 01:45	1
NMeFOSAA	**1.1**	**J**	4.7	1.1	ng/L		03/22/24 05:19	03/24/24 01:45	1
NEtFOSAA	**1.4**	**J I**	4.7	1.2	ng/L		03/22/24 05:19	03/24/24 01:45	1
NMeFOSE	**1.8**	**J**	3.8	1.3	ng/L		03/22/24 05:19	03/24/24 01:45	1
NEtFOSE	ND		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 01:45	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 01:45	1
6:2 FTS	**2.7**	**J**	4.7	2.4	ng/L		03/22/24 05:19	03/24/24 01:45	1
8:2 FTS	ND		1.9	0.43	ng/L		03/22/24 05:19	03/24/24 01:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 01:45	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 01:45	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 01:45	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 01:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*74*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C5 PFPeA	*89*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C2 PFHxA	*89*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C4 PFHpA	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C4 PFOA	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C5 PFNA	*75*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C2 PFDA	*61*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C2 PFUnA	*56*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C2 PFDoA	*39*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C2 PFTeDA	*24*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C3 PFBS	*79*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
18O2 PFHxS	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C4 PFOS	*67*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C8 FOSA	*48*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d3-NMeFOSAA	*29*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d5-NEtFOSAA	*49*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d-N-MeFOSA-M	*39*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d-N-EtFOSA-M	*27*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d7-N-MeFOSE-M	*35*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d9-N-EtFOSE-M	*25*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
M2-4:2 FTS	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
M2-6:2 FTS	*124*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
M2-8:2 FTS	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C3 HFPO-DA	*78*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**210**		50	19	mg/L			03/25/24 16:38	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Inf-08 20240318

Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.6**	**J**	4.7	2.3	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluoropentanoic acid (PFPeA)	**2.6**		1.9	0.46	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorohexanoic acid (PFHxA)	**4.7**	**I**	1.9	0.55	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluoroheptanoic acid (PFHpA)	**0.60**	**J**	1.9	0.24	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorooctanoic acid (PFOA)	**2.0**		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorononanoic acid (PFNA)	**0.36**	**J**	1.9	0.25	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	**J I**	1.9	0.19	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.28	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorohexanesulfonic acid (PFHxS)	**3.7**	**I**	1.9	0.54	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorooctanesulfonic acid (PFOS)	**2.6**		1.9	0.51	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.91	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 01:55	1
NEtFOSA	ND		1.9	0.82	ng/L		03/22/24 05:19	03/24/24 01:55	1
NMeFOSA	ND		1.9	0.40	ng/L		03/22/24 05:19	03/24/24 01:55	1
NMeFOSAA	ND		4.7	1.1	ng/L		03/22/24 05:19	03/24/24 01:55	1
NEtFOSAA	ND		4.7	1.2	ng/L		03/22/24 05:19	03/24/24 01:55	1
NMeFOSE	**2.3**	**J**	3.8	1.3	ng/L		03/22/24 05:19	03/24/24 01:55	1
NEtFOSE	ND		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 01:55	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 01:55	1
6:2 FTS	ND		4.7	2.4	ng/L		03/22/24 05:19	03/24/24 01:55	1
8:2 FTS	ND		1.9	0.43	ng/L		03/22/24 05:19	03/24/24 01:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 01:55	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 01:55	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 01:55	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 01:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C5 PFPeA	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C2 PFHxA	*83*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C4 PFHpA	*75*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C4 PFOA	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C5 PFNA	*71*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C2 PFDA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C2 PFUnA	*49*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C2 PFDoA	*32*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C2 PFTeDA	*18*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*

Client Sample ID: Inf-08 20240318

Lab Sample ID: 320-110655-3

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*71*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
18O2 PFHxS	*71*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C4 PFOS	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C8 FOSA	*53*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d3-NMeFOSAA	*28*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d5-NEtFOSAA	*44*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d-N-MeFOSA-M	*31*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d-N-EtFOSA-M	*28*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d7-N-MeFOSE-M	*26*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d9-N-EtFOSE-M	*24*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
M2-4:2 FTS	*96*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
M2-6:2 FTS	*126*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
M2-8:2 FTS	*83*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C3 HFPO-DA	*69*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**270**		50	19	mg/L			03/25/24 16:40	1

Client Sample ID: Inf-11 20240318

Lab Sample ID: 320-110655-4

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.9**	**J**	4.7	2.3	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluoropentanoic acid (PFPeA)	**1.8**	**J**	1.9	0.47	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorohexanoic acid (PFHxA)	**4.6**	**I**	1.9	0.55	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluoroheptanoic acid (PFHpA)	**0.79**	**J**	1.9	0.24	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorooctanoic acid (PFOA)	**2.0**		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorononanoic acid (PFNA)	**0.49**	**J I**	1.9	0.26	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorodecanoic acid (PFDA)	**0.47**	**J**	1.9	0.29	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	**J I**	1.9	0.19	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.28	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorohexanesulfonic acid (PFHxS)	**3.3**	**I**	1.9	0.54	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorooctanesulfonic acid (PFOS)	**2.6**	**I**	1.9	0.51	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		03/22/24 05:19	03/24/24 02:05	1

Client Sample ID: Inf-11 20240318

Lab Sample ID: 320-110655-4

Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.83	ng/L		03/22/24 05:19	03/24/24 02:05	1
NMeFOSA	ND		1.9	0.41	ng/L		03/22/24 05:19	03/24/24 02:05	1
NMeFOSAA	ND		4.7	1.1	ng/L		03/22/24 05:19	03/24/24 02:05	1
NEtFOSAA	ND		4.7	1.2	ng/L		03/22/24 05:19	03/24/24 02:05	1
NMeFOSE	**2.3**	**J**	3.8	1.3	ng/L		03/22/24 05:19	03/24/24 02:05	1
NEtFOSE	ND		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:05	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:05	1
6:2 FTS	ND		4.7	2.4	ng/L		03/22/24 05:19	03/24/24 02:05	1
8:2 FTS	ND		1.9	0.44	ng/L		03/22/24 05:19	03/24/24 02:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 02:05	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 02:05	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:05	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C5 PFPeA	*89*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C2 PFHxA	*105*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C4 PFHpA	*94*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C4 PFOA	*91*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C5 PFNA	*84*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C2 PFDA	*61*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C2 PFUnA	*52*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C2 PFDoA	*35*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C2 PFTeDA	*22*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C3 PFBS	*91*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
18O2 PFHxS	*92*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C4 PFOS	*79*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C8 FOSA	*46*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d3-NMeFOSAA	*24*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d5-NEtFOSAA	*43*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d-N-MeFOSA-M	*34*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d-N-EtFOSA-M	*22*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d7-N-MeFOSE-M	*32*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d9-N-EtFOSE-M	*20*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
M2-4:2 FTS	*131*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
M2-6:2 FTS	*137*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
M2-8:2 FTS	*79*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C3 HFPO-DA	*87*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**280**		50	19	mg/L			03/25/24 16:41	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Inf-18 20240318

Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-5

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**12**		4.7	2.3	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluoropentanoic acid (PFPeA)	**6.8**		1.9	0.46	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorohexanoic acid (PFHxA)	**8.8**		1.9	0.55	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluoroheptanoic acid (PFHpA)	**2.6**		1.9	0.24	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorooctanoic acid (PFOA)	**9.0**		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorononanoic acid (PFNA)	**0.71**	**J I**	1.9	0.26	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorobutanesulfonic acid (PFBS)	**5.1**		1.9	0.19	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluoropentanesulfonic acid (PFPeS)	**1.6**	**J**	1.9	0.28	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorohexanesulfonic acid (PFHxS)	**21**		1.9	0.54	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.39**	**J**	1.9	0.18	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorooctanesulfonic acid (PFOS)	**9.2**		1.9	0.51	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		03/22/24 05:19	03/24/24 02:15	1
NEtFOSA	ND		1.9	0.83	ng/L		03/22/24 05:19	03/24/24 02:15	1
NMeFOSA	ND		1.9	0.41	ng/L		03/22/24 05:19	03/24/24 02:15	1
NMeFOSAA	**1.5**	**J**	4.7	1.1	ng/L		03/22/24 05:19	03/24/24 02:15	1
NEtFOSAA	**1.8**	**J**	4.7	1.2	ng/L		03/22/24 05:19	03/24/24 02:15	1
NMeFOSE	**5.4**		3.8	1.3	ng/L		03/22/24 05:19	03/24/24 02:15	1
NEtFOSE	**3.0**		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:15	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:15	1
6:2 FTS	**3.9**	**J**	4.7	2.4	ng/L		03/22/24 05:19	03/24/24 02:15	1
8:2 FTS	**0.51**	**J**	1.9	0.44	ng/L		03/22/24 05:19	03/24/24 02:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 02:15	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 02:15	1
9Cl-PF3ONS	**0.38**	**J**	1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:15	1
11Cl-PF3OUdS	**0.47**	**J**	1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C5 PFPeA	*109*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C2 PFHxA	*110*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C4 PFHpA	*100*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C4 PFOA	*99*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C5 PFNA	*87*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C2 PFDA	*79*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C2 PFUnA	*71*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C2 PFDoA	*46*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C2 PFTeDA	*26*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*

Client Sample ID: Inf-18 20240318

Lab Sample ID: 320-110655-5

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*100*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
18O2 PFHxS	*95*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C4 PFOS	*86*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C8 FOSA	*63*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d3-NMeFOSAA	*32*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d5-NEtFOSAA	*63*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d-N-MeFOSA-M	*45*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d-N-EtFOSA-M	*31*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d7-N-MeFOSE-M	*41*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d9-N-EtFOSE-M	*30*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
M2-4:2 FTS	*83*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
M2-6:2 FTS	*146*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
M2-8:2 FTS	*107*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C3 HFPO-DA	*94*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**230**		50	19	mg/L			03/25/24 16:42	1

Client Sample ID: Inf-Comp 20240318

Lab Sample ID: 320-110655-6

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.6**		4.7	2.3	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluoropentanoic acid (PFPeA)	**5.2**		1.9	0.46	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorohexanoic acid (PFHxA)	**7.6**		1.9	0.55	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluoroheptanoic acid (PFHpA)	**1.7**	**J**	1.9	0.24	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorooctanoic acid (PFOA)	**5.6**		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorononanoic acid (PFNA)	**0.50**	**J**	1.9	0.26	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorodecanoic acid (PFDA)	**0.40**	**J**	1.9	0.29	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorobutanesulfonic acid (PFBS)	**4.3**		1.9	0.19	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluoropentanesulfonic acid (PFPeS)	**0.78**	**J**	1.9	0.28	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorohexanesulfonic acid (PFHxS)	**10**		1.9	0.54	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorooctanesulfonic acid (PFOS)	**7.8**		1.9	0.51	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		03/22/24 05:19	03/24/24 02:26	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Inf-Comp 20240318

Lab Sample ID: 320-110655-6

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.83	ng/L		03/22/24 05:19	03/24/24 02:26	1
NMeFOSA	ND		1.9	0.41	ng/L		03/22/24 05:19	03/24/24 02:26	1
NMeFOSAA	ND		4.7	1.1	ng/L		03/22/24 05:19	03/24/24 02:26	1
NEtFOSAA	ND		4.7	1.2	ng/L		03/22/24 05:19	03/24/24 02:26	1
NMeFOSE	**1.3**	**J**	3.8	1.3	ng/L		03/22/24 05:19	03/24/24 02:26	1
NEtFOSE	ND		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:26	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:26	1
6:2 FTS	ND		4.7	2.4	ng/L		03/22/24 05:19	03/24/24 02:26	1
8:2 FTS	ND		1.9	0.44	ng/L		03/22/24 05:19	03/24/24 02:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 02:26	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 02:26	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:26	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C5 PFPeA	*96*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C2 PFHxA	*95*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C4 PFHpA	*88*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C4 PFOA	*87*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C5 PFNA	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C2 PFDA	*64*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C2 PFUnA	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C2 PFDoA	*37*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C2 PFTeDA	*23*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C3 PFBS	*85*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
18O2 PFHxS	*85*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C4 PFOS	*73*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C8 FOSA	*52*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d3-NMeFOSAA	*31*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d5-NEtFOSAA	*50*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d-N-MeFOSA-M	*37*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d-N-EtFOSA-M	*26*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d7-N-MeFOSE-M	*32*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d9-N-EtFOSE-M	*24*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
M2-4:2 FTS	*80*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
M2-6:2 FTS	*136*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
M2-8:2 FTS	*85*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C3 HFPO-DA	*84*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**230**		50	19	mg/L			03/25/24 16:43	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Eff-20240319

Date Collected: 03/19/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.0**		4.7	2.3	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluoropentanoic acid (PFPeA)	**12**		1.9	0.46	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorohexanoic acid (PFHxA)	**21**		1.9	0.55	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluoroheptanoic acid (PFHpA)	**2.2**		1.9	0.24	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorooctanoic acid (PFOA)	**7.7**		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorononanoic acid (PFNA)	**0.62**	**J I**	1.9	0.26	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorodecanoic acid (PFDA)	**0.94**	**J**	1.9	0.29	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorobutanesulfonic acid (PFBS)	**5.5**	**I**	1.9	0.19	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluoropentanesulfonic acid (PFPeS)	**0.67**	**J**	1.9	0.28	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorohexanesulfonic acid (PFHxS)	**8.5**		1.9	0.54	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorooctanesulfonic acid (PFOS)	**3.8**		1.9	0.51	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		03/22/24 05:19	03/24/24 02:36	1
NEtFOSA	ND		1.9	0.82	ng/L		03/22/24 05:19	03/24/24 02:36	1
NMeFOSA	ND		1.9	0.41	ng/L		03/22/24 05:19	03/24/24 02:36	1
NMeFOSAA	**1.2**	**J**	4.7	1.1	ng/L		03/22/24 05:19	03/24/24 02:36	1
NEtFOSAA	ND		4.7	1.2	ng/L		03/22/24 05:19	03/24/24 02:36	1
NMeFOSE	ND		3.8	1.3	ng/L		03/22/24 05:19	03/24/24 02:36	1
NEtFOSE	ND		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 02:36	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:36	1
6:2 FTS	ND		4.7	2.4	ng/L		03/22/24 05:19	03/24/24 02:36	1
8:2 FTS	ND		1.9	0.44	ng/L		03/22/24 05:19	03/24/24 02:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 02:36	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 02:36	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:36	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*75*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C5 PFPeA	*78*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C2 PFHxA	*85*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C4 PFHpA	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C4 PFOA	*89*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C5 PFNA	*86*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C2 PFDA	*84*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C2 PFUnA	*77*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C2 PFDoA	*72*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C2 PFTeDA	*47*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*

Client Sample ID: Eff-20240319

Date Collected: 03/19/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
18O2 PFHxS	*74*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C4 PFOS	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C8 FOSA	*81*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d3-NMeFOSAA	*80*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d-N-MeFOSA-M	*63*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d-N-EtFOSA-M	*67*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d7-N-MeFOSE-M	*63*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d9-N-EtFOSE-M	*56*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
M2-4:2 FTS	*98*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
M2-6:2 FTS	*104*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
M2-8:2 FTS	*104*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C3 HFPO-DA	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.4**	**J**	13	6.0	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluoropentanoic acid (PFPeA)	**8.3**		5.0	1.2	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorohexanoic acid (PFHxA)	**18**		5.0	1.4	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluoroheptanoic acid (PFHpA)	**2.5**	**J I**	5.0	0.63	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorooctanoic acid (PFOA)	**6.4**		5.0	2.1	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorononanoic acid (PFNA)	ND		5.0	0.68	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorodecanoic acid (PFDA)	ND		5.0	0.78	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	3.2	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	0.73	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorobutanesulfonic acid (PFBS)	**3.8**	**J**	5.0	0.50	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorohexanesulfonic acid (PFHxS)	**6.8**		5.0	0.43	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorooctanesulfonic acid (PFOS)	**5.1**		5.0	0.80	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorooctanesulfonamide (FOSA)	**3.1**	**J**	5.0	0.88	ng/L		03/25/24 04:19	03/30/24 15:14	1
NMeFOSAA	ND		13	3.0	ng/L		03/25/24 04:19	03/30/24 15:14	1
NEtFOSAA	**7.8**	**J**	13	3.3	ng/L		03/25/24 04:19	03/30/24 15:14	1
4:2 FTS	ND	*+	5.0	0.60	ng/L		03/25/24 04:19	03/30/24 15:14	1
6:2 FTS	ND		13	6.3	ng/L		03/25/24 04:19	03/30/24 15:14	1
8:2 FTS	ND		5.0	1.2	ng/L		03/25/24 04:19	03/30/24 15:14	1
NEtFOSA	ND	*-	5.0	2.2	ng/L		03/25/24 04:19	03/30/24 15:14	1
NMeFOSA	ND	*-	5.0	1.1	ng/L		03/25/24 04:19	03/30/24 15:14	1

Client Sample ID: Eff-20240319

Lab Sample ID: 320-110655-7

Date Collected: 03/19/24 23:59

Matrix: Water

Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSE	ND		10	3.5	ng/L		03/25/24 04:19	03/30/24 15:14	1
NEtFOSE	ND		5.0	2.2	ng/L		03/25/24 04:19	03/30/24 15:14	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		03/25/24 04:19	03/30/24 15:14	1
9Cl-PF3ONS	ND		5.0	0.60	ng/L		03/25/24 04:19	03/30/24 15:14	1
11Cl-PF3OUdS	ND		5.0	0.80	ng/L		03/25/24 04:19	03/30/24 15:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		03/25/24 04:19	03/30/24 15:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*83*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C4 PFBA	*67*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C5 PFPeA	*88*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C2 PFHxA	*94*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C4 PFHpA	*92*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C4 PFOA	*92*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C5 PFNA	*92*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C2 PFDA	*94*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C2 PFUnA	*82*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C2 PFDoA	*79*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C2 PFTeDA	*63*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C3 PFBS	*88*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
18O2 PFHxS	*84*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C4 PFOS	*80*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d3-NMeFOSAA	*92*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d5-NEtFOSAA	*99*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
M2-4:2 FTS	*150*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
M2-6:2 FTS	*151*	**5+*	*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
M2-8:2 FTS	*135*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d-N-MeFOSA-M	*55*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d-N-EtFOSA-M	*52*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d7-N-MeFOSE-M	*51*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d9-N-EtFOSE-M	*48*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C3 HFPO-DA	*80*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**25**	***+**	13	6.0	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluoropentanoic acid (PFPeA)	**23**	***+**	5.0	1.2	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorohexanoic acid (PFHxA)	**23**	***+**	5.0	1.4	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluoroheptanoic acid (PFHpA)	**3.4**	**J *+**	5.0	0.63	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorooctanoic acid (PFOA)	**8.6**		5.0	2.1	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorononanoic acid (PFNA)	**0.71**	**J *+**	5.0	0.68	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorodecanoic acid (PFDA)	ND	*+	5.0	0.78	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	3.2	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	0.73	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**	**J**	5.0	0.50	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		03/25/24 04:25	03/30/24 18:13	1

Client Sample ID: Eff-20240319

Lab Sample ID: 320-110655-7

Date Collected: 03/19/24 23:59

Matrix: Water

Date Received: 03/21/24 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**6.6**		5.0	0.43	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorooctanesulfonic acid (PFOS)	**5.8**		5.0	0.80	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	0.88	ng/L		03/25/24 04:25	03/30/24 18:13	1
NMeFOSAA	ND	*1	13	3.0	ng/L		03/25/24 04:25	03/30/24 18:13	1
NEtFOSAA	ND	*1	13	3.3	ng/L		03/25/24 04:25	03/30/24 18:13	1
4:2 FTS	ND		5.0	0.60	ng/L		03/25/24 04:25	03/30/24 18:13	1
6:2 FTS	ND		13	6.3	ng/L		03/25/24 04:25	03/30/24 18:13	1
8:2 FTS	ND		5.0	1.2	ng/L		03/25/24 04:25	03/30/24 18:13	1
NEtFOSA	ND		5.0	2.2	ng/L		03/25/24 04:25	03/30/24 18:13	1
NMeFOSA	ND		5.0	1.1	ng/L		03/25/24 04:25	03/30/24 18:13	1
NMeFOSE	ND	*1	10	3.5	ng/L		03/25/24 04:25	03/30/24 18:13	1
NEtFOSE	ND	*1	5.0	2.2	ng/L		03/25/24 04:25	03/30/24 18:13	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		03/25/24 04:25	03/30/24 18:13	1
9Cl-PF3ONS	ND		5.0	0.60	ng/L		03/25/24 04:25	03/30/24 18:13	1
11Cl-PF3OUdS	ND		5.0	0.80	ng/L		03/25/24 04:25	03/30/24 18:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		03/25/24 04:25	03/30/24 18:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*82*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C4 PFBA	*87*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C5 PFPeA	*87*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C2 PFHxA	*89*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C4 PFHpA	*93*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C4 PFOA	*97*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C5 PFNA	*100*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C2 PFDA	*107*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C2 PFUnA	*80*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C2 PFDoA	*81*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C2 PFTeDA	*85*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C3 PFBS	*86*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
18O2 PFHxS	*86*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C4 PFOS	*84*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d3-NMeFOSAA	*93*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d5-NEtFOSAA	*92*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
M2-6:2 FTS	*118*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
M2-8:2 FTS	*120*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d-N-MeFOSA-M	*25*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d-N-EtFOSA-M	*23*	*5-	*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d7-N-MeFOSE-M	*30*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d9-N-EtFOSE-M	*24*	*5-	*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C3 HFPO-DA	*92*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*

Client Sample ID: Eff-20240319

Lab Sample ID: 320-110655-7

Date Collected: 03/19/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	4.8	J	5.0	1.9	mg/L			03/26/24 14:28	1

Client Sample ID: Eff-G-20240319

Lab Sample ID: 320-110655-8

Date Collected: 03/19/24 10:25
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	9.5		4.5	2.2	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluoropentanoic acid (PFPeA)	12		1.8	0.44	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorohexanoic acid (PFHxA)	18		1.8	0.53	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluoroheptanoic acid (PFHpA)	2.4		1.8	0.23	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorooctanoic acid (PFOA)	7.5		1.8	0.77	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorononanoic acid (PFNA)	0.43	J	1.8	0.25	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorodecanoic acid (PFDA)	0.87	J	1.8	0.28	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorobutanesulfonic acid (PFBS)	5.7	I	1.8	0.18	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluoropentanesulfonic acid (PFPeS)	0.79	J	1.8	0.27	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorohexanesulfonic acid (PFHxS)	8.6		1.8	0.52	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorooctanesulfonic acid (PFOS)	3.2		1.8	0.49	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.88	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.89	ng/L		03/22/24 05:19	03/24/24 03:06	1
NEtFOSA	ND		1.8	0.79	ng/L		03/22/24 05:19	03/24/24 03:06	1
NMeFOSA	ND		1.8	0.39	ng/L		03/22/24 05:19	03/24/24 03:06	1
NMeFOSAA	ND		4.5	1.1	ng/L		03/22/24 05:19	03/24/24 03:06	1
NEtFOSAA	ND		4.5	1.2	ng/L		03/22/24 05:19	03/24/24 03:06	1
NMeFOSE	ND		3.6	1.3	ng/L		03/22/24 05:19	03/24/24 03:06	1
NEtFOSE	ND		1.8	0.77	ng/L		03/22/24 05:19	03/24/24 03:06	1
4:2 FTS	ND		1.8	0.22	ng/L		03/22/24 05:19	03/24/24 03:06	1
6:2 FTS	ND		4.5	2.3	ng/L		03/22/24 05:19	03/24/24 03:06	1
8:2 FTS	ND		1.8	0.42	ng/L		03/22/24 05:19	03/24/24 03:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		03/22/24 05:19	03/24/24 03:06	1
HFPO-DA (GenX)	ND		3.6	1.4	ng/L		03/22/24 05:19	03/24/24 03:06	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		03/22/24 05:19	03/24/24 03:06	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		03/22/24 05:19	03/24/24 03:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*50*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C5 PFPeA	*50*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*

Client Sample ID: Eff-G-20240319

Lab Sample ID: 320-110655-8

Date Collected: 03/19/24 10:25
Date Received: 03/21/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*58*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C4 PFHpA	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C4 PFOA	*65*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C5 PFNA	*63*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C2 PFDA	*63*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C2 PFUnA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C2 PFDoA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C2 PFTeDA	*39*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C3 PFBS	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
18O2 PFHxS	*60*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C4 PFOS	*64*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C8 FOSA	*63*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d3-NMeFOSAA	*68*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d5-NEtFOSAA	*72*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d-N-MeFOSA-M	*56*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d-N-EtFOSA-M	*55*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d7-N-MeFOSE-M	*50*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d9-N-EtFOSE-M	*34*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
M2-4:2 FTS	*65*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
M2-6:2 FTS	*75*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
M2-8:2 FTS	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C3 HFPO-DA	*51*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**4.0**	**J**	5.0	1.9	mg/L			03/26/24 14:30	1

Client Sample ID: BIO-A-22-20240319

Lab Sample ID: 320-110655-9

Date Collected: 03/19/24 14:30
Date Received: 03/21/24 09:30

Matrix: Solid
Percent Solids: 23.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.6**		0.84	0.19	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluoropentanoic acid (PFPeA)	**21**		0.84	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorohexanoic acid (PFHxA)	**40**		0.84	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluoroheptanoic acid (PFHpA)	**3.5**		0.84	0.16	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorooctanoic acid (PFOA)	**24**		0.84	0.22	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorononanoic acid (PFNA)	**2.0**		0.84	0.092	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorodecanoic acid (PFDA)	**17**		0.84	0.20	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluoroundecanoic acid (PFUnA)	**1.8**		0.84	0.18	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorododecanoic acid (PFDoA)	**4.4**		0.84	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorotridecanoic acid (PFTrDA)	**0.47**	**J**	0.84	0.088	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorobutanesulfonic acid (PFBS)	**2.3**		0.84	0.16	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.84	0.16	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1

Client Sample ID: BIO-A-22-20240319

Date Collected: 03/19/24 14:30
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-9

Matrix: Solid
Percent Solids: 23.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**1.3**	**I**	0.84	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.84	0.21	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorooctanesulfonic acid (PFOS)	**16**	**I**	0.84	0.18	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorononanesulfonic acid (PFNS)	ND		0.84	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorodecanesulfonic acid (PFDS)	**1.8**		0.84	0.22	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.84	0.20	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorooctanesulfonamide (FOSA)	**1.4**		0.84	0.14	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NEtFOSA	ND		0.84	0.20	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NMeFOSA	ND		0.84	0.21	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NMeFOSAA	**40**		0.84	0.097	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NEtFOSAA	**11**		0.84	0.20	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NMeFOSE	**8.4**		0.84	0.20	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NEtFOSE	**2.4**		0.84	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
4:2 FTS	ND		0.84	0.21	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
8:2 FTS	**1.4**		0.84	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.84	0.16	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
HFPO-DA (GenX)	ND		0.84	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
9Cl-PF3ONS	ND		0.84	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
11Cl-PF3OUdS	ND		0.84	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*61*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C5 PFPeA	*66*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C2 PFHxA	*69*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C4 PFHpA	*58*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C4 PFOA	*66*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C5 PFNA	*51*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C2 PFDA	*50*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C2 PFUnA	*43*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C2 PFDoA	*34*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C3 PFBS	*60*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
18O2 PFHxS	*50*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C4 PFOS	*49*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C8 FOSA	*47*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d3-NMeFOSAA	*37*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d5-NEtFOSAA	*40*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d-N-MeFOSA-M	*27*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d-N-EtFOSA-M	*22*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d7-N-MeFOSE-M	*29*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d9-N-EtFOSE-M	*27*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
M2-4:2 FTS	*73*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
M2-8:2 FTS	*47*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C3 HFPO-DA	*46*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-A-22-20240319

Date Collected: 03/19/24 14:30
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-9

Matrix: Solid
Percent Solids: 23.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeA)	**0.81**	**J**	0.84	0.16	ug/Kg	☼	04/03/24 04:21	04/08/24 09:03	1
6:2 FTS	**1.7**		0.84	0.11	ug/Kg	☼	04/03/24 04:21	04/08/24 09:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*25*		*25 - 150*	*04/03/24 04:21*	*04/08/24 09:03*	*1*
M2-6:2 FTS	*66*		*25 - 150*	*04/03/24 04:21*	*04/08/24 09:03*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**2.7**	**J**	4.3	0.81	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorooctanoic acid (PFOA)	**21**		4.3	1.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorononanoic acid (PFNA)	**1.3**	**J**	4.3	0.47	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorodecanoic acid (PFDA)	**13**		4.3	1.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluoroundecanoic acid (PFUnA)	**2.0**	**J**	4.3	0.90	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorododecanoic acid (PFDoA)	**3.7**	**J**	4.3	0.64	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.3	0.45	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorotetradecanoic acid (PFTeA)	**0.87**	**J**	4.3	0.79	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorobutanesulfonic acid (PFBS)	**13**		4.3	0.81	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.3	0.79	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorohexanesulfonic acid (PFHxS)	**7.6**	**I**	4.3	0.62	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.3	1.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorooctanesulfonic acid (PFOS)	**24**		4.3	0.92	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorononanesulfonic acid (PFNS)	ND		4.3	0.62	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorodecanesulfonic acid (PFDS)	**1.7**	**J**	4.3	1.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.3	1.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorooctanesulfonamide (FOSA)	**1.3**	**J**	4.3	0.70	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NMeFOSA	ND	*-	4.3	1.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NEtFOSA	ND	*-	4.3	1.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NMeFOSAA	**30**		4.3	0.49	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NEtFOSAA	**9.0**		4.3	1.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NMeFOSE	**9.2**		4.3	1.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NEtFOSE	**7.6**		4.3	0.60	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
4:2 FTS	ND		4.3	1.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
8:2 FTS	**1.6**	**J**	4.3	0.75	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
9Cl-PF3ONS	ND		4.3	0.75	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
11Cl-PF3OUdS	ND		4.3	0.66	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*103*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:34*	*1*
13C4 PFOA	*99*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:34*	*1*
13C5 PFNA	*103*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:34*	*1*
13C2 PFDA	*99*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:34*	*1*

Client Sample ID: BIO-A-22-20240319

Lab Sample ID: 320-110655-9

Date Collected: 03/19/24 14:30
Date Received: 03/21/24 09:30

Matrix: Solid
Percent Solids: 23.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	80		25 - 150	03/22/24 09:47	04/02/24 13:34	1
13C2 PFDoA	78		25 - 150	03/22/24 09:47	04/02/24 13:34	1
13C2 PFTeDA	39		25 - 150	03/22/24 09:47	04/02/24 13:34	1
13C3 PFBS	103		25 - 150	03/22/24 09:47	04/02/24 13:34	1
18O2 PFHxS	113		25 - 150	03/22/24 09:47	04/02/24 13:34	1
13C4 PFOS	105		25 - 150	03/22/24 09:47	04/02/24 13:34	1
13C8 FOSA	69		25 - 150	03/22/24 09:47	04/02/24 13:34	1
M2-4:2 FTS	252	*5+	25 - 150	03/22/24 09:47	04/02/24 13:34	1
M2-8:2 FTS	135		25 - 150	03/22/24 09:47	04/02/24 13:34	1
d3-NMeFOSAA	96		25 - 150	03/22/24 09:47	04/02/24 13:34	1
d5-NEtFOSAA	83		25 - 150	03/22/24 09:47	04/02/24 13:34	1
d-N-MeFOSA-M	22	*5-	25 - 150	03/22/24 09:47	04/02/24 13:34	1
d-N-EtFOSA-M	23	*5-	25 - 150	03/22/24 09:47	04/02/24 13:34	1
d7-N-MeFOSE-M	26		25 - 150	03/22/24 09:47	04/02/24 13:34	1
d9-N-EtFOSE-M	26		25 - 150	03/22/24 09:47	04/02/24 13:34	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.9**		4.2	0.97	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1
Perfluoropentanoic acid (PFPeA)	**18**		4.2	0.87	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1
Perfluorohexanoic acid (PFHxA)	**39**		4.2	0.66	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1
6:2 FTS	**2.2**	**J**	4.2	0.57	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1
HFPO-DA (GenX)	ND		4.2	0.87	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.2	0.82	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	83		25 - 150	04/09/24 06:11	04/11/24 17:37	1
13C5 PFPeA	93		25 - 150	04/09/24 06:11	04/11/24 17:37	1
13C2 PFHxA	112		25 - 150	04/09/24 06:11	04/11/24 17:37	1
13C4 PFOS	89		25 - 150	04/09/24 06:11	04/11/24 17:37	1
M2-6:2 FTS	168	*5+	25 - 150	04/09/24 06:11	04/11/24 17:37	1
13C3 HFPO-DA	100		25 - 150	04/09/24 06:11	04/11/24 17:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**190**	**B**	4.2	0.97	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluoropentanoic acid (PFPeA)	**97**		4.2	0.87	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorohexanoic acid (PFHxA)	**76**	***+**	4.2	0.66	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluoroheptanoic acid (PFHpA)	**35**	***+**	4.2	0.80	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorooctanoic acid (PFOA)	**56**		4.2	1.1	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorononanoic acid (PFNA)	**14**	***+**	4.2	0.47	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorodecanoic acid (PFDA)	**14**		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluoroundecanoic acid (PFUnA)	**5.6**		4.2	0.89	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorododecanoic acid (PFDoA)	**6.6**		4.2	0.63	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorotridecanoic acid (PFTrDA)	**1.8**	**J**	4.2	0.44	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorotetradecanoic acid (PFTeA)	**2.7**	**J**	4.2	0.78	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1

Client Sample ID: BIO-A-22-20240319

Date Collected: 03/19/24 14:30
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-9

Matrix: Solid
Percent Solids: 23.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**24**		4.2	0.80	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.2	0.78	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorohexanesulfonic acid (PFHxS)	**3.1**	**J**	4.2	0.61	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorooctanesulfonic acid (PFOS)	**18**		4.2	0.91	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorononanesulfonic acid (PFNS)	ND		4.2	0.61	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorodecanesulfonic acid (PFDS)	**1.1**	**J**	4.2	1.1	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorooctanesulfonamide (FOSA)	ND		4.2	0.70	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NMeFOSAA	ND	*1	4.2	0.49	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NEtFOSAA	ND		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
4:2 FTS	ND	*1	4.2	1.1	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
6:2 FTS	ND		4.2	0.57	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NEtFOSA	ND		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NMeFOSA	ND		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NMeFOSE	ND	*1	4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NEtFOSE	ND	*1	4.2	0.59	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
9Cl-PF3ONS	ND		4.2	0.74	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
11Cl-PF3OUdS	ND		4.2	0.66	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	*1	4.2	0.82	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C4 PFBA	*90*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C5 PFPeA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C2 PFHxA	*97*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C4 PFHpA	*95*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C4 PFOA	*100*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C5 PFNA	*105*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C2 PFDA	*114*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C2 PFUnA	*101*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C2 PFDoA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C2 PFTeDA	*105*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C3 PFBS	*109*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
18O2 PFHxS	*113*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C4 PFOS	*106*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d3-NMeFOSAA	*118*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d5-NEtFOSAA	*122*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
M2-4:2 FTS	*0.4*		*0 - 10*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
M2-6:2 FTS	*153*	**5+*	*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d-N-MeFOSA-M	*50*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d-N-EtFOSA-M	*47*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d7-N-MeFOSE-M	*44*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d9-N-EtFOSE-M	*42*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-A-22-20240319

Lab Sample ID: 320-110655-9
Date Collected: 03/19/24 14:30
Matrix: Solid
Date Received: 03/21/24 09:30
Percent Solids: 23.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Post-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	ND		4.2	0.74	ug/Kg	☼	04/09/24 06:11	04/11/24 20:13	1
HFPO-DA (GenX)	ND		4.2	0.87	ug/Kg	☼	04/09/24 06:11	04/11/24 20:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*0*		*0 - 10*	*04/09/24 06:11*	*04/11/24 20:13*	*1*
M2-8:2 FTS	*96*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:13*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:13*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**76.6**		0.1	0.1	%			03/25/24 11:36	1
Percent Solids (ASTM D 2216)	**23.4**		0.1	0.1	%			03/25/24 11:36	1

Client Sample ID: BIO-A-23-20240319

Lab Sample ID: 320-110655-10
Date Collected: 03/19/24 15:05
Matrix: Solid
Date Received: 03/21/24 09:30
Percent Solids: 26.8

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.7**		0.71	0.16	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluoropentanoic acid (PFPeA)	**8.0**		0.71	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorohexanoic acid (PFHxA)	**19**		0.71	0.11	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluoroheptanoic acid (PFHpA)	**1.5**		0.71	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorooctanoic acid (PFOA)	**13**		0.71	0.19	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorononanoic acid (PFNA)	**1.3**		0.71	0.078	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorodecanoic acid (PFDA)	**11**		0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluoroundecanoic acid (PFUnA)	**1.7**		0.71	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorododecanoic acid (PFDoA)	**4.0**		0.71	0.11	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorotridecanoic acid (PFTrDA)	**0.53**	**J**	0.71	0.074	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorobutanesulfonic acid (PFBS)	**1.0**		0.71	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.71	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorohexanesulfonic acid (PFHxS)	**0.78**		0.71	0.10	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorooctanesulfonic acid (PFOS)	**14**		0.71	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.71	0.10	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorodecanesulfonic acid (PFDS)	**1.7**		0.71	0.18	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorooctanesulfonamide (FOSA)	**1.3**		0.71	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
NEtFOSA	**0.33**	**J**	0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
NMeFOSA	**0.29**	**J**	0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
NMeFOSAA	**22**		0.71	0.081	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
NEtFOSAA	**8.8**		0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
NMeFOSE	**13**		0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1

Client Sample ID: BIO-A-23-20240319

Date Collected: 03/19/24 15:05
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-10

Matrix: Solid
Percent Solids: 26.8

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSE	**3.2**		0.71	0.099	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
4:2 FTS	ND		0.71	0.18	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
8:2 FTS	**1.4**		0.71	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.71	0.14	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
HFPO-DA (GenX)	ND		0.71	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
9Cl-PF3ONS	ND		0.71	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
11Cl-PF3OUdS	ND		0.71	0.11	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*69*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C5 PFPeA	*82*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C2 PFHxA	*82*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C4 PFHpA	*74*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C4 PFOA	*79*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C5 PFNA	*70*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C2 PFDA	*65*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C2 PFUnA	*51*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C2 PFDoA	*34*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C3 PFBS	*71*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
18O2 PFHxS	*63*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C4 PFOS	*65*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C8 FOSA	*57*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d3-NMeFOSAA	*32*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d5-NEtFOSAA	*44*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d-N-MeFOSA-M	*27*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d-N-EtFOSA-M	*13*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d7-N-MeFOSE-M	*27*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d9-N-EtFOSE-M	*13*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
M2-4:2 FTS	*91*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
M2-8:2 FTS	*91*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C3 HFPO-DA	*64*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeA)	**0.87**		0.71	0.13	ug/Kg	☼	04/03/24 04:21	04/08/24 09:15	1
6:2 FTS	**1.5**		0.71	0.096	ug/Kg	☼	04/03/24 04:21	04/08/24 09:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*27*		*25 - 150*	*04/03/24 04:21*	*04/08/24 09:15*	*1*
M2-6:2 FTS	*77*		*25 - 150*	*04/03/24 04:21*	*04/08/24 09:15*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**1.0**	**J**	3.7	0.70	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorooctanoic acid (PFOA)	**13**		3.7	0.98	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorononanoic acid (PFNA)	**1.1**	**J**	3.7	0.41	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorodecanoic acid (PFDA)	**10**		3.7	0.89	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluoroundecanoic acid (PFUnA)	**2.0**	**J**	3.7	0.77	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1

Client Sample ID: BIO-A-23-20240319

Date Collected: 03/19/24 15:05
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-10

Matrix: Solid
Percent Solids: 26.8

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	**3.7**		3.7	0.55	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.7	0.39	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorotetradecanoic acid (PFTeA)	**0.78**	**J**	3.7	0.68	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorobutanesulfonic acid (PFBS)	**6.5**		3.7	0.70	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.7	0.68	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		3.7	0.53	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.7	0.91	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorooctanesulfonic acid (PFOS)	**16**		3.7	0.80	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorononanesulfonic acid (PFNS)	ND		3.7	0.53	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.7	0.96	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.7	0.87	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorooctanesulfonamide (FOSA)	**1.3**	**J**	3.7	0.61	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NMeFOSA	ND	*-	3.7	0.91	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NEtFOSA	ND	*-	3.7	0.87	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NMeFOSAA	**25**		3.7	0.42	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NEtFOSAA	**7.8**		3.7	0.89	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NMeFOSE	**8.4**		3.7	0.87	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NEtFOSE	**5.8**		3.7	0.52	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
4:2 FTS	ND		3.7	0.94	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
8:2 FTS	ND		3.7	0.65	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
9Cl-PF3ONS	ND		3.7	0.65	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
11Cl-PF3OUdS	ND		3.7	0.57	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*102*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C4 PFOA	*97*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C5 PFNA	*99*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C2 PFDA	*94*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C2 PFUnA	*73*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C2 PFDoA	*66*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C2 PFTeDA	*23*	**5-*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C3 PFBS	*108*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
18O2 PFHxS	*113*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C4 PFOS	*102*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C8 FOSA	*61*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
M2-4:2 FTS	*210*	**5+*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
M2-8:2 FTS	*131*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d3-NMeFOSAA	*69*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d5-NEtFOSAA	*73*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d-N-MeFOSA-M	*19*	**5-*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d-N-EtFOSA-M	*11*	**5-*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d7-N-MeFOSE-M	*24*	**5-*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d9-N-EtFOSE-M	*21*	**5-*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-A-23-20240319

Date Collected: 03/19/24 15:05
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-10

Matrix: Solid
Percent Solids: 26.8

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.8**		3.7	0.86	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1
Perfluoropentanoic acid (PFPeA)	**10**		3.7	0.77	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1
Perfluorohexanoic acid (PFHxA)	**24**		3.7	0.58	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1
6:2 FTS	**2.5**	**J**	3.7	0.50	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1
HFPO-DA (GenX)	ND		3.7	0.77	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.7	0.73	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*70*		*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*
13C5 PFPeA	*92*		*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*
13C2 PFHxA	*111*		*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*
13C4 PFOS	*85*		*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*
M2-6:2 FTS	*161*	**5+*	*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*
13C3 HFPO-DA	*93*		*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**210**	**B**	3.7	0.84	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluoropentanoic acid (PFPeA)	**100**		3.7	0.75	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorohexanoic acid (PFHxA)	**76**	***+**	3.7	0.57	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluoroheptanoic acid (PFHpA)	**41**	***+**	3.7	0.69	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorooctanoic acid (PFOA)	**57**		3.7	0.97	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorononanoic acid (PFNA)	**19**	***+**	3.7	0.40	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorodecanoic acid (PFDA)	**17**		3.7	0.88	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluoroundecanoic acid (PFUnA)	**7.8**		3.7	0.77	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorododecanoic acid (PFDoA)	**8.8**		3.7	0.55	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorotridecanoic acid (PFTrDA)	**2.1**	**J**	3.7	0.38	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorotetradecanoic acid (PFTeA)	**3.5**	**J**	3.7	0.68	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorobutanesulfonic acid (PFBS)	**33**		3.7	0.69	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.7	0.68	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorohexanesulfonic acid (PFHxS)	**2.5**	**J**	3.7	0.53	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.7	0.90	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorooctanesulfonic acid (PFOS)	**19**		3.7	0.79	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorononanesulfonic acid (PFNS)	ND		3.7	0.53	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorodecanesulfonic acid (PFDS)	**1.4**	**J**	3.7	0.95	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.7	0.86	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorooctanesulfonamide (FOSA)	ND		3.7	0.60	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
NMeFOSAA	ND	*1	3.7	0.42	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
NEtFOSAA	ND		3.7	0.88	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
4:2 FTS	ND	*1	3.7	0.94	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
6:2 FTS	ND		3.7	0.49	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1

Client Sample ID: BIO-A-23-20240319

Date Collected: 03/19/24 15:05
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-10

Matrix: Solid
Percent Solids: 26.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		3.7	0.86	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
NMeFOSA	ND		3.7	0.90	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
NMeFOSE	ND	*1	3.7	0.86	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
NEtFOSE	ND	*1	3.7	0.51	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
9Cl-PF3ONS	ND		3.7	0.64	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
11Cl-PF3OUdS	ND		3.7	0.57	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	*1	3.7	0.71	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C4 PFBA	*86*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C5 PFPeA	*101*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C2 PFHxA	*96*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C4 PFHpA	*97*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C4 PFOA	*104*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C5 PFNA	*106*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C2 PFDA	*114*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C2 PFUnA	*100*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C2 PFDoA	*102*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C2 PFTeDA	*108*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C3 PFBS	*104*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
18O2 PFHxS	*110*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C4 PFOS	*100*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d3-NMeFOSAA	*113*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d5-NEtFOSAA	*116*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
M2-4:2 FTS	*1*		*0 - 10*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
M2-6:2 FTS	*155*	**5+*	*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d-N-MeFOSA-M	*52*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d-N-EtFOSA-M	*45*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d7-N-MeFOSE-M	*48*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d9-N-EtFOSE-M	*44*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Post-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	ND		3.1	0.54	ug/Kg	☼	04/09/24 06:11	04/11/24 20:25	1
HFPO-DA (GenX)	ND		3.1	0.64	ug/Kg	☼	04/09/24 06:11	04/11/24 20:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*0*		*0 - 10*	*04/09/24 06:11*	*04/11/24 20:25*	*1*
M2-8:2 FTS	*102*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:25*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**73.2**		0.1	0.1	%			03/25/24 11:36	1
Percent Solids (ASTM D 2216)	**26.8**		0.1	0.1	%			03/25/24 11:36	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: EB-01-20240319

Date Collected: 03/19/24 14:45
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-11

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.6	2.2	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.53	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.23	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.78	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.67	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.52	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.89	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.90	ng/L		03/22/24 05:19	03/24/24 03:16	1
NEtFOSA	ND		1.8	0.79	ng/L		03/22/24 05:19	03/24/24 03:16	1
NMeFOSA	ND		1.8	0.39	ng/L		03/22/24 05:19	03/24/24 03:16	1
NMeFOSAA	ND		4.6	1.1	ng/L		03/22/24 05:19	03/24/24 03:16	1
NEtFOSAA	ND		4.6	1.2	ng/L		03/22/24 05:19	03/24/24 03:16	1
NMeFOSE	ND		3.7	1.3	ng/L		03/22/24 05:19	03/24/24 03:16	1
NEtFOSE	ND		1.8	0.78	ng/L		03/22/24 05:19	03/24/24 03:16	1
4:2 FTS	ND		1.8	0.22	ng/L		03/22/24 05:19	03/24/24 03:16	1
6:2 FTS	ND		4.6	2.3	ng/L		03/22/24 05:19	03/24/24 03:16	1
8:2 FTS	ND		1.8	0.42	ng/L		03/22/24 05:19	03/24/24 03:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.37	ng/L		03/22/24 05:19	03/24/24 03:16	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		03/22/24 05:19	03/24/24 03:16	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		03/22/24 05:19	03/24/24 03:16	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		03/22/24 05:19	03/24/24 03:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C5 PFPeA	*53*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C2 PFHxA	*58*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C4 PFHpA	*57*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C4 PFOA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C5 PFNA	*59*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C2 PFDA	*60*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C2 PFUnA	*58*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C2 PFDoA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C2 PFTeDA	*56*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C3 PFBS	*50*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
18O2 PFHxS	*53*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*

Client Sample ID: EB-01-20240319

Lab Sample ID: 320-110655-11

Date Collected: 03/19/24 14:45
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*53*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C8 FOSA	*61*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d3-NMeFOSAA	*61*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d5-NEtFOSAA	*65*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d-N-MeFOSA-M	*50*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d-N-EtFOSA-M	*54*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d7-N-MeFOSE-M	*49*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d9-N-EtFOSE-M	*50*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
M2-4:2 FTS	*63*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
M2-6:2 FTS	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
M2-8:2 FTS	*68*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C3 HFPO-DA	*52*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*

Client Sample ID: BIO-B-20240320

Lab Sample ID: 320-110655-12

Date Collected: 03/20/24 07:40
Matrix: Solid
Date Received: 03/21/24 09:30
Percent Solids: 5.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.6	0.83	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluoropentanoic acid (PFPeA)	ND		3.6	0.74	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorohexanoic acid (PFHxA)	ND		3.6	0.56	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluoroheptanoic acid (PFHpA)	ND		3.6	0.69	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorooctanoic acid (PFOA)	**1.4**	**J**	3.6	0.96	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorononanoic acid (PFNA)	ND		3.6	0.40	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorodecanoic acid (PFDA)	**3.4**	**J**	3.6	0.87	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluoroundecanoic acid (PFUnA)	ND		3.6	0.76	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorododecanoic acid (PFDoA)	**1.6**	**J**	3.6	0.54	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.6	0.38	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorotetradecanoic acid (PFTeA)	ND		3.6	0.67	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		3.6	0.69	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.67	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorohexanesulfonic acid (PFHxS)	**3.8**	**I**	3.6	0.52	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.6	0.89	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.52	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.6	0.94	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.6	0.85	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorooctanesulfonamide (FOSA)	ND		3.6	0.60	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NEtFOSA	ND		3.6	0.85	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NMeFOSA	ND		3.6	0.89	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NMeFOSAA	**9.3**		3.6	0.42	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NEtFOSAA	**4.2**		3.6	0.87	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NMeFOSE	**5.1**		3.6	0.85	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NEtFOSE	**1.5**	**J**	3.6	0.51	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
4:2 FTS	ND		3.6	0.92	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
6:2 FTS	ND		3.6	0.49	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1

Client Sample ID: BIO-B-20240320

Date Collected: 03/20/24 07:40
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-12

Matrix: Solid
Percent Solids: 5.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	ND		3.6	0.63	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.6	0.70	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
HFPO-DA (GenX)	ND		3.6	0.74	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
9Cl-PF3ONS	ND		3.6	0.63	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
11Cl-PF3OUdS	ND		3.6	0.56	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*75*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C5 PFPeA	*82*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C2 PFHxA	*92*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C4 PFHpA	*88*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C4 PFOA	*92*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C5 PFNA	*82*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C2 PFDA	*68*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C2 PFUnA	*80*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C2 PFDoA	*67*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C2 PFTeDA	*29*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C3 PFBS	*76*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
18O2 PFHxS	*78*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C4 PFOS	*67*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C8 FOSA	*81*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d3-NMeFOSAA	*55*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d5-NEtFOSAA	*82*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d-N-MeFOSA-M	*42*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d-N-EtFOSA-M	*36*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d7-N-MeFOSE-M	*44*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d9-N-EtFOSE-M	*46*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
M2-4:2 FTS	*96*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
M2-6:2 FTS	*113*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
M2-8:2 FTS	*51*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C3 HFPO-DA	*77*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**6.9**		3.6	0.78	ug/Kg	☼	04/03/24 04:21	04/05/24 20:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*80*		*25 - 150*	*04/03/24 04:21*	*04/05/24 20:28*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		18	3.4	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorooctanoic acid (PFOA)	ND		18	4.8	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorononanoic acid (PFNA)	ND		18	2.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorodecanoic acid (PFDA)	ND		18	4.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluoroundecanoic acid (PFUnA)	ND		18	3.8	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorododecanoic acid (PFDoA)	ND		18	2.7	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorotridecanoic acid (PFTrDA)	ND		18	1.9	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		18	3.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1

Client Sample ID: BIO-B-20240320

Date Collected: 03/20/24 07:40
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-12

Matrix: Solid
Percent Solids: 5.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**4.8**	**J**	18	3.4	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		18	3.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		18	2.6	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		18	4.4	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorooctanesulfonic acid (PFOS)	**20**	**I**	18	3.9	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorononanesulfonic acid (PFNS)	ND		18	2.6	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		18	4.7	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		18	4.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorooctanesulfonamide (FOSA)	ND		18	3.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NMeFOSA	ND	*-	18	4.4	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NEtFOSA	ND	*-	18	4.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NMeFOSAA	**7.8**	**J**	18	2.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NEtFOSAA	ND		18	4.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NMeFOSE	ND		18	4.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NEtFOSE	**9.0**	**J**	18	2.5	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
4:2 FTS	ND		18	4.6	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
8:2 FTS	ND		18	3.2	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
9Cl-PF3ONS	ND		18	3.2	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
11Cl-PF3OUdS	ND		18	2.8	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*101*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C4 PFOA	*97*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C5 PFNA	*99*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C2 PFDA	*107*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C2 PFUnA	*84*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C2 PFDoA	*84*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C2 PFTeDA	*35*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C3 PFBS	*109*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
18O2 PFHxS	*112*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C4 PFOS	*100*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C8 FOSA	*94*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
M2-4:2 FTS	*219*	**5+*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
M2-8:2 FTS	*176*	**5+*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d3-NMeFOSAA	*105*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d5-NEtFOSAA	*112*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d-N-MeFOSA-M	*34*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d-N-EtFOSA-M	*31*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d7-N-MeFOSE-M	*27*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d9-N-EtFOSE-M	*33*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		18	4.2	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1
Perfluoropentanoic acid (PFPeA)	ND		18	3.7	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1
Perfluorohexanoic acid (PFHxA)	**4.1**	**J I**	18	2.8	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1
6:2 FTS	ND		18	2.4	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1

Client Sample ID: BIO-B-20240320

Date Collected: 03/20/24 07:40
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-12

Matrix: Solid
Percent Solids: 5.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA (GenX)	ND		18	3.7	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		18	3.5	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79*		*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*
13C5 PFPeA	*85*		*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*
13C2 PFHxA	*100*		*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*
13C4 PFOS	*83*		*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*
M2-6:2 FTS	*153*	**5+*	*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*
13C3 HFPO-DA	*92*		*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**93**	**B**	18	4.2	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluoropentanoic acid (PFPeA)	**34**		18	3.8	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorohexanoic acid (PFHxA)	**26**	***+**	18	2.8	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluoroheptanoic acid (PFHpA)	**16**	**J *+**	18	3.5	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorooctanoic acid (PFOA)	**23**		18	4.9	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorononanoic acid (PFNA)	**9.9**	**J *+**	18	2.0	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorodecanoic acid (PFDA)	**7.7**	**J**	18	4.4	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluoroundecanoic acid (PFUnA)	**4.9**	**J**	18	3.8	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorododecanoic acid (PFDoA)	**4.0**	**J**	18	2.7	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorotridecanoic acid (PFTrDA)	**1.9**	**J**	18	1.9	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		18	3.4	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorobutanesulfonic acid (PFBS)	**6.8**	**J**	18	3.5	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluoropentanesulfonic acid (PFPeS)	ND		18	3.4	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorohexanesulfonic acid (PFHxS)	ND		18	2.6	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		18	4.5	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorooctanesulfonic acid (PFOS)	**9.3**	**J**	18	3.9	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorononanesulfonic acid (PFNS)	ND		18	2.6	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		18	4.7	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorododecanesulfonic acid (PFDoS)	ND		18	4.3	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorooctanesulfonamide (FOSA)	ND		18	3.0	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NMeFOSAA	ND	*1	18	2.1	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NEtFOSAA	ND		18	4.4	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
4:2 FTS	ND	*1	18	4.7	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
6:2 FTS	ND		18	2.5	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NEtFOSA	ND		18	4.3	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NMeFOSA	ND		18	4.5	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NMeFOSE	ND	*1	18	4.3	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NEtFOSE	ND	*1	18	2.6	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
9Cl-PF3ONS	ND		18	3.2	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
11Cl-PF3OUdS	ND		18	2.8	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1

Client Sample ID: BIO-B-20240320

Date Collected: 03/20/24 07:40
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-12

Matrix: Solid
Percent Solids: 5.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	*1	18	3.6	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*97*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C4 PFBA	*97*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C5 PFPeA	*100*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C2 PFHxA	*93*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C4 PFHpA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C4 PFOA	*105*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C5 PFNA	*108*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C2 PFDA	*116*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C2 PFUnA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C2 PFDoA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C2 PFTeDA	*102*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C3 PFBS	*102*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
18O2 PFHxS	*107*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C4 PFOS	*104*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d3-NMeFOSAA	*113*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d5-NEtFOSAA	*122*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
M2-4:2 FTS	*0.3*		*0 - 10*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
M2-6:2 FTS	*143*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d-N-MeFOSA-M	*41*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d-N-EtFOSA-M	*39*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d7-N-MeFOSE-M	*40*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d9-N-EtFOSE-M	*42*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Post-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	ND		17	2.9	ug/Kg	☼	04/09/24 06:11	04/11/24 20:47	1
HFPO-DA (GenX)	ND		17	3.4	ug/Kg	☼	04/09/24 06:11	04/11/24 20:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*0*		*0 - 10*	*04/09/24 06:11*	*04/11/24 20:47*	*1*
M2-8:2 FTS	*105*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:47*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:47*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**94.5**		0.1	0.1	%			03/25/24 11:36	1
Percent Solids (ASTM D 2216)	**5.5**		0.1	0.1	%			03/25/24 11:36	1

Total Oxidation Precursors

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

TestAmerica Job ID: 320-110655-1

Client Sample ID: Eff-20240319

Lab Sample ID: 320-110655-7
Matrix: Water

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	6.4	J	ng/L	25		ng/L	18	ng/L
Perfluorobutanoic acid (PFBA)	6.4	J	ng/L	25		ng/L	18	ng/L
Perfluoropentanoic acid (PFPeA)	8.3		ng/L	23		ng/L	15	ng/L
Perfluoropentanoic acid (PFPeA)	8.3		ng/L	23		ng/L	15	ng/L
Perfluorohexanoic acid (PFHxA)	18		ng/L	23		ng/L	5.1	ng/L
Perfluorohexanoic acid (PFHxA)	18		ng/L	23		ng/L	5.1	ng/L
Perfluoroheptanoic acid (PFHpA)	2.5	J	ng/L	3.4	J	ng/L	0.83	ng/L
Perfluoroheptanoic acid (PFHpA)	2.5	J	ng/L	3.4	J	ng/L	0.83	ng/L
Perfluorooctanoic acid (PFOA)	6.4		ng/L	8.6		ng/L	2.2	ng/L
Perfluorooctanoic acid (PFOA)	6.4		ng/L	8.6		ng/L	2.2	ng/L
Perfluorononanoic acid (PFNA)	ND		ng/L	0.71	J	ng/L	0.71	ng/L
Perfluorononanoic acid (PFNA)	ND		ng/L	0.71	J	ng/L	0.71	ng/L
Total Perfluoroalkyl carboxylic acid	42		ng/L	84		ng/L	42	ng/L

Client Sample ID: BIO-A-22-20240319

Lab Sample ID: 320-110655-9
Matrix: Solid

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	7.9		ug/Kg	190		ug/Kg	180	ug/Kg
Perfluoropentanoic acid (PFPeA)	18		ug/Kg	97		ug/Kg	79	ug/Kg
Perfluorohexanoic acid (PFHxA)	39		ug/Kg	76		ug/Kg	38	ug/Kg
Perfluoroheptanoic acid (PFHpA)	2.7	J	ug/Kg	35		ug/Kg	32	ug/Kg
Perfluorooctanoic acid (PFOA)	21		ug/Kg	56		ug/Kg	35	ug/Kg
Perfluorononanoic acid (PFNA)	1.3	J	ug/Kg	14		ug/Kg	13	ug/Kg
Total Perfluoroalkyl carboxylic acid	90		ug/Kg	470		ug/Kg	380	ug/Kg

Client Sample ID: BIO-A-23-20240319

Lab Sample ID: 320-110655-10
Matrix: Solid

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	3.8		ug/Kg	210		ug/Kg	210	ug/Kg
Perfluoropentanoic acid (PFPeA)	10		ug/Kg	100		ug/Kg	94	ug/Kg
Perfluorohexanoic acid (PFHxA)	24		ug/Kg	76		ug/Kg	51	ug/Kg
Perfluoroheptanoic acid (PFHpA)	1.0	J	ug/Kg	41		ug/Kg	40	ug/Kg
Perfluorooctanoic acid (PFOA)	13		ug/Kg	57		ug/Kg	44	ug/Kg
Perfluorononanoic acid (PFNA)	1.1	J	ug/Kg	19		ug/Kg	18	ug/Kg
Total Perfluoroalkyl carboxylic acid	53		ug/Kg	500		ug/Kg	450	ug/Kg

[1] Difference = Post-Treatment - Pre-Treament

Total Oxidation Precursors

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

TestAmerica Job ID: 320-110655-1

Client Sample ID: BIO-B-20240320

Lab Sample ID: 320-110655-12
Matrix: Solid

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	**Result**	**Qualifier**	**Unit**	**Result**	**Qualifier**	**Unit**	**Result**	**Unit**
Perfluorobutanoic acid (PFBA)	ND		ug/Kg	93		ug/Kg	93	ug/Kg
Perfluoropentanoic acid (PFPeA)	ND		ug/Kg	34		ug/Kg	34	ug/Kg
Perfluorohexanoic acid (PFHxA)	4.1	J	ug/Kg	26		ug/Kg	22	ug/Kg
Perfluoroheptanoic acid (PFHpA)	ND		ug/Kg	16	J	ug/Kg	16	ug/Kg
Perfluorooctanoic acid (PFOA)	ND		ug/Kg	23		ug/Kg	23	ug/Kg
Perfluorononanoic acid (PFNA)	ND		ug/Kg	9.9	J	ug/Kg	9.9	ug/Kg
Total Perfluoroalkyl carboxylic acid	4.1		ug/Kg	200		ug/Kg	200	ug/Kg

[1] Difference = Post-Treatment - Pre-Treament

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-110655-9	BIO-A-22-20240319	61	66	69	58	66	51	50	43
320-110655-9 - RA	BIO-A-22-20240319								
320-110655-10	BIO-A-23-20240319	69	82	82	74	79	70	65	51
320-110655-10 - RA	BIO-A-23-20240319								
320-110655-12	BIO-B-20240320	75	82	92	88	92	82	68	80
320-110655-12 - RA	BIO-B-20240320								
LCS 320-751969/3-A	Lab Control Sample	92	91	90	91	95	89	94	80
LLCS 320-751969/2-A	Lab Control Sample	88	88	93	90	96	88	88	82
MB 320-751969/1-A	Method Blank	92	93	94	94	98	92	91	86

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-110655-9	BIO-A-22-20240319	34		60	50	49	47	37	40
320-110655-9 - RA	BIO-A-22-20240319		25						
320-110655-10	BIO-A-23-20240319	34		71	63	65	57	32	44
320-110655-10 - RA	BIO-A-23-20240319		27						
320-110655-12	BIO-B-20240320	67	29	76	78	67	81	55	82
320-110655-12 - RA	BIO-B-20240320					80			
LCS 320-751969/3-A	Lab Control Sample	87	79	90	87	82	86	88	89
LLCS 320-751969/2-A	Lab Control Sample	86	74	86	82	81	86	91	95
MB 320-751969/1-A	Method Blank	79	78	91	86	83	89	92	93

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-110655-9	BIO-A-22-20240319	27	22	29	27	73		47	46
320-110655-9 - RA	BIO-A-22-20240319						66		
320-110655-10	BIO-A-23-20240319	27	13	27	13	91		91	64
320-110655-10 - RA	BIO-A-23-20240319						77		
320-110655-12	BIO-B-20240320	42	36	44	46	96	113	51	77
320-110655-12 - RA	BIO-B-20240320								
LCS 320-751969/3-A	Lab Control Sample	66	66	68	70	101	122	116	79
LLCS 320-751969/2-A	Lab Control Sample	65	69	70	74	95	116	113	79
MB 320-751969/1-A	Method Blank	69	72	71	77	94	106	111	82

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-110655-1
Project/Site: PFAS Sampling

d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C4PFHA	PFOA	PFNA	PFDA	PFUnA	PFDoA	PFTDA	C3PFBS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-110655-9	BIO-A-22-20240319	103	99	103	99	80	78	39	103
320-110655-10	BIO-A-23-20240319	102	97	99	94	73	66	23 *5-	108
320-110655-12	BIO-B-20240320	101	97	99	107	84	84	35	109
LCS 320-749269/2-A	Lab Control Sample	108	99	106	120	106	109	102	106
LCSD 320-749269/3-A	Lab Control Sample Dup	116	118	112	122	113	108	109	119
MB 320-749269/1-A	Method Blank	95	104	110	110	100	92	97	97

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFHxS	PFOS	PFOSA	M242FTS	M262FTS	M282FTS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-110655-9	BIO-A-22-20240319	113	105	69	252 *5+		135	96	83
320-110655-10	BIO-A-23-20240319	113	102	61	210 *5+		131	69	73
320-110655-12	BIO-B-20240320	112	100	94	219 *5+		176 *5+	105	112
LCS 320-749269/2-A	Lab Control Sample	116	110	111	167 *5+	157 *5+	163 *5+	135	140
LCSD 320-749269/3-A	Lab Control Sample Dup	125	121	119	182 *5+	179 *5+	177 *5+	140	152 *5+
MB 320-749269/1-A	Method Blank	106	108	109	158 *5+	158 *5+	142	117	127

		Percent Isotope Dilution Recovery (Acceptance Limits)			
		dMeFOSA	dEtFOSA	NMFM	NEFM
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)
320-110655-9	BIO-A-22-20240319	22 *5-	23 *5-	26	26
320-110655-10	BIO-A-23-20240319	19 *5-	11 *5-	24 *5-	21 *5-
320-110655-12	BIO-B-20240320	34	31	27	33
LCS 320-749269/2-A	Lab Control Sample	80	62	26	18 *5-
LCSD 320-749269/3-A	Lab Control Sample Dup	68	52	35	28
MB 320-749269/1-A	Method Blank	67	48	26	21 *5-

Surrogate Legend

C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-110655-1
Project/Site: PFAS Sampling

M282FTS = M2-8:2 FTS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)					
		PFBA	PFPeA	PFHxA	PFOS	M262FTS	HFPODA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-110655-9 - RE	BIO-A-22-20240319	83	93	112	89	168 *5+	100
320-110655-10 - RE	BIO-A-23-20240319	70	92	111	85	161 *5+	93
320-110655-12 - RE	BIO-B-20240320	79	85	100	83	153 *5+	92
LCS 320-753348/2-A	Lab Control Sample	94	94	93	87	113	94
LCSD 320-753348/3-A	Lab Control Sample Dup	93	99	99	92	110	100
MB 320-753348/1-A	Method Blank	90	90	89	87	108	92

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
PFOS = 13C4 PFOS
M262FTS = M2-6:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-110655-9	BIO-A-22-20240319	99	90	99	97	95	100	105	114
320-110655-10	BIO-A-23-20240319	99	86	101	96	97	104	106	114
320-110655-12	BIO-B-20240320	97	97	100	93	99	105	108	116
LCS 320-749270/2-A	Lab Control Sample	97	99	99	100	101	100	103	109
LCSD 320-749270/3-A	Lab Control Sample Dup	95	99	102	96	105	103	102	110
MB 320-749270/1-A	Method Blank	95	93	99	92	96	97	106	108

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFUnA	PFDoA	PFTDA	C3PFBS	PFHxS	PFOS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-110655-9	BIO-A-22-20240319	101	99	105	109	113	106	118	122
320-110655-10	BIO-A-23-20240319	100	102	108	104	110	100	113	116
320-110655-12	BIO-B-20240320	99	99	102	102	107	104	113	122
LCS 320-749270/2-A	Lab Control Sample	90	96	102	107	113	104	113	125
LCSD 320-749270/3-A	Lab Control Sample Dup	99	99	107	111	114	108	108	114
MB 320-749270/1-A	Method Blank	96	98	100	106	107	104	107	128

		Percent Isotope Dilution Recovery (Acceptance Limits)					
		M242FTS	M262FTS	dMeFOSA	dEtFOSA	NMFM	NEFM
Lab Sample ID	Client Sample ID	(0-10)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-110655-9	BIO-A-22-20240319	0.4	153 *5+	50	47	44	42
320-110655-10	BIO-A-23-20240319	1	155 *5+	52	45	48	44
320-110655-12	BIO-B-20240320	0.3	143	41	39	40	42
LCS 320-749270/2-A	Lab Control Sample	0.5	143	37	36	40	39

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-110655-1
Project/Site: PFAS Sampling

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)					
		M242FTS	M262FTS	dMeFOSA	dEtFOSA	NMFM	NEFM
Lab Sample ID	Client Sample ID	(0-10)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
LCSD 320-749270/3-A	Lab Control Sample Dup	0.6	146	47	48	47	48
MB 320-749270/1-A	Method Blank	0.4	149	36	34	36	35

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)		
		M242FTS	M282FTS	HFPODA
Lab Sample ID	Client Sample ID	(0-10)	(25-150)	(25-150)
320-110655-9 - RE	BIO-A-22-20240319	0	96	96
320-110655-10 - RE	BIO-A-23-20240319	0	102	96
320-110655-12 - RE	BIO-B-20240320	0	105	96
LCS 320-753365/2-A	Lab Control Sample	0	105	102
LCSD 320-753365/3-A	Lab Control Sample Dup	0	96	100
MB 320-753365/1-A	Method Blank	0	93	95

Surrogate Legend

M242FTS = M2-4:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA	PFUnA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-110655-1	Inf-02 20240318	51	59	63	58	61	56	46	45

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-110655-1
Project/Site: PFAS Sampling

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-110655-2	Inf-07 20240318	74	89	89	82	82	75	61	56
320-110655-3	Inf-08 20240318	62	76	83	75	82	71	62	49
320-110655-4	Inf-11 20240318	76	89	105	94	91	84	61	52
320-110655-5	Inf-18 20240318	94	109	110	100	99	87	79	71
320-110655-6	Inf-Comp 20240318	76	96	95	88	87	82	64	55
320-110655-7	Eff-20240319	75	78	85	82	89	86	84	77
320-110655-8	Eff-G-20240319	50	50	58	55	65	63	63	62
320-110655-11	EB-01-20240319	54	53	58	57	62	59	60	58
LLCS 320-749216/2-A	Lab Control Sample	61	61	65	66	71	69	69	66
MB 320-749216/1-A	Method Blank	46	48	49	48	53	53	53	51

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-110655-1	Inf-02 20240318	32	21 *5-	55	55	49	40	30	43
320-110655-2	Inf-07 20240318	39	24 *5-	79	76	67	48	29	49
320-110655-3	Inf-08 20240318	32	18 *5-	71	71	62	53	28	44
320-110655-4	Inf-11 20240318	35	22 *5-	91	92	79	46	24 *5-	43
320-110655-5	Inf-18 20240318	46	26	100	95	86	63	32	63
320-110655-6	Inf-Comp 20240318	37	23 *5-	85	85	73	52	31	50
320-110655-7	Eff-20240319	72	47	76	74	76	81	80	84
320-110655-8	Eff-G-20240319	62	39	55	60	64	63	68	72
320-110655-11	EB-01-20240319	62	56	50	53	53	61	61	65
LLCS 320-749216/2-A	Lab Control Sample	69	67	60	60	65	71	75	76
MB 320-749216/1-A	Method Blank	55	55	47	48	50	54	58	58

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-110655-1	Inf-02 20240318	26	27	23	24	60	96	58	55
320-110655-2	Inf-07 20240318	39	27	35	25	76	124	82	78
320-110655-3	Inf-08 20240318	31	28	26	24	96	126	83	69
320-110655-4	Inf-11 20240318	34	22	32	20	131	137	79	87
320-110655-5	Inf-18 20240318	45	31	41	30	83	146	107	94
320-110655-6	Inf-Comp 20240318	37	26	32	24	80	136	85	84
320-110655-7	Eff-20240319	63	67	63	56	98	104	104	76
320-110655-8	Eff-G-20240319	56	55	50	34	65	75	76	51
320-110655-11	EB-01-20240319	50	54	49	50	63	62	68	52
LLCS 320-749216/2-A	Lab Control Sample	56	57	59	52	72	81	87	63
MB 320-749216/1-A	Method Blank	42	48	46	44	52	52	61	46

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-110655-1
Project/Site: PFAS Sampling

C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-110655-7	Eff-20240319	83	67	88	94	92	92	92	94
LCS 320-749750/2-A	Lab Control Sample	83	82	87	87	82	92	96	102
LCSD 320-749750/3-A	Lab Control Sample Dup	80	88	88	88	91	93	99	106
MB 320-749750/1-A	Method Blank	80	83	86	76	78	89	92	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFUnA	PFDoA	PFTDA	C3PFBS	PFHxS	PFOS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-110655-7	Eff-20240319	82	79	63	88	84	80	92	99
LCS 320-749750/2-A	Lab Control Sample	87	90	88	84	92	85	99	103
LCSD 320-749750/3-A	Lab Control Sample Dup	92	97	98	88	93	89	103	107
MB 320-749750/1-A	Method Blank	85	83	78	78	86	82	98	97

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	dMeFOSA	dEtFOSA	NMFM	NEFM	HFPODA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-110655-7	Eff-20240319	150	151 *5+	135	55	52	51	48	80
LCS 320-749750/2-A	Lab Control Sample	119	133	117	77	76	91	81	84
LCSD 320-749750/3-A	Lab Control Sample Dup	123	134	123	64	66	87	74	88
MB 320-749750/1-A	Method Blank	145	124	117	71	74	83	75	84

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-110655-1
Project/Site: PFAS Sampling

d5NEFOS = d5-NEtFOSAA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOSA (25-150)	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)
320-110655-7	Eff-20240319	82	87	87	89	93	97	100	107
LCS 320-749751/2-A	Lab Control Sample	79	88	91	90	87	94	100	98
LCSD 320-749751/3-A	Lab Control Sample Dup	89	78	96	96	93	96	103	101
MB 320-749751/1-A	Method Blank	80	81	85	82	88	91	98	92

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFUnA (25-150)	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-110655-7	Eff-20240319	80	81	85	86	86	84	93	92
LCS 320-749751/2-A	Lab Control Sample	91	90	92	88	94	87	98	99
LCSD 320-749751/3-A	Lab Control Sample Dup	95	89	84	85	89	85	93	108
MB 320-749751/1-A	Method Blank	84	82	85	81	87	83	88	95

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (0-10)	M262FTS (25-150)	M282FTS (25-150)	dMeFOSA (25-150)	dEtFOSA (25-150)	NMFM (25-150)	NEFM (25-150)	HFPODA (25-150)
320-110655-7	Eff-20240319	0	118	120	25	23 *5-	30	24 *5-	92
LCS 320-749751/2-A	Lab Control Sample	0	123	118	59	54	74	63	93
LCSD 320-749751/3-A	Lab Control Sample Dup	0	139	121	65	51	36	28	93
MB 320-749751/1-A	Method Blank	0	122	110	68	70	82	75	84

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
dMeFOSA = d-N-MeFOSA-M

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-110655-1
Project/Site: PFAS Sampling

dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-749216/1-A
Matrix: Water
Analysis Batch: 749680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 749216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		03/22/24 05:19	03/23/24 23:02	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		03/22/24 05:19	03/23/24 23:02	1
NEtFOSA	ND		2.0	0.87	ng/L		03/22/24 05:19	03/23/24 23:02	1
NMeFOSA	ND		2.0	0.43	ng/L		03/22/24 05:19	03/23/24 23:02	1
NMeFOSAA	ND		5.0	1.2	ng/L		03/22/24 05:19	03/23/24 23:02	1
NEtFOSAA	ND		5.0	1.3	ng/L		03/22/24 05:19	03/23/24 23:02	1
NMeFOSE	ND		4.0	1.4	ng/L		03/22/24 05:19	03/23/24 23:02	1
NEtFOSE	ND		2.0	0.85	ng/L		03/22/24 05:19	03/23/24 23:02	1
4:2 FTS	ND		2.0	0.24	ng/L		03/22/24 05:19	03/23/24 23:02	1
6:2 FTS	ND		5.0	2.5	ng/L		03/22/24 05:19	03/23/24 23:02	1
8:2 FTS	ND		2.0	0.46	ng/L		03/22/24 05:19	03/23/24 23:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		03/22/24 05:19	03/23/24 23:02	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		03/22/24 05:19	03/23/24 23:02	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		03/22/24 05:19	03/23/24 23:02	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		03/22/24 05:19	03/23/24 23:02	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*46*		*25 - 150*	*03/22/24 05:19*	*03/23/24 23:02*	*1*
13C5 PFPeA	*48*		*25 - 150*	*03/22/24 05:19*	*03/23/24 23:02*	*1*
13C2 PFHxA	*49*		*25 - 150*	*03/22/24 05:19*	*03/23/24 23:02*	*1*
13C4 PFHpA	*48*		*25 - 150*	*03/22/24 05:19*	*03/23/24 23:02*	*1*
13C4 PFOA	*53*		*25 - 150*	*03/22/24 05:19*	*03/23/24 23:02*	*1*
13C5 PFNA	*53*		*25 - 150*	*03/22/24 05:19*	*03/23/24 23:02*	*1*
13C2 PFDA	*53*		*25 - 150*	*03/22/24 05:19*	*03/23/24 23:02*	*1*
13C2 PFUnA	*51*		*25 - 150*	*03/22/24 05:19*	*03/23/24 23:02*	*1*
13C2 PFDoA	*55*		*25 - 150*	*03/22/24 05:19*	*03/23/24 23:02*	*1*
13C2 PFTeDA	*55*		*25 - 150*	*03/22/24 05:19*	*03/23/24 23:02*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-749216/1-A
Matrix: Water
Analysis Batch: 749680

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 749216

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	47		25 - 150	03/22/24 05:19	03/23/24 23:02	1
18O2 PFHxS	48		25 - 150	03/22/24 05:19	03/23/24 23:02	1
13C4 PFOS	50		25 - 150	03/22/24 05:19	03/23/24 23:02	1
13C8 FOSA	54		10 - 150	03/22/24 05:19	03/23/24 23:02	1
d3-NMeFOSAA	58		25 - 150	03/22/24 05:19	03/23/24 23:02	1
d5-NEtFOSAA	58		25 - 150	03/22/24 05:19	03/23/24 23:02	1
d-N-MeFOSA-M	42		10 - 150	03/22/24 05:19	03/23/24 23:02	1
d-N-EtFOSA-M	48		10 - 150	03/22/24 05:19	03/23/24 23:02	1
d7-N-MeFOSE-M	46		10 - 150	03/22/24 05:19	03/23/24 23:02	1
d9-N-EtFOSE-M	44		10 - 150	03/22/24 05:19	03/23/24 23:02	1
M2-4:2 FTS	52		25 - 150	03/22/24 05:19	03/23/24 23:02	1
M2-6:2 FTS	52		25 - 150	03/22/24 05:19	03/23/24 23:02	1
M2-8:2 FTS	61		25 - 150	03/22/24 05:19	03/23/24 23:02	1
13C3 HFPO-DA	46		25 - 150	03/22/24 05:19	03/23/24 23:02	1

Lab Sample ID: LLCS 320-749216/2-A
Matrix: Water
Analysis Batch: 749680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 749216

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	9.74		ng/L		122	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	10.2		ng/L		127	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	10.3		ng/L		129	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	9.58		ng/L		120	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	9.56		ng/L		119	50 - 150
Perfluorononanoic acid (PFNA)	8.00	9.63		ng/L		120	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	9.51		ng/L		119	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	11.0		ng/L		137	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	9.65		ng/L		121	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	8.45		ng/L		106	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	7.28		ng/L		91	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	9.04		ng/L		127	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	8.88		ng/L		118	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	8.42		ng/L		115	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	8.89		ng/L		117	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	8.30		ng/L		112	50 - 150
Perfluorononanesulfonic acid (PFNS)	7.70	8.80		ng/L		114	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	7.96		ng/L		103	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	7.37		ng/L		95	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-749216/2-A
Matrix: Water
Analysis Batch: 749680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 749216

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	8.00	9.18		ng/L		115	50 - 150
NEtFOSA	8.00	7.13		ng/L		89	50 - 150
NMeFOSA	8.00	8.61		ng/L		108	50 - 150
NMeFOSAA	8.00	8.56		ng/L		107	50 - 150
NEtFOSAA	8.00	8.15		ng/L		102	50 - 150
NMeFOSE	8.00	9.49		ng/L		119	50 - 150
NEtFOSE	8.00	10.4		ng/L		130	50 - 150
4:2 FTS	7.50	9.62		ng/L		128	50 - 150
6:2 FTS	7.62	7.52		ng/L		99	50 - 150
8:2 FTS	7.68	8.38		ng/L		109	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	9.23		ng/L		122	50 - 150
HFPO-DA (GenX)	8.00	8.61		ng/L		108	50 - 150
9Cl-PF3ONS	7.47	8.96		ng/L		120	50 - 150
11Cl-PF3OUdS	7.55	8.88		ng/L		118	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*61*		*25 - 150*
13C5 PFPeA	*61*		*25 - 150*
13C2 PFHxA	*65*		*25 - 150*
13C4 PFHpA	*66*		*25 - 150*
13C4 PFOA	*71*		*25 - 150*
13C5 PFNA	*69*		*25 - 150*
13C2 PFDA	*69*		*25 - 150*
13C2 PFUnA	*66*		*25 - 150*
13C2 PFDoA	*69*		*25 - 150*
13C2 PFTeDA	*67*		*25 - 150*
13C3 PFBS	*60*		*25 - 150*
18O2 PFHxS	*60*		*25 - 150*
13C4 PFOS	*65*		*25 - 150*
13C8 FOSA	*71*		*10 - 150*
d3-NMeFOSAA	*75*		*25 - 150*
d5-NEtFOSAA	*76*		*25 - 150*
d-N-MeFOSA-M	*56*		*10 - 150*
d-N-EtFOSA-M	*57*		*10 - 150*
d7-N-MeFOSE-M	*59*		*10 - 150*
d9-N-EtFOSE-M	*52*		*10 - 150*
M2-4:2 FTS	*72*		*25 - 150*
M2-6:2 FTS	*81*		*25 - 150*
M2-8:2 FTS	*87*		*25 - 150*
13C3 HFPO-DA	*63*		*25 - 150*

Lab Sample ID: MB 320-751969/1-A
Matrix: Solid
Analysis Batch: 752438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 751969

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.20	0.046	ug/Kg		04/03/24 04:21	04/04/24 16:56	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-751969/1-A
Matrix: Solid
Analysis Batch: 752438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 751969

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.041	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.031	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.038	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.053	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.022	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.048	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.042	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.030	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.021	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.037	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.038	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.037	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.029	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.043	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.029	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.052	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.047	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.033	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
NEtFOSA	ND		0.20	0.047	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
NMeFOSA	ND		0.20	0.049	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
NMeFOSAA	ND		0.20	0.023	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
NEtFOSAA	ND		0.20	0.048	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
NMeFOSE	ND		0.20	0.047	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
NEtFOSE	ND		0.20	0.028	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
4:2 FTS	ND		0.20	0.051	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
6:2 FTS	ND		0.20	0.027	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
8:2 FTS	ND		0.20	0.035	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.039	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
HFPO-DA (GenX)	ND		0.20	0.041	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
9Cl-PF3ONS	ND		0.20	0.035	ug/Kg		04/03/24 04:21	04/04/24 16:56	1
11Cl-PF3OUdS	ND		0.20	0.031	ug/Kg		04/03/24 04:21	04/04/24 16:56	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*
13C5 PFPeA	*93*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*
13C2 PFHxA	*94*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*
13C4 PFHpA	*94*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*
13C4 PFOA	*98*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*
13C5 PFNA	*92*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*
13C2 PFDA	*91*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*
13C2 PFUnA	*86*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*
13C2 PFDoA	*79*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*
13C2 PFTeDA	*78*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*
13C3 PFBS	*91*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*
18O2 PFHxS	*86*		*25 - 150*	*04/03/24 04:21*	*04/04/24 16:56*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-751969/1-A
Matrix: Solid
Analysis Batch: 752438

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 751969

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	83		25 - 150	04/03/24 04:21	04/04/24 16:56	1
13C8 FOSA	89		10 - 150	04/03/24 04:21	04/04/24 16:56	1
d3-NMeFOSAA	92		25 - 150	04/03/24 04:21	04/04/24 16:56	1
d5-NEtFOSAA	93		25 - 150	04/03/24 04:21	04/04/24 16:56	1
d-N-MeFOSA-M	69		10 - 150	04/03/24 04:21	04/04/24 16:56	1
d-N-EtFOSA-M	72		10 - 150	04/03/24 04:21	04/04/24 16:56	1
d7-N-MeFOSE-M	71		10 - 150	04/03/24 04:21	04/04/24 16:56	1
d9-N-EtFOSE-M	77		10 - 150	04/03/24 04:21	04/04/24 16:56	1
M2-4:2 FTS	94		25 - 150	04/03/24 04:21	04/04/24 16:56	1
M2-6:2 FTS	106		25 - 150	04/03/24 04:21	04/04/24 16:56	1
M2-8:2 FTS	111		25 - 150	04/03/24 04:21	04/04/24 16:56	1
13C3 HFPO-DA	82		25 - 150	04/03/24 04:21	04/04/24 16:56	1

Lab Sample ID: LCS 320-751969/3-A
Matrix: Solid
Analysis Batch: 752438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 751969

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	2.00	2.22		ug/Kg		111	60 - 135
Perfluoropentanoic acid (PFPeA)	2.00	2.18		ug/Kg		109	60 - 135
Perfluorohexanoic acid (PFHxA)	2.00	2.36		ug/Kg		118	60 - 135
Perfluoroheptanoic acid (PFHpA)	2.00	2.29		ug/Kg		115	60 - 135
Perfluorooctanoic acid (PFOA)	2.00	2.19		ug/Kg		109	60 - 135
Perfluorononanoic acid (PFNA)	2.00	2.33		ug/Kg		117	60 - 135
Perfluorodecanoic acid (PFDA)	2.00	2.19		ug/Kg		109	60 - 135
Perfluoroundecanoic acid (PFUnA)	2.00	2.42		ug/Kg		121	60 - 135
Perfluorododecanoic acid (PFDoA)	2.00	2.11		ug/Kg		106	60 - 135
Perfluorotridecanoic acid (PFTrDA)	2.00	2.10		ug/Kg		105	60 - 135
Perfluorotetradecanoic acid (PFTeA)	2.00	2.09		ug/Kg		105	60 - 135
Perfluorobutanesulfonic acid (PFBS)	1.78	2.04		ug/Kg		115	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	1.88	2.06		ug/Kg		110	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.98		ug/Kg		108	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	1.91	2.36		ug/Kg		124	60 - 135
Perfluorooctanesulfonic acid (PFOS)	1.86	2.18		ug/Kg		117	60 - 135
Perfluorononanesulfonic acid (PFNS)	1.92	2.23		ug/Kg		116	60 - 135
Perfluorodecanesulfonic acid (PFDS)	1.93	2.04		ug/Kg		106	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	1.94	1.97		ug/Kg		102	60 - 135
Perfluorooctanesulfonamide (FOSA)	2.00	2.12		ug/Kg		106	60 - 135
NEtFOSA	2.00	2.20		ug/Kg		110	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-751969/3-A
Matrix: Solid
Analysis Batch: 752438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 751969

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
NMeFOSA	2.00	2.23		ug/Kg		111	60 - 135
NMeFOSAA	2.00	2.33		ug/Kg		117	60 - 135
NEtFOSAA	2.00	2.31		ug/Kg		116	60 - 135
NMeFOSE	2.00	2.18		ug/Kg		109	60 - 135
NEtFOSE	2.00	2.14		ug/Kg		107	60 - 135
4:2 FTS	1.88	2.14		ug/Kg		114	60 - 135
6:2 FTS	1.90	2.21		ug/Kg		116	60 - 135
8:2 FTS	1.92	2.13		ug/Kg		111	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	2.46		ug/Kg		130	60 - 135
HFPO-DA (GenX)	2.00	2.36		ug/Kg		118	60 - 135
9Cl-PF3ONS	1.87	2.30		ug/Kg		123	60 - 135
11Cl-PF3OUdS	1.89	2.09		ug/Kg		111	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*92*		*25 - 150*
13C5 PFPeA	*91*		*25 - 150*
13C2 PFHxA	*90*		*25 - 150*
13C4 PFHpA	*91*		*25 - 150*
13C4 PFOA	*95*		*25 - 150*
13C5 PFNA	*89*		*25 - 150*
13C2 PFDA	*94*		*25 - 150*
13C2 PFUnA	*80*		*25 - 150*
13C2 PFDoA	*87*		*25 - 150*
13C2 PFTeDA	*79*		*25 - 150*
13C3 PFBS	*90*		*25 - 150*
18O2 PFHxS	*87*		*25 - 150*
13C4 PFOS	*82*		*25 - 150*
13C8 FOSA	*86*		*10 - 150*
d3-NMeFOSAA	*88*		*25 - 150*
d5-NEtFOSAA	*89*		*25 - 150*
d-N-MeFOSA-M	*66*		*10 - 150*
d-N-EtFOSA-M	*66*		*10 - 150*
d7-N-MeFOSE-M	*68*		*10 - 150*
d9-N-EtFOSE-M	*70*		*10 - 150*
M2-4:2 FTS	*101*		*25 - 150*
M2-6:2 FTS	*122*		*25 - 150*
M2-8:2 FTS	*116*		*25 - 150*
13C3 HFPO-DA	*79*		*25 - 150*

Lab Sample ID: LLCS 320-751969/2-A
Matrix: Solid
Analysis Batch: 752438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 751969

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.400	0.466		ug/Kg		116	50 - 150
Perfluoropentanoic acid (PFPeA)	0.400	0.471		ug/Kg		118	50 - 150
Perfluorohexanoic acid (PFHxA)	0.400	0.478		ug/Kg		120	50 - 150
Perfluoroheptanoic acid (PFHpA)	0.400	0.489		ug/Kg		122	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-751969/2-A
Matrix: Solid
Analysis Batch: 752438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 751969

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid (PFOA)	0.400	0.491		ug/Kg		123	50 - 150
Perfluorononanoic acid (PFNA)	0.400	0.494		ug/Kg		123	50 - 150
Perfluorodecanoic acid (PFDA)	0.400	0.494		ug/Kg		124	50 - 150
Perfluoroundecanoic acid (PFUnA)	0.400	0.534		ug/Kg		133	50 - 150
Perfluorododecanoic acid (PFDoA)	0.400	0.485		ug/Kg		121	50 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.408		ug/Kg		102	50 - 150
Perfluorotetradecanoic acid (PFTeA)	0.400	0.399		ug/Kg		100	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.436		ug/Kg		123	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.434		ug/Kg		115	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.411		ug/Kg		113	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.452		ug/Kg		118	50 - 150
Perfluorooctanesulfonic acid (PFOS)	0.372	0.446		ug/Kg		120	50 - 150
Perfluorononanesulfonic acid (PFNS)	0.385	0.442		ug/Kg		115	50 - 150
Perfluorodecanesulfonic acid (PFDS)	0.386	0.397		ug/Kg		103	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.375		ug/Kg		97	50 - 150
Perfluorooctanesulfonamide (FOSA)	0.400	0.430		ug/Kg		107	50 - 150
NEtFOSA	0.400	0.445		ug/Kg		111	50 - 150
NMeFOSA	0.400	0.432		ug/Kg		108	50 - 150
NMeFOSAA	0.400	0.426		ug/Kg		107	50 - 150
NEtFOSAA	0.400	0.458		ug/Kg		114	50 - 150
NMeFOSE	0.400	0.449		ug/Kg		112	50 - 150
NEtFOSE	0.400	0.409		ug/Kg		102	50 - 150
4:2 FTS	0.375	0.449		ug/Kg		120	50 - 150
6:2 FTS	0.381	0.446		ug/Kg		117	50 - 150
8:2 FTS	0.384	0.404		ug/Kg		105	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.495		ug/Kg		131	50 - 150
HFPO-DA (GenX)	0.400	0.438		ug/Kg		110	50 - 150
9Cl-PF3ONS	0.374	0.448		ug/Kg		120	50 - 150
11Cl-PF3OUdS	0.378	0.425		ug/Kg		113	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*88*		*25 - 150*
13C5 PFPeA	*88*		*25 - 150*
13C2 PFHxA	*93*		*25 - 150*
13C4 PFHpA	*90*		*25 - 150*
13C4 PFOA	*96*		*25 - 150*
13C5 PFNA	*88*		*25 - 150*
13C2 PFDA	*88*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-751969/2-A
Matrix: Solid
Analysis Batch: 752438

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 751969

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 PFUnA	*82*		*25 - 150*
13C2 PFDoA	*86*		*25 - 150*
13C2 PFTeDA	*74*		*25 - 150*
13C3 PFBS	*86*		*25 - 150*
18O2 PFHxS	*82*		*25 - 150*
13C4 PFOS	*81*		*25 - 150*
13C8 FOSA	*86*		*10 - 150*
d3-NMeFOSAA	*91*		*25 - 150*
d5-NEtFOSAA	*95*		*25 - 150*
d-N-MeFOSA-M	*65*		*10 - 150*
d-N-EtFOSA-M	*69*		*10 - 150*
d7-N-MeFOSE-M	*70*		*10 - 150*
d9-N-EtFOSE-M	*74*		*10 - 150*
M2-4:2 FTS	*95*		*25 - 150*
M2-6:2 FTS	*116*		*25 - 150*
M2-8:2 FTS	*113*		*25 - 150*
13C3 HFPO-DA	*79*		*25 - 150*

Lab Sample ID: MB 320-749269/1-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 749269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		1.0	0.19	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorooctanoic acid (PFOA)	ND		1.0	0.27	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorononanoic acid (PFNA)	ND		1.0	0.11	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorodecanoic acid (PFDA)	ND		1.0	0.24	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluoroundecanoic acid (PFUnA)	ND		1.0	0.21	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorododecanoic acid (PFDoA)	ND		1.0	0.15	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.0	0.11	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.0	0.19	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.0	0.19	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.0	0.19	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.0	0.15	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.0	0.25	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.0	0.22	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorononanesulfonic acid (PFNS)	ND		1.0	0.15	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.0	0.26	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.0	0.24	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
Perfluorooctanesulfonamide (FOSA)	ND		1.0	0.17	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
NMeFOSAA	ND		1.0	0.12	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
NEtFOSAA	ND		1.0	0.24	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
4:2 FTS	ND		1.0	0.26	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
6:2 FTS	ND		1.0	0.14	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
8:2 FTS	ND		1.0	0.18	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
NEtFOSA	ND		1.0	0.24	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
NMeFOSA	ND		1.0	0.25	ug/Kg		03/22/24 09:47	04/02/24 13:01	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-749269/1-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 749269

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSE	ND		1.0	0.24	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
NEtFOSE	ND		1.0	0.14	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
9Cl-PF3ONS	ND		1.0	0.18	ug/Kg		03/22/24 09:47	04/02/24 13:01	1
11Cl-PF3OUdS	ND		1.0	0.16	ug/Kg		03/22/24 09:47	04/02/24 13:01	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*95*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
13C4 PFOA	*104*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
13C5 PFNA	*110*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
13C2 PFDA	*110*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
13C2 PFUnA	*100*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
13C2 PFDoA	*92*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
13C2 PFTeDA	*97*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
13C3 PFBS	*97*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
18O2 PFHxS	*106*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
13C4 PFOS	*108*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
13C8 FOSA	*109*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
M2-4:2 FTS	*158*	**5+*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
M2-6:2 FTS	*158*	**5+*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
M2-8:2 FTS	*142*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
d3-NMeFOSAA	*117*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
d5-NEtFOSAA	*127*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
d-N-MeFOSA-M	*67*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
d-N-EtFOSA-M	*48*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
d7-N-MeFOSE-M	*26*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*
d9-N-EtFOSE-M	*21*	**5-*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:01*	*1*

Lab Sample ID: LCS 320-749269/2-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 749269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	10.0	9.59		ug/Kg		96	71 - 131
Perfluorooctanoic acid (PFOA)	10.0	9.82		ug/Kg		98	72 - 132
Perfluorononanoic acid (PFNA)	10.0	9.52		ug/Kg		95	73 - 133
Perfluorodecanoic acid (PFDA)	10.0	8.59		ug/Kg		86	72 - 132
Perfluoroundecanoic acid (PFUnA)	10.0	9.88		ug/Kg		99	66 - 126
Perfluorododecanoic acid (PFDoA)	10.0	9.65		ug/Kg		97	71 - 131
Perfluorotridecanoic acid (PFTrDA)	10.0	8.23		ug/Kg		82	71 - 131
Perfluorotetradecanoic acid (PFTeA)	10.0	9.05		ug/Kg		90	67 - 127
Perfluorobutanesulfonic acid (PFBS)	8.88	8.03		ug/Kg		90	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	9.40	10.1		ug/Kg		107	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	9.12	8.17		ug/Kg		90	62 - 122

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-749269/2-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 749269

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanesulfonic acid (PFHpS)	9.54	9.62		ug/Kg		101	76 - 136
Perfluorooctanesulfonic acid (PFOS)	9.30	9.08		ug/Kg		98	68 - 141
Perfluorononanesulfonic acid (PFNS)	9.60	10.5		ug/Kg		110	72 - 132
Perfluorodecanesulfonic acid (PFDS)	9.64	9.24		ug/Kg		96	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	9.70	7.59		ug/Kg		78	70 - 130
Perfluorooctanesulfonamide (FOSA)	10.0	9.22		ug/Kg		92	77 - 137
NMeFOSAA	10.0	10.8		ug/Kg		108	72 - 132
NEtFOSAA	10.0	9.96		ug/Kg		100	72 - 132
4:2 FTS	9.38	12.3		ug/Kg		131	68 - 143
6:2 FTS	9.52	8.76		ug/Kg		92	73 - 139
8:2 FTS	9.60	8.66		ug/Kg		90	75 - 135
NEtFOSA	10.0	2.74	*-	ug/Kg		27	47 - 161
NMeFOSA	10.0	1.32	*-	ug/Kg		13	63 - 148
NMeFOSE	10.0	6.84		ug/Kg		68	43 - 153
NEtFOSE	10.0	7.62		ug/Kg		76	44 - 155
9Cl-PF3ONS	9.34	7.71		ug/Kg		83	74 - 134
11Cl-PF3OUdS	9.44	8.50		ug/Kg		90	66 - 136

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFHpA	*108*		*25 - 150*
13C4 PFOA	*99*		*25 - 150*
13C5 PFNA	*106*		*25 - 150*
13C2 PFDA	*120*		*25 - 150*
13C2 PFUnA	*106*		*25 - 150*
13C2 PFDoA	*109*		*25 - 150*
13C2 PFTeDA	*102*		*25 - 150*
13C3 PFBS	*106*		*25 - 150*
18O2 PFHxS	*116*		*25 - 150*
13C4 PFOS	*110*		*25 - 150*
13C8 FOSA	*111*		*25 - 150*
M2-4:2 FTS	*167*	**5+*	*25 - 150*
M2-6:2 FTS	*157*	**5+*	*25 - 150*
M2-8:2 FTS	*163*	**5+*	*25 - 150*
d3-NMeFOSAA	*135*		*25 - 150*
d5-NEtFOSAA	*140*		*25 - 150*
d-N-MeFOSA-M	*80*		*25 - 150*
d-N-EtFOSA-M	*62*		*25 - 150*
d7-N-MeFOSE-M	*26*		*25 - 150*
d9-N-EtFOSE-M	*18*	**5-*	*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-749269/3-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 749269

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroheptanoic acid (PFHpA)			10.0	7.83		ug/Kg		78	71 - 131	20	30
Perfluorooctanoic acid (PFOA)			10.0	8.12		ug/Kg		81	72 - 132	19	30
Perfluorononanoic acid (PFNA)			10.0	9.48		ug/Kg		95	73 - 133	0	30
Perfluorodecanoic acid (PFDA)			10.0	9.11		ug/Kg		91	72 - 132	6	30
Perfluoroundecanoic acid (PFUnA)			10.0	10.1		ug/Kg		101	66 - 126	2	30
Perfluorododecanoic acid (PFDoA)			10.0	10.8		ug/Kg		108	71 - 131	12	30
Perfluorotridecanoic acid (PFTrDA)			10.0	9.53		ug/Kg		95	71 - 131	15	30
Perfluorotetradecanoic acid (PFTeA)			10.0	9.71		ug/Kg		97	67 - 127	7	30
Perfluorobutanesulfonic acid (PFBS)			8.88	9.56		ug/Kg		108	69 - 129	17	30
Perfluoropentanesulfonic acid (PFPeS)			9.40	10.2		ug/Kg		109	66 - 126	1	30
Perfluorohexanesulfonic acid (PFHxS)			9.12	8.60		ug/Kg		94	62 - 122	5	30
Perfluoroheptanesulfonic acid (PFHpS)			9.54	10.2		ug/Kg		107	76 - 136	6	30
Perfluorooctanesulfonic acid (PFOS)			9.30	9.50		ug/Kg		102	68 - 141	4	30
Perfluorononanesulfonic acid (PFNS)			9.60	10.9		ug/Kg		113	72 - 132	3	30
Perfluorodecanesulfonic acid (PFDS)			9.64	9.94		ug/Kg		103	71 - 131	7	30
Perfluorododecanesulfonic acid (PFDoS)			9.70	8.31		ug/Kg		86	70 - 130	9	30
Perfluorooctanesulfonamide (FOSA)			10.0	9.27		ug/Kg		93	77 - 137	1	30
NMeFOSAA			10.0	11.5		ug/Kg		115	72 - 132	6	30
NEtFOSAA			10.0	11.0		ug/Kg		110	72 - 132	10	30
4:2 FTS			9.38	12.4		ug/Kg		132	68 - 143	1	30
6:2 FTS			9.52	9.02		ug/Kg		95	73 - 139	3	30
8:2 FTS			9.60	9.92		ug/Kg		103	75 - 135	14	30
NEtFOSA			10.0	2.02	*-	ug/Kg		20	47 - 161	30	30
NMeFOSA			10.0	1.04	*-	ug/Kg		10	63 - 148	24	30
NMeFOSE			10.0	8.23		ug/Kg		82	43 - 153	18	30
NEtFOSE			10.0	9.21		ug/Kg		92	44 - 155	19	30
9Cl-PF3ONS			9.34	8.00		ug/Kg		86	74 - 134	4	30
11Cl-PF3OUdS			9.44	8.72		ug/Kg		92	66 - 136	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFHpA	*116*		*25 - 150*
13C4 PFOA	*118*		*25 - 150*
13C5 PFNA	*112*		*25 - 150*
13C2 PFDA	*122*		*25 - 150*
13C2 PFUnA	*113*		*25 - 150*
13C2 PFDoA	*108*		*25 - 150*
13C2 PFTeDA	*109*		*25 - 150*
13C3 PFBS	*119*		*25 - 150*
18O2 PFHxS	*125*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-749269/3-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 749269

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFOS	*121*		*25 - 150*
13C8 FOSA	*119*		*25 - 150*
M2-4:2 FTS	*182*	**5+*	*25 - 150*
M2-6:2 FTS	*179*	**5+*	*25 - 150*
M2-8:2 FTS	*177*	**5+*	*25 - 150*
d3-NMeFOSAA	*140*		*25 - 150*
d5-NEtFOSAA	*152*	**5+*	*25 - 150*
d-N-MeFOSA-M	*68*		*25 - 150*
d-N-EtFOSA-M	*52*		*25 - 150*
d7-N-MeFOSE-M	*35*		*25 - 150*
d9-N-EtFOSE-M	*28*		*25 - 150*

Lab Sample ID: MB 320-749750/1-A
Matrix: Water
Analysis Batch: 751291

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 749750

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		13	6.0	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluoropentanoic acid (PFPeA)	ND		5.0	1.2	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorohexanoic acid (PFHxA)	ND		5.0	1.4	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluoroheptanoic acid (PFHpA)	ND		5.0	0.63	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorooctanoic acid (PFOA)	ND		5.0	2.1	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorononanoic acid (PFNA)	ND		5.0	0.68	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorodecanoic acid (PFDA)	ND		5.0	0.78	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	3.2	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	0.73	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		5.0	0.50	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		5.0	0.43	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		5.0	0.80	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		03/25/24 06:36	03/30/24 03:38	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	0.88	ng/L		03/25/24 06:36	03/30/24 03:38	1
NMeFOSAA	ND		13	3.0	ng/L		03/25/24 06:36	03/30/24 03:38	1
NEtFOSAA	ND		13	3.3	ng/L		03/25/24 06:36	03/30/24 03:38	1
4:2 FTS	ND		5.0	0.60	ng/L		03/25/24 06:36	03/30/24 03:38	1
6:2 FTS	ND		13	6.3	ng/L		03/25/24 06:36	03/30/24 03:38	1
8:2 FTS	ND		5.0	1.2	ng/L		03/25/24 06:36	03/30/24 03:38	1
NEtFOSA	ND		5.0	2.2	ng/L		03/25/24 06:36	03/30/24 03:38	1
NMeFOSA	ND		5.0	1.1	ng/L		03/25/24 06:36	03/30/24 03:38	1
NMeFOSE	ND		10	3.5	ng/L		03/25/24 06:36	03/30/24 03:38	1
NEtFOSE	ND		5.0	2.2	ng/L		03/25/24 06:36	03/30/24 03:38	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		03/25/24 06:36	03/30/24 03:38	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-749750/1-A
Matrix: Water
Analysis Batch: 751291

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 749750

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	ND		5.0	0.60	ng/L		03/25/24 06:36	03/30/24 03:38	1
11Cl-PF3OUdS	ND		5.0	0.80	ng/L		03/25/24 06:36	03/30/24 03:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		03/25/24 06:36	03/30/24 03:38	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C5 PFPeA	*86*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C2 PFHxA	*76*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C4 PFHpA	*78*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C4 PFOA	*89*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C5 PFNA	*92*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C2 PFDA	*101*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C2 PFUnA	*85*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C2 PFDoA	*83*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C2 PFTeDA	*78*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C3 PFBS	*78*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
18O2 PFHxS	*86*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C4 PFOS	*82*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C8 FOSA	*80*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
M2-4:2 FTS	*145*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
M2-6:2 FTS	*124*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
M2-8:2 FTS	*117*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
d5-NEtFOSAA	*97*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
d-N-MeFOSA-M	*71*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
d-N-EtFOSA-M	*74*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
d7-N-MeFOSE-M	*83*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
13C3 HFPO-DA	*84*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*
d9-N-EtFOSE-M	*75*		*25 - 150*	*03/25/24 06:36*	*03/30/24 03:38*	*1*

Lab Sample ID: LCS 320-749750/2-A
Matrix: Water
Analysis Batch: 751291

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 749750

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	100	110		ng/L		110	76 - 136
Perfluoropentanoic acid (PFPeA)	100	109		ng/L		109	71 - 131
Perfluorohexanoic acid (PFHxA)	100	105		ng/L		105	73 - 133
Perfluoroheptanoic acid (PFHpA)	100	111		ng/L		111	72 - 132
Perfluorooctanoic acid (PFOA)	100	102		ng/L		102	70 - 130
Perfluorononanoic acid (PFNA)	100	102		ng/L		102	75 - 135
Perfluorodecanoic acid (PFDA)	100	94.2		ng/L		94	76 - 136
Perfluoroundecanoic acid (PFUnA)	100	106		ng/L		106	68 - 128
Perfluorododecanoic acid (PFDoA)	100	103		ng/L		103	71 - 131
Perfluorotridecanoic acid (PFTrDA)	100	97.2		ng/L		97	71 - 131

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-749750/2-A
Matrix: Water
Analysis Batch: 751291

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 749750

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorotetradecanoic acid (PFTeA)	100	102		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	88.8	92.0		ng/L		104	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	94.0	108		ng/L		115	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	91.2	88.0		ng/L		96	59 - 119
Perfluoroheptanesulfonic acid (PFHpS)	95.4	107		ng/L		112	76 - 136
Perfluorooctanesulfonic acid (PFOS)	93.0	102		ng/L		109	70 - 130
Perfluorononanesulfonic acid (PFNS)	96.0	115		ng/L		119	75 - 135
Perfluorodecanesulfonic acid (PFDS)	96.4	103		ng/L		107	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	97.0	92.5		ng/L		95	67 - 127
Perfluorooctanesulfonamide (FOSA)	100	101		ng/L		101	73 - 133
NMeFOSAA	100	115		ng/L		115	76 - 136
NEtFOSAA	100	110		ng/L		110	76 - 136
4:2 FTS	93.8	130		ng/L		139	79 - 139
6:2 FTS	95.2	93.9		ng/L		99	59 - 175
8:2 FTS	96.0	105		ng/L		109	75 - 135
NEtFOSA	100	73.6	*-	ng/L		74	78 - 138
NMeFOSA	100	57.6	*-	ng/L		58	67 - 154
NMeFOSE	100	94.2		ng/L		94	70 - 130
NEtFOSE	100	98.6		ng/L		99	71 - 131
HFPO-DA (GenX)	100	103		ng/L		103	51 - 173
9Cl-PF3ONS	93.4	95.2		ng/L		102	75 - 135
11Cl-PF3OUdS	94.4	103		ng/L		110	54 - 114
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	94.6	110		ng/L		116	79 - 139

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*82*		*25 - 150*
13C5 PFPeA	*87*		*25 - 150*
13C2 PFHxA	*87*		*25 - 150*
13C4 PFHpA	*82*		*25 - 150*
13C4 PFOA	*92*		*25 - 150*
13C5 PFNA	*96*		*25 - 150*
13C2 PFDA	*102*		*25 - 150*
13C2 PFUnA	*87*		*25 - 150*
13C2 PFDoA	*90*		*25 - 150*
13C2 PFTeDA	*88*		*25 - 150*
13C3 PFBS	*84*		*25 - 150*
18O2 PFHxS	*92*		*25 - 150*
13C4 PFOS	*85*		*25 - 150*
13C8 FOSA	*83*		*25 - 150*
M2-4:2 FTS	*119*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-749750/2-A
Matrix: Water
Analysis Batch: 751291

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 749750

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-6:2 FTS	*133*		*25 - 150*
M2-8:2 FTS	*117*		*25 - 150*
d3-NMeFOSAA	*99*		*25 - 150*
d5-NEtFOSAA	*103*		*25 - 150*
d-N-MeFOSA-M	*77*		*25 - 150*
d-N-EtFOSA-M	*76*		*25 - 150*
d7-N-MeFOSE-M	*91*		*25 - 150*
13C3 HFPO-DA	*84*		*25 - 150*
d9-N-EtFOSE-M	*81*		*25 - 150*

Lab Sample ID: LCSD 320-749750/3-A
Matrix: Water
Analysis Batch: 751291

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 749750

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	100	103		ng/L		103	76 - 136	7	30
Perfluoropentanoic acid (PFPeA)	100	106		ng/L		106	71 - 131	2	30
Perfluorohexanoic acid (PFHxA)	100	105		ng/L		105	73 - 133	0	30
Perfluoroheptanoic acid (PFHpA)	100	106		ng/L		106	72 - 132	4	30
Perfluorooctanoic acid (PFOA)	100	103		ng/L		103	70 - 130	1	30
Perfluorononanoic acid (PFNA)	100	101		ng/L		101	75 - 135	1	30
Perfluorodecanoic acid (PFDA)	100	96.1		ng/L		96	76 - 136	2	30
Perfluoroundecanoic acid (PFUnA)	100	106		ng/L		106	68 - 128	0	30
Perfluorododecanoic acid (PFDoA)	100	103		ng/L		103	71 - 131	0	30
Perfluorotridecanoic acid (PFTrDA)	100	90.8		ng/L		91	71 - 131	7	30
Perfluorotetradecanoic acid (PFTeA)	100	99.0		ng/L		99	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS)	88.8	87.6		ng/L		99	67 - 127	5	30
Perfluoropentanesulfonic acid (PFPeS)	94.0	103		ng/L		110	66 - 126	5	30
Perfluorohexanesulfonic acid (PFHxS)	91.2	89.1		ng/L		98	59 - 119	1	30
Perfluoroheptanesulfonic acid (PFHpS)	95.4	97.6		ng/L		102	76 - 136	9	30
Perfluorooctanesulfonic acid (PFOS)	93.0	94.9		ng/L		102	70 - 130	7	30
Perfluorononanesulfonic acid (PFNS)	96.0	107		ng/L		112	75 - 135	7	30
Perfluorodecanesulfonic acid (PFDS)	96.4	97.0		ng/L		101	71 - 131	6	30
Perfluorododecanesulfonic acid (PFDoS)	97.0	87.1		ng/L		90	67 - 127	6	30
Perfluorooctanesulfonamide (FOSA)	100	96.9		ng/L		97	73 - 133	4	30
NMeFOSAA	100	112		ng/L		112	76 - 136	3	30
NEtFOSAA	100	111		ng/L		111	76 - 136	1	30
4:2 FTS	93.8	140	*+	ng/L		149	79 - 139	7	30
6:2 FTS	95.2	95.7		ng/L		100	59 - 175	2	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-749750/3-A
Matrix: Water
Analysis Batch: 751291

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 749750

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
8:2 FTS	96.0	102		ng/L		106	75 - 135	3	30
NEtFOSA	100	64.4	*-	ng/L		64	78 - 138	13	30
NMeFOSA	100	49.9	*-	ng/L		50	67 - 154	14	30
NMeFOSE	100	93.3		ng/L		93	70 - 130	1	30
NEtFOSE	100	99.4		ng/L		99	71 - 131	1	30
HFPO-DA (GenX)	100	101		ng/L		101	51 - 173	2	30
9Cl-PF3ONS	93.4	88.7		ng/L		95	75 - 135	7	30
11Cl-PF3OUdS	94.4	95.1		ng/L		101	54 - 114	8	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	94.6	107		ng/L		113	79 - 139	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*88*		*25 - 150*
13C5 PFPeA	*88*		*25 - 150*
13C2 PFHxA	*88*		*25 - 150*
13C4 PFHpA	*91*		*25 - 150*
13C4 PFOA	*93*		*25 - 150*
13C5 PFNA	*99*		*25 - 150*
13C2 PFDA	*106*		*25 - 150*
13C2 PFUnA	*92*		*25 - 150*
13C2 PFDoA	*97*		*25 - 150*
13C2 PFTeDA	*98*		*25 - 150*
13C3 PFBS	*88*		*25 - 150*
18O2 PFHxS	*93*		*25 - 150*
13C4 PFOS	*89*		*25 - 150*
13C8 FOSA	*80*		*25 - 150*
M2-4:2 FTS	*123*		*25 - 150*
M2-6:2 FTS	*134*		*25 - 150*
M2-8:2 FTS	*123*		*25 - 150*
d3-NMeFOSAA	*103*		*25 - 150*
d5-NEtFOSAA	*107*		*25 - 150*
d-N-MeFOSA-M	*64*		*25 - 150*
d-N-EtFOSA-M	*66*		*25 - 150*
d7-N-MeFOSE-M	*87*		*25 - 150*
13C3 HFPO-DA	*88*		*25 - 150*
d9-N-EtFOSE-M	*74*		*25 - 150*

Lab Sample ID: MB 320-753348/1-A
Matrix: Solid
Analysis Batch: 754056

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 753348

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.0	0.23	ug/Kg		04/09/24 10:28	04/11/24 16:42	1
Perfluoropentanoic acid (PFPeA)	ND		1.0	0.21	ug/Kg		04/09/24 10:28	04/11/24 16:42	1
Perfluorohexanoic acid (PFHxA)	ND		1.0	0.16	ug/Kg		04/09/24 10:28	04/11/24 16:42	1
6:2 FTS	ND		1.0	0.14	ug/Kg		04/09/24 10:28	04/11/24 16:42	1
HFPO-DA (GenX)	ND		1.0	0.21	ug/Kg		04/09/24 10:28	04/11/24 16:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.0	0.20	ug/Kg		04/09/24 10:28	04/11/24 16:42	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	90		25 - 150	04/09/24 10:28	04/11/24 16:42	1
13C5 PFPeA	90		25 - 150	04/09/24 10:28	04/11/24 16:42	1
13C2 PFHxA	89		25 - 150	04/09/24 10:28	04/11/24 16:42	1
13C4 PFOS	87		25 - 150	04/09/24 10:28	04/11/24 16:42	1
M2-6:2 FTS	108		25 - 150	04/09/24 10:28	04/11/24 16:42	1
13C3 HFPO-DA	92		25 - 150	04/09/24 10:28	04/11/24 16:42	1

Lab Sample ID: LCS 320-753348/2-A
Matrix: Solid
Analysis Batch: 754056

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 753348

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	10.0	9.63		ug/Kg		96	76 - 136
Perfluoropentanoic acid (PFPeA)	10.0	9.78		ug/Kg		98	69 - 129
Perfluorohexanoic acid (PFHxA)	10.0	9.96		ug/Kg		100	71 - 131
6:2 FTS	9.52	8.15		ug/Kg		86	73 - 139
HFPO-DA (GenX)	10.0	11.2		ug/Kg		112	53 - 158
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.46	10.7		ug/Kg		113	79 - 139

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	94		25 - 150
13C5 PFPeA	94		25 - 150
13C2 PFHxA	93		25 - 150
13C4 PFOS	87		25 - 150
M2-6:2 FTS	113		25 - 150
13C3 HFPO-DA	94		25 - 150

Lab Sample ID: LCSD 320-753348/3-A
Matrix: Solid
Analysis Batch: 754056

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 753348

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	10.0	9.84		ug/Kg		98	76 - 136	2	30
Perfluoropentanoic acid (PFPeA)	10.0	9.30		ug/Kg		93	69 - 129	5	30
Perfluorohexanoic acid (PFHxA)	10.0	9.64		ug/Kg		96	71 - 131	3	30
6:2 FTS	9.52	8.25		ug/Kg		87	73 - 139	1	30
HFPO-DA (GenX)	10.0	9.85		ug/Kg		98	53 - 158	13	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.46	10.4		ug/Kg		110	79 - 139	2	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C4 PFBA	93		25 - 150
13C5 PFPeA	99		25 - 150
13C2 PFHxA	99		25 - 150
13C4 PFOS	92		25 - 150
M2-6:2 FTS	110		25 - 150
13C3 HFPO-DA	100		25 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-749270/1-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 749270

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1.56		1.0	0.23	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluoropentanoic acid (PFPeA)	ND		1.0	0.21	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorohexanoic acid (PFHxA)	ND		1.0	0.16	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluoroheptanoic acid (PFHpA)	ND		1.0	0.19	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorooctanoic acid (PFOA)	ND		1.0	0.27	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorononanoic acid (PFNA)	ND		1.0	0.11	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorodecanoic acid (PFDA)	ND		1.0	0.24	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluoroundecanoic acid (PFUnA)	ND		1.0	0.21	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorododecanoic acid (PFDoA)	ND		1.0	0.15	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.0	0.11	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.0	0.19	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.0	0.19	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.0	0.19	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.0	0.15	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.0	0.25	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.0	0.22	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorononanesulfonic acid (PFNS)	ND		1.0	0.15	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.0	0.26	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.0	0.24	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
Perfluorooctanesulfonamide (FOSA)	ND		1.0	0.17	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
NMeFOSAA	ND		1.0	0.12	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
NEtFOSAA	ND		1.0	0.24	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
4:2 FTS	ND		1.0	0.26	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
6:2 FTS	ND		1.0	0.14	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
NEtFOSA	ND		1.0	0.24	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
NMeFOSA	ND		1.0	0.25	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
NMeFOSE	ND		1.0	0.24	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
NEtFOSE	ND		1.0	0.14	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
9Cl-PF3ONS	ND		1.0	0.18	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
11Cl-PF3OUdS	ND		1.0	0.16	ug/Kg		03/22/24 09:54	04/02/24 14:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.0	0.20	ug/Kg		03/22/24 09:54	04/02/24 14:19	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*
13C5 PFPeA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*
13C2 PFHxA	*92*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*
13C4 PFHpA	*96*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*
13C4 PFOA	*97*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*
13C5 PFNA	*106*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*
13C2 PFDA	*108*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*
13C2 PFUnA	*96*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*
13C2 PFDoA	*98*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*
13C2 PFTeDA	*100*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*
13C3 PFBS	*106*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*
18O2 PFHxS	*107*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:19*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-749270/1-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 749270

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	104		25 - 150	03/22/24 09:54	04/02/24 14:19	1
13C8 FOSA	95		25 - 150	03/22/24 09:54	04/02/24 14:19	1
M2-4:2 FTS	0.4		0 - 10	03/22/24 09:54	04/02/24 14:19	1
M2-6:2 FTS	149		25 - 150	03/22/24 09:54	04/02/24 14:19	1
d3-NMeFOSAA	107		25 - 150	03/22/24 09:54	04/02/24 14:19	1
d5-NEtFOSAA	128		25 - 150	03/22/24 09:54	04/02/24 14:19	1
d-N-MeFOSA-M	36		25 - 150	03/22/24 09:54	04/02/24 14:19	1
d-N-EtFOSA-M	34		25 - 150	03/22/24 09:54	04/02/24 14:19	1
d7-N-MeFOSE-M	36		25 - 150	03/22/24 09:54	04/02/24 14:19	1
d9-N-EtFOSE-M	35		25 - 150	03/22/24 09:54	04/02/24 14:19	1

Lab Sample ID: LCS 320-749270/2-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 749270

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	10.0	11.6		ug/Kg		116	96 - 183
Perfluoropentanoic acid (PFPeA)	10.0	13.7		ug/Kg		137	81 - 141
Perfluorohexanoic acid (PFHxA)	10.0	16.1	*+	ug/Kg		161	92 - 152
Perfluoroheptanoic acid (PFHpA)	10.0	16.1	*+	ug/Kg		161	100 - 160
Perfluorooctanoic acid (PFOA)	10.0	30.4		ug/Kg		304	169 - 414
Perfluorononanoic acid (PFNA)	10.0	13.8		ug/Kg		138	82 - 142
Perfluorodecanoic acid (PFDA)	10.0	12.6		ug/Kg		126	81 - 141
Perfluoroundecanoic acid (PFUnA)	10.0	11.5		ug/Kg		115	70 - 130
Perfluorododecanoic acid (PFDoA)	10.0	10.6		ug/Kg		106	63 - 123
Perfluorotridecanoic acid (PFTrDA)	10.0	9.47		ug/Kg		95	63 - 123
Perfluorotetradecanoic acid (PFTeA)	10.0	9.88		ug/Kg		99	55 - 115
Perfluorobutanesulfonic acid (PFBS)	8.88	9.86		ug/Kg		111	74 - 134
Perfluoropentanesulfonic acid (PFPeS)	9.40	10.8		ug/Kg		115	68 - 134
Perfluorohexanesulfonic acid (PFHxS)	9.12	9.64		ug/Kg		106	61 - 121
Perfluoroheptanesulfonic acid (PFHpS)	9.54	10.6		ug/Kg		111	68 - 128
Perfluorooctanesulfonic acid (PFOS)	9.30	10.9		ug/Kg		117	70 - 138
Perfluorononanesulfonic acid (PFNS)	9.60	11.4		ug/Kg		119	66 - 126
Perfluorodecanesulfonic acid (PFDS)	9.64	9.96		ug/Kg		103	66 - 126
Perfluorododecanesulfonic acid (PFDoS)	9.70	9.01		ug/Kg		93	70 - 130
Perfluorooctanesulfonamide (FOSA)	10.0	0.904	J	ug/Kg		9	0 - 10
NMeFOSAA	10.0	0.349	J	ug/Kg		3	0 - 10
NEtFOSAA	10.0	0.259	J	ug/Kg		3	0 - 10
4:2 FTS	9.38	ND		ug/Kg		0.4	0 - 10

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-749270/2-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 749270

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
6:2 FTS	9.52	0.548	J	ug/Kg		6	0 - 10
NEtFOSA	10.0	ND		ug/Kg		0	0 - 10
NMeFOSA	10.0	ND		ug/Kg		0	0 - 10
NMeFOSE	10.0	ND		ug/Kg		2	0 - 10
NEtFOSE	10.0	0.245	J	ug/Kg		2	0 - 10
9Cl-PF3ONS	9.34	7.51		ug/Kg		80	74 - 134
11Cl-PF3OUdS	9.44	7.50		ug/Kg		79	66 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	9.46	0.376	J	ug/Kg		4	0 - 10

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*99*		*25 - 150*
13C5 PFPeA	*99*		*25 - 150*
13C2 PFHxA	*100*		*25 - 150*
13C4 PFHpA	*101*		*25 - 150*
13C4 PFOA	*100*		*25 - 150*
13C5 PFNA	*103*		*25 - 150*
13C2 PFDA	*109*		*25 - 150*
13C2 PFUnA	*90*		*25 - 150*
13C2 PFDoA	*96*		*25 - 150*
13C2 PFTeDA	*102*		*25 - 150*
13C3 PFBS	*107*		*25 - 150*
18O2 PFHxS	*113*		*25 - 150*
13C4 PFOS	*104*		*25 - 150*
13C8 FOSA	*97*		*25 - 150*
M2-4:2 FTS	*0.5*		*0 - 10*
M2-6:2 FTS	*143*		*25 - 150*
d3-NMeFOSAA	*113*		*25 - 150*
d5-NEtFOSAA	*125*		*25 - 150*
d-N-MeFOSA-M	*37*		*25 - 150*
d-N-EtFOSA-M	*36*		*25 - 150*
d7-N-MeFOSE-M	*40*		*25 - 150*
d9-N-EtFOSE-M	*39*		*25 - 150*

Lab Sample ID: LCSD 320-749270/3-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 749270

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	10.0	10.9		ug/Kg		109	96 - 183	6	30
Perfluoropentanoic acid (PFPeA)	10.0	12.0		ug/Kg		120	81 - 141	13	30
Perfluorohexanoic acid (PFHxA)	10.0	15.0		ug/Kg		150	92 - 152	7	30
Perfluoroheptanoic acid (PFHpA)	10.0	17.2	*+	ug/Kg		172	100 - 160	7	30
Perfluorooctanoic acid (PFOA)	10.0	31.1		ug/Kg		311	169 - 414	2	30
Perfluorononanoic acid (PFNA)	10.0	15.3	*+	ug/Kg		153	82 - 142	10	30
Perfluorodecanoic acid (PFDA)	10.0	13.1		ug/Kg		131	81 - 141	5	30
Perfluoroundecanoic acid (PFUnA)	10.0	10.4		ug/Kg		104	70 - 130	9	30
Perfluorododecanoic acid (PFDoA)	10.0	10.1		ug/Kg		101	63 - 123	5	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-749270/3-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 749270

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorotridecanoic acid (PFTrDA)			10.0	9.29		ug/Kg		93	63 - 123	2	30
Perfluorotetradecanoic acid (PFTeA)			10.0	9.04		ug/Kg		90	55 - 115	9	30
Perfluorobutanesulfonic acid (PFBS)			8.88	9.19		ug/Kg		104	74 - 134	7	30
Perfluoropentanesulfonic acid (PFPeS)			9.40	10.4		ug/Kg		111	68 - 134	4	30
Perfluorohexanesulfonic acid (PFHxS)			9.12	9.47		ug/Kg		104	61 - 121	2	30
Perfluoroheptanesulfonic acid (PFHpS)			9.54	10.3		ug/Kg		108	68 - 128	3	30
Perfluorooctanesulfonic acid (PFOS)			9.30	10.5		ug/Kg		113	70 - 138	3	30
Perfluorononanesulfonic acid (PFNS)			9.60	11.0		ug/Kg		115	66 - 126	4	30
Perfluorodecanesulfonic acid (PFDS)			9.64	8.89		ug/Kg		92	66 - 126	11	30
Perfluorododecanesulfonic acid (PFDoS)			9.70	8.61		ug/Kg		89	70 - 130	5	30
Perfluorooctanesulfonamide (FOSA)			10.0	0.814	J	ug/Kg		8	0 - 10	10	30
NMeFOSAA			10.0	0.205	J *1	ug/Kg		2	0 - 10	52	30
NEtFOSAA			10.0	ND		ug/Kg		2	0 - 10	11	30
4:2 FTS			9.38	ND	*1	ug/Kg		0.2	0 - 10	44	30
6:2 FTS			9.52	0.431	J	ug/Kg		5	0 - 10	24	30
NEtFOSA			10.0	ND		ug/Kg		0	0 - 10	NC	30
NMeFOSA			10.0	ND		ug/Kg		0	0 - 10	NC	30
NMeFOSE			10.0	ND	*1	ug/Kg		0	0 - 10	200	30
NEtFOSE			10.0	ND	*1	ug/Kg		0.6	0 - 10	125	30
9Cl-PF3ONS			9.34	7.28		ug/Kg		78	74 - 134	3	30
11Cl-PF3OUdS			9.44	7.16		ug/Kg		76	66 - 136	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			9.46	0.268	J *1	ug/Kg		3	0 - 10	34	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*99*		*25 - 150*
13C5 PFPeA	*102*		*25 - 150*
13C2 PFHxA	*96*		*25 - 150*
13C4 PFHpA	*105*		*25 - 150*
13C4 PFOA	*103*		*25 - 150*
13C5 PFNA	*102*		*25 - 150*
13C2 PFDA	*110*		*25 - 150*
13C2 PFUnA	*99*		*25 - 150*
13C2 PFDoA	*99*		*25 - 150*
13C2 PFTeDA	*107*		*25 - 150*
13C3 PFBS	*111*		*25 - 150*
18O2 PFHxS	*114*		*25 - 150*
13C4 PFOS	*108*		*25 - 150*
13C8 FOSA	*95*		*25 - 150*
M2-4:2 FTS	*0.6*		*0 - 10*
M2-6:2 FTS	*146*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-749270/3-A
Matrix: Solid
Analysis Batch: 751790

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 749270

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
d3-NMeFOSAA	*108*		*25 - 150*
d5-NEtFOSAA	*114*		*25 - 150*
d-N-MeFOSA-M	*47*		*25 - 150*
d-N-EtFOSA-M	*48*		*25 - 150*
d7-N-MeFOSE-M	*47*		*25 - 150*
d9-N-EtFOSE-M	*48*		*25 - 150*

Lab Sample ID: MB 320-749751/1-A
Matrix: Water
Analysis Batch: 751293

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 749751

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		13	6.0	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluoropentanoic acid (PFPeA)	ND		5.0	1.2	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorohexanoic acid (PFHxA)	ND		5.0	1.4	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluoroheptanoic acid (PFHpA)	ND		5.0	0.63	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorooctanoic acid (PFOA)	ND		5.0	2.1	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorononanoic acid (PFNA)	ND		5.0	0.68	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorodecanoic acid (PFDA)	ND		5.0	0.78	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	3.2	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorotetradecanoic acid (PFTeA)	0.918	J	5.0	0.73	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		5.0	0.50	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		5.0	0.43	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		5.0	0.80	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		03/25/24 06:36	03/30/24 15:48	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	0.88	ng/L		03/25/24 06:36	03/30/24 15:48	1
NMeFOSAA	ND		13	3.0	ng/L		03/25/24 06:36	03/30/24 15:48	1
NEtFOSAA	ND		13	3.3	ng/L		03/25/24 06:36	03/30/24 15:48	1
4:2 FTS	ND		5.0	0.60	ng/L		03/25/24 06:36	03/30/24 15:48	1
6:2 FTS	ND		13	6.3	ng/L		03/25/24 06:36	03/30/24 15:48	1
8:2 FTS	ND		5.0	1.2	ng/L		03/25/24 06:36	03/30/24 15:48	1
NEtFOSA	ND		5.0	2.2	ng/L		03/25/24 06:36	03/30/24 15:48	1
NMeFOSA	ND		5.0	1.1	ng/L		03/25/24 06:36	03/30/24 15:48	1
NMeFOSE	ND		10	3.5	ng/L		03/25/24 06:36	03/30/24 15:48	1
NEtFOSE	ND		5.0	2.2	ng/L		03/25/24 06:36	03/30/24 15:48	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		03/25/24 06:36	03/30/24 15:48	1
9Cl-PF3ONS	ND		5.0	0.60	ng/L		03/25/24 06:36	03/30/24 15:48	1
11Cl-PF3OUdS	ND		5.0	0.80	ng/L		03/25/24 06:36	03/30/24 15:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		03/25/24 06:36	03/30/24 15:48	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	81		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C5 PFPeA	85		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C2 PFHxA	82		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C4 PFHpA	88		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C4 PFOA	91		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C5 PFNA	98		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C2 PFDA	92		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C2 PFUnA	84		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C2 PFDoA	82		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C2 PFTeDA	85		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C3 PFBS	81		25 - 150	03/25/24 06:36	03/30/24 15:48	1
18O2 PFHxS	87		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C4 PFOS	83		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C8 FOSA	80		25 - 150	03/25/24 06:36	03/30/24 15:48	1
M2-4:2 FTS	0		0 - 10	03/25/24 06:36	03/30/24 15:48	1
M2-6:2 FTS	122		25 - 150	03/25/24 06:36	03/30/24 15:48	1
M2-8:2 FTS	110		25 - 150	03/25/24 06:36	03/30/24 15:48	1
d3-NMeFOSAA	88		25 - 150	03/25/24 06:36	03/30/24 15:48	1
d5-NEtFOSAA	95		25 - 150	03/25/24 06:36	03/30/24 15:48	1
d-N-MeFOSA-M	68		25 - 150	03/25/24 06:36	03/30/24 15:48	1
d-N-EtFOSA-M	70		25 - 150	03/25/24 06:36	03/30/24 15:48	1
d7-N-MeFOSE-M	82		25 - 150	03/25/24 06:36	03/30/24 15:48	1
13C3 HFPO-DA	84		25 - 150	03/25/24 06:36	03/30/24 15:48	1
d9-N-EtFOSE-M	75		25 - 150	03/25/24 06:36	03/30/24 15:48	1

Lab Sample ID: LCS 320-749751/2-A
Matrix: Water
Analysis Batch: 751293

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 749751

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	100	193	*+	ng/L		193	93 - 153
Perfluoropentanoic acid (PFPeA)	100	199	*+	ng/L		199	85 - 145
Perfluorohexanoic acid (PFHxA)	100	235	*+	ng/L		235	81 - 141
Perfluoroheptanoic acid (PFHpA)	100	248	*+	ng/L		248	104 - 171
Perfluorooctanoic acid (PFOA)	100	377		ng/L		377	158 - 454
Perfluorononanoic acid (PFNA)	100	161	*+	ng/L		161	66 - 126
Perfluorodecanoic acid (PFDA)	100	133	*+	ng/L		133	65 - 125
Perfluoroundecanoic acid (PFUnA)	100	111		ng/L		111	57 - 117
Perfluorododecanoic acid (PFDoA)	100	103		ng/L		103	66 - 126
Perfluorotridecanoic acid (PFTrDA)	100	94.7		ng/L		95	65 - 136
Perfluorotetradecanoic acid (PFTeA)	100	97.9		ng/L		98	63 - 123
Perfluorobutanesulfonic acid (PFBS)	88.8	90.1		ng/L		101	75 - 135
Perfluoropentanesulfonic acid (PFPeS)	94.0	106		ng/L		113	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	91.2	88.9		ng/L		97	64 - 124
Perfluoroheptanesulfonic acid (PFHpS)	95.4	106		ng/L		111	70 - 131

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-749751/2-A
Matrix: Water
Analysis Batch: 751293

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 749751

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS)	93.0	103		ng/L		111	68 - 128
Perfluorononanesulfonic acid (PFNS)	96.0	111		ng/L		115	70 - 130
Perfluorodecanesulfonic acid (PFDS)	96.4	95.1		ng/L		99	66 - 126
Perfluorododecanesulfonic acid (PFDoS)	97.0	82.0		ng/L		85	67 - 127
Perfluorooctanesulfonamide (FOSA)	100	4.89	J	ng/L		5	0 - 10
NMeFOSAA	100	ND		ng/L		1	0 - 10
NEtFOSAA	100	ND		ng/L		0.6	0 - 10
4:2 FTS	93.8	ND		ng/L		0	0 - 10
6:2 FTS	95.2	ND		ng/L		2	0 - 10
8:2 FTS	96.0	4.57	J	ng/L		5	0 - 10
NEtFOSA	100	ND		ng/L		0	0 - 10
NMeFOSA	100	ND		ng/L		0	0 - 10
NMeFOSE	100	ND		ng/L		0	0 - 10
NEtFOSE	100	ND		ng/L		0	0 - 10
HFPO-DA (GenX)	100	79.5		ng/L		79	51 - 173
9Cl-PF3ONS	93.4	87.2		ng/L		93	75 - 135
11Cl-PF3OUdS	94.4	73.2		ng/L		78	54 - 114
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	94.6	2.88	J	ng/L		3	0 - 10

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*88*		*25 - 150*
13C5 PFPeA	*91*		*25 - 150*
13C2 PFHxA	*90*		*25 - 150*
13C4 PFHpA	*87*		*25 - 150*
13C4 PFOA	*94*		*25 - 150*
13C5 PFNA	*100*		*25 - 150*
13C2 PFDA	*98*		*25 - 150*
13C2 PFUnA	*91*		*25 - 150*
13C2 PFDoA	*90*		*25 - 150*
13C2 PFTeDA	*92*		*25 - 150*
13C3 PFBS	*88*		*25 - 150*
18O2 PFHxS	*94*		*25 - 150*
13C4 PFOS	*87*		*25 - 150*
13C8 FOSA	*79*		*25 - 150*
M2-4:2 FTS	*0*		*0 - 10*
M2-6:2 FTS	*123*		*25 - 150*
M2-8:2 FTS	*118*		*25 - 150*
d3-NMeFOSAA	*98*		*25 - 150*
d5-NEtFOSAA	*99*		*25 - 150*
d-N-MeFOSA-M	*59*		*25 - 150*
d-N-EtFOSA-M	*54*		*25 - 150*
d7-N-MeFOSE-M	*74*		*25 - 150*
13C3 HFPO-DA	*93*		*25 - 150*
d9-N-EtFOSE-M	*63*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-749751/3-A
Matrix: Water
Analysis Batch: 751293

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 749751

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			100	184	*+	ng/L		184	93 - 153	5	30
Perfluoropentanoic acid (PFPeA)			100	196	*+	ng/L		196	85 - 145	2	30
Perfluorohexanoic acid (PFHxA)			100	231	*+	ng/L		231	81 - 141	2	30
Perfluoroheptanoic acid (PFHpA)			100	231	*+	ng/L		231	104 - 171	7	30
Perfluorooctanoic acid (PFOA)			100	363		ng/L		363	158 - 454	4	30
Perfluorononanoic acid (PFNA)			100	160	*+	ng/L		160	66 - 126	0	30
Perfluorodecanoic acid (PFDA)			100	127	*+	ng/L		127	65 - 125	5	30
Perfluoroundecanoic acid (PFUnA)			100	106		ng/L		106	57 - 117	4	30
Perfluorododecanoic acid (PFDoA)			100	99.7		ng/L		100	66 - 126	3	30
Perfluorotridecanoic acid (PFTrDA)			100	91.9		ng/L		92	65 - 136	3	30
Perfluorotetradecanoic acid (PFTeA)			100	97.5		ng/L		97	63 - 123	0	30
Perfluorobutanesulfonic acid (PFBS)			88.8	94.3		ng/L		106	75 - 135	5	30
Perfluoropentanesulfonic acid (PFPeS)			94.0	106		ng/L		113	70 - 130	0	30
Perfluorohexanesulfonic acid (PFHxS)			91.2	92.2		ng/L		101	64 - 124	4	30
Perfluoroheptanesulfonic acid (PFHpS)			95.4	104		ng/L		109	70 - 131	2	30
Perfluorooctanesulfonic acid (PFOS)			93.0	103		ng/L		110	68 - 128	1	30
Perfluorononanesulfonic acid (PFNS)			96.0	111		ng/L		116	70 - 130	1	30
Perfluorodecanesulfonic acid (PFDS)			96.4	93.8		ng/L		97	66 - 126	1	30
Perfluorododecanesulfonic acid (PFDoS)			97.0	77.3		ng/L		80	67 - 127	6	30
Perfluorooctanesulfonamide (FOSA)			100	4.83	J	ng/L		5	0 - 10	1	30
NMeFOSAA			100	ND	*1	ng/L		2	0 - 10	34	30
NEtFOSAA			100	ND	*1	ng/L		2	0 - 10	95	30
4:2 FTS			93.8	ND		ng/L		0	0 - 10	NC	30
6:2 FTS			95.2	ND		ng/L		2	0 - 10	10	30
8:2 FTS			96.0	5.49		ng/L		6	0 - 10	18	30
NEtFOSA			100	ND		ng/L		0	0 - 10	NC	30
NMeFOSA			100	ND		ng/L		0	0 - 10	NC	30
NMeFOSE			100	ND	*1	ng/L		0.3	0 - 10	200	30
NEtFOSE			100	ND	*1	ng/L		0.7	0 - 10	200	30
HFPO-DA (GenX)			100	80.2		ng/L		80	51 - 173	1	30
9Cl-PF3ONS			93.4	86.3		ng/L		92	75 - 135	1	30
11Cl-PF3OUdS			94.4	68.4		ng/L		72	54 - 114	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			94.6	2.36	J	ng/L		2	0 - 10	20	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*78*		*25 - 150*
13C5 PFPeA	*96*		*25 - 150*
13C2 PFHxA	*96*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-749751/3-A
Matrix: Water
Analysis Batch: 751293

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 749751

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C4 PFHpA	93		25 - 150
13C4 PFOA	96		25 - 150
13C5 PFNA	103		25 - 150
13C2 PFDA	101		25 - 150
13C2 PFUnA	95		25 - 150
13C2 PFDoA	89		25 - 150
13C2 PFTeDA	84		25 - 150
13C3 PFBS	85		25 - 150
18O2 PFHxS	89		25 - 150
13C4 PFOS	85		25 - 150
13C8 FOSA	89		25 - 150
M2-4:2 FTS	0		0 - 10
M2-6:2 FTS	139		25 - 150
M2-8:2 FTS	121		25 - 150
d3-NMeFOSAA	93		25 - 150
d5-NEtFOSAA	108		25 - 150
d-N-MeFOSA-M	65		25 - 150
d-N-EtFOSA-M	51		25 - 150
d7-N-MeFOSE-M	36		25 - 150
13C3 HFPO-DA	93		25 - 150
d9-N-EtFOSE-M	28		25 - 150

Lab Sample ID: MB 320-753365/1-A
Matrix: Solid
Analysis Batch: 754056

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 753365

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	ND		1.0	0.18	ug/Kg		04/09/24 10:28	04/11/24 19:18	1
HFPO-DA (GenX)	ND		1.0	0.21	ug/Kg		04/09/24 10:28	04/11/24 19:18	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-4:2 FTS	0		0 - 10	04/09/24 10:28	04/11/24 19:18	1
M2-8:2 FTS	93		25 - 150	04/09/24 10:28	04/11/24 19:18	1
13C3 HFPO-DA	95		25 - 150	04/09/24 10:28	04/11/24 19:18	1

Lab Sample ID: LCS 320-753365/2-A
Matrix: Solid
Analysis Batch: 754056

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 753365

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
8:2 FTS			9.60	0.421	J	ug/Kg		4	0 - 10		
HFPO-DA (GenX)			10.0	8.80		ug/Kg		88	53 - 158		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
M2-4:2 FTS	0		0 - 10
M2-8:2 FTS	105		25 - 150
13C3 HFPO-DA	102		25 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-753365/3-A
Matrix: Solid
Analysis Batch: 754056

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 753365

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
8:2 FTS			9.60	0.484	J	ug/Kg		5	0 - 10	14	30
HFPO-DA (GenX)			10.0	8.69		ug/Kg		87	53 - 158	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-4:2 FTS	*0*		*0 - 10*
M2-8:2 FTS	*96*		*25 - 150*
13C3 HFPO-DA	*100*		*25 - 150*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-759861/1
Matrix: Water
Analysis Batch: 759861

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			03/25/24 16:20	1

Lab Sample ID: LCS 500-759861/2
Matrix: Water
Analysis Batch: 759861

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			200	170		mg/L		85	80 - 120		

Lab Sample ID: MB 500-760041/1
Matrix: Water
Analysis Batch: 760041

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			03/26/24 13:52	1

Lab Sample ID: LCS 500-760041/2
Matrix: Water
Analysis Batch: 760041

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			200	199		mg/L		99	80 - 120		

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

LCMS

Prep Batch: 749216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-1	Inf-02 20240318	Total/NA	Water	3535	
320-110655-2	Inf-07 20240318	Total/NA	Water	3535	
320-110655-3	Inf-08 20240318	Total/NA	Water	3535	
320-110655-4	Inf-11 20240318	Total/NA	Water	3535	
320-110655-5	Inf-18 20240318	Total/NA	Water	3535	
320-110655-6	Inf-Comp 20240318	Total/NA	Water	3535	
320-110655-7	Eff-20240319	Total/NA	Water	3535	
320-110655-8	Eff-G-20240319	Total/NA	Water	3535	
320-110655-11	EB-01-20240319	Total/NA	Water	3535	
MB 320-749216/1-A	Method Blank	Total/NA	Water	3535	
LLCS 320-749216/2-A	Lab Control Sample	Total/NA	Water	3535	

Prep Batch: 749269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-9	BIO-A-22-20240319	Pre-Treatment	Solid	TOP Pre-Prep	
320-110655-10	BIO-A-23-20240319	Pre-Treatment	Solid	TOP Pre-Prep	
320-110655-12	BIO-B-20240320	Pre-Treatment	Solid	TOP Pre-Prep	
MB 320-749269/1-A	Method Blank	Pre-Treatment	Solid	TOP Pre-Prep	
LCS 320-749269/2-A	Lab Control Sample	Pre-Treatment	Solid	TOP Pre-Prep	
LCSD 320-749269/3-A	Lab Control Sample Dup	Pre-Treatment	Solid	TOP Pre-Prep	

Prep Batch: 749270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-9	BIO-A-22-20240319	Post-Treatment	Solid	TOP Post-Prep	
320-110655-10	BIO-A-23-20240319	Post-Treatment	Solid	TOP Post-Prep	
320-110655-12	BIO-B-20240320	Post-Treatment	Solid	TOP Post-Prep	
MB 320-749270/1-A	Method Blank	Post-Treatment	Solid	TOP Post-Prep	
LCS 320-749270/2-A	Lab Control Sample	Post-Treatment	Solid	TOP Post-Prep	
LCSD 320-749270/3-A	Lab Control Sample Dup	Post-Treatment	Solid	TOP Post-Prep	

Analysis Batch: 749680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-1	Inf-02 20240318	Total/NA	Water	537 (modified)	749216
320-110655-2	Inf-07 20240318	Total/NA	Water	537 (modified)	749216
320-110655-3	Inf-08 20240318	Total/NA	Water	537 (modified)	749216
320-110655-4	Inf-11 20240318	Total/NA	Water	537 (modified)	749216
320-110655-5	Inf-18 20240318	Total/NA	Water	537 (modified)	749216
320-110655-6	Inf-Comp 20240318	Total/NA	Water	537 (modified)	749216
320-110655-7	Eff-20240319	Total/NA	Water	537 (modified)	749216
320-110655-8	Eff-G-20240319	Total/NA	Water	537 (modified)	749216
320-110655-11	EB-01-20240319	Total/NA	Water	537 (modified)	749216
MB 320-749216/1-A	Method Blank	Total/NA	Water	537 (modified)	749216
LLCS 320-749216/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	749216

Prep Batch: 749750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-7	Eff-20240319	Pre-Treatment	Water	TOP Pre - Prep	
MB 320-749750/1-A	Method Blank	Pre-Treatment	Water	TOP Pre - Prep	
LCS 320-749750/2-A	Lab Control Sample	Pre-Treatment	Water	TOP Pre - Prep	
LCSD 320-749750/3-A	Lab Control Sample Dup	Pre-Treatment	Water	TOP Pre - Prep	

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

LCMS

Prep Batch: 749751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-7	Eff-20240319	Post-Treatment	Water	TOP Post Prep	
MB 320-749751/1-A	Method Blank	Post-Treatment	Water	TOP Post Prep	
LCS 320-749751/2-A	Lab Control Sample	Post-Treatment	Water	TOP Post Prep	
LCSD 320-749751/3-A	Lab Control Sample Dup	Post-Treatment	Water	TOP Post Prep	

Analysis Batch: 751291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-749750/1-A	Method Blank	Pre-Treatment	Water	537 (modified)	749750
LCS 320-749750/2-A	Lab Control Sample	Pre-Treatment	Water	537 (modified)	749750
LCSD 320-749750/3-A	Lab Control Sample Dup	Pre-Treatment	Water	537 (modified)	749750

Analysis Batch: 751293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-7	Eff-20240319	Post-Treatment	Water	537 (modified)	749751
MB 320-749751/1-A	Method Blank	Post-Treatment	Water	537 (modified)	749751
LCS 320-749751/2-A	Lab Control Sample	Post-Treatment	Water	537 (modified)	749751
LCSD 320-749751/3-A	Lab Control Sample Dup	Post-Treatment	Water	537 (modified)	749751

Analysis Batch: 751426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-7	Eff-20240319	Pre-Treatment	Water	537 (modified)	749750

Analysis Batch: 751790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-9	BIO-A-22-20240319	Post-Treatment	Solid	537 (modified)	749270
320-110655-9	BIO-A-22-20240319	Pre-Treatment	Solid	537 (modified)	749269
320-110655-10	BIO-A-23-20240319	Post-Treatment	Solid	537 (modified)	749270
320-110655-10	BIO-A-23-20240319	Pre-Treatment	Solid	537 (modified)	749269
320-110655-12	BIO-B-20240320	Post-Treatment	Solid	537 (modified)	749270
320-110655-12	BIO-B-20240320	Pre-Treatment	Solid	537 (modified)	749269
MB 320-749269/1-A	Method Blank	Pre-Treatment	Solid	537 (modified)	749269
MB 320-749270/1-A	Method Blank	Post-Treatment	Solid	537 (modified)	749270
LCS 320-749269/2-A	Lab Control Sample	Pre-Treatment	Solid	537 (modified)	749269
LCS 320-749270/2-A	Lab Control Sample	Post-Treatment	Solid	537 (modified)	749270
LCSD 320-749269/3-A	Lab Control Sample Dup	Pre-Treatment	Solid	537 (modified)	749269
LCSD 320-749270/3-A	Lab Control Sample Dup	Post-Treatment	Solid	537 (modified)	749270

Prep Batch: 751969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-9	BIO-A-22-20240319	Total/NA	Solid	SHAKE	
320-110655-9 - RA	BIO-A-22-20240319	Total/NA	Solid	SHAKE	
320-110655-10	BIO-A-23-20240319	Total/NA	Solid	SHAKE	
320-110655-10 - RA	BIO-A-23-20240319	Total/NA	Solid	SHAKE	
320-110655-12 - RA	BIO-B-20240320	Total/NA	Solid	SHAKE	
320-110655-12	BIO-B-20240320	Total/NA	Solid	SHAKE	
MB 320-751969/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-751969/3-A	Lab Control Sample	Total/NA	Solid	SHAKE	
LLCS 320-751969/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

LCMS

Analysis Batch: 752438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-9	BIO-A-22-20240319	Total/NA	Solid	537 (modified)	751969
320-110655-10	BIO-A-23-20240319	Total/NA	Solid	537 (modified)	751969
320-110655-12	BIO-B-20240320	Total/NA	Solid	537 (modified)	751969
MB 320-751969/1-A	Method Blank	Total/NA	Solid	537 (modified)	751969
LCS 320-751969/3-A	Lab Control Sample	Total/NA	Solid	537 (modified)	751969
LLCS 320-751969/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	751969

Analysis Batch: 752789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-12 - RA	BIO-B-20240320	Total/NA	Solid	537 (modified)	751969

Analysis Batch: 753112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-9 - RA	BIO-A-22-20240319	Total/NA	Solid	537 (modified)	751969
320-110655-10 - RA	BIO-A-23-20240319	Total/NA	Solid	537 (modified)	751969

Prep Batch: 753348

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-9 - RE	BIO-A-22-20240319	Pre-Treatment	Solid	TOP Pre-Prep	
320-110655-10 - RE	BIO-A-23-20240319	Pre-Treatment	Solid	TOP Pre-Prep	
320-110655-12 - RE	BIO-B-20240320	Pre-Treatment	Solid	TOP Pre-Prep	
MB 320-753348/1-A	Method Blank	Pre-Treatment	Solid	TOP Pre-Prep	
LCS 320-753348/2-A	Lab Control Sample	Pre-Treatment	Solid	TOP Pre-Prep	
LCSD 320-753348/3-A	Lab Control Sample Dup	Pre-Treatment	Solid	TOP Pre-Prep	

Prep Batch: 753365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-9 - RE	BIO-A-22-20240319	Post-Treatment	Solid	TOP Post-Prep	
320-110655-10 - RE	BIO-A-23-20240319	Post-Treatment	Solid	TOP Post-Prep	
320-110655-12 - RE	BIO-B-20240320	Post-Treatment	Solid	TOP Post-Prep	
MB 320-753365/1-A	Method Blank	Post-Treatment	Solid	TOP Post-Prep	
LCS 320-753365/2-A	Lab Control Sample	Post-Treatment	Solid	TOP Post-Prep	
LCSD 320-753365/3-A	Lab Control Sample Dup	Post-Treatment	Solid	TOP Post-Prep	

Analysis Batch: 754056

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-9 - RE	BIO-A-22-20240319	Post-Treatment	Solid	537 (modified)	753365
320-110655-9 - RE	BIO-A-22-20240319	Pre-Treatment	Solid	537 (modified)	753348
320-110655-10 - RE	BIO-A-23-20240319	Post-Treatment	Solid	537 (modified)	753365
320-110655-10 - RE	BIO-A-23-20240319	Pre-Treatment	Solid	537 (modified)	753348
320-110655-12 - RE	BIO-B-20240320	Post-Treatment	Solid	537 (modified)	753365
320-110655-12 - RE	BIO-B-20240320	Pre-Treatment	Solid	537 (modified)	753348
MB 320-753348/1-A	Method Blank	Pre-Treatment	Solid	537 (modified)	753348
MB 320-753365/1-A	Method Blank	Post-Treatment	Solid	537 (modified)	753365
LCS 320-753348/2-A	Lab Control Sample	Pre-Treatment	Solid	537 (modified)	753348
LCS 320-753365/2-A	Lab Control Sample	Post-Treatment	Solid	537 (modified)	753365
LCSD 320-753348/3-A	Lab Control Sample Dup	Pre-Treatment	Solid	537 (modified)	753348
LCSD 320-753365/3-A	Lab Control Sample Dup	Post-Treatment	Solid	537 (modified)	753365

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

General Chemistry

Analysis Batch: 749841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-9	BIO-A-22-20240319	Total/NA	Solid	D 2216	
320-110655-10	BIO-A-23-20240319	Total/NA	Solid	D 2216	
320-110655-12	BIO-B-20240320	Total/NA	Solid	D 2216	

Analysis Batch: 759861

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-1	Inf-02 20240318	Total/NA	Water	SM 2540D	
320-110655-2	Inf-07 20240318	Total/NA	Water	SM 2540D	
320-110655-3	Inf-08 20240318	Total/NA	Water	SM 2540D	
320-110655-4	Inf-11 20240318	Total/NA	Water	SM 2540D	
320-110655-5	Inf-18 20240318	Total/NA	Water	SM 2540D	
320-110655-6	Inf-Comp 20240318	Total/NA	Water	SM 2540D	
MB 500-759861/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-759861/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 760041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-110655-7	Eff-20240319	Total/NA	Water	SM 2540D	
320-110655-8	Eff-G-20240319	Total/NA	Water	SM 2540D	
MB 500-760041/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-760041/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Inf-02 20240318
Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			256 mL	10.0 mL	749216	03/22/24 05:19	VJC	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	749680	03/24/24 01:35	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	759861	03/25/24 16:37	SO	EET CHI
							Completed:	03/25/24 16:38 [1]		

Client Sample ID: Inf-07 20240318
Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			265.1 mL	10.0 mL	749216	03/22/24 05:19	VJC	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	749680	03/24/24 01:45	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	759861	03/25/24 16:38	SO	EET CHI
							Completed:	03/25/24 16:40 [1]		

Client Sample ID: Inf-08 20240318
Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			265.8 mL	10.0 mL	749216	03/22/24 05:19	VJC	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	749680	03/24/24 01:55	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	759861	03/25/24 16:40	SO	EET CHI
							Completed:	03/25/24 16:41 [1]		

Client Sample ID: Inf-11 20240318
Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			263.4 mL	10.0 mL	749216	03/22/24 05:19	VJC	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	749680	03/24/24 02:05	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	759861	03/25/24 16:41	SO	EET CHI
							Completed:	03/25/24 16:42 [1]		

Client Sample ID: Inf-18 20240318
Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			263.5 mL	10.0 mL	749216	03/22/24 05:19	VJC	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	749680	03/24/24 02:15	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	759861	03/25/24 16:42	SO	EET CHI
							Completed:	03/25/24 16:43 [1]		

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Inf-Comp 20240318

Lab Sample ID: 320-110655-6
Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			263.6 mL	10.0 mL	749216	03/22/24 05:19	VJC	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	749680	03/24/24 02:26	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	759861	03/25/24 16:43	SO	EET CHI
							Completed:	03/25/24 16:45 [1]		

Client Sample ID: Eff-20240319

Lab Sample ID: 320-110655-7
Date Collected: 03/19/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post Prep			100 mL	10.0 mL	749751	03/25/24 04:25	HJA	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	751293	03/30/24 18:13	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre - Prep			100 mL	10.0 mL	749750	03/25/24 04:19	HJA	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	751426	03/30/24 15:14	P1P	EET SAC
Total/NA	Prep	3535			264.2 mL	10.0 mL	749216	03/22/24 05:19	VJC	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	749680	03/24/24 02:36	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	760041	03/26/24 14:28	SO	EET CHI
							Completed:	03/26/24 14:30 [1]		

Client Sample ID: Eff-G-20240319

Lab Sample ID: 320-110655-8
Date Collected: 03/19/24 10:25
Matrix: Water
Date Received: 03/21/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			275.3 mL	10.0 mL	749216	03/22/24 05:19	VJC	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	749680	03/24/24 03:06	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	760041	03/26/24 14:30	SO	EET CHI
							Completed:	03/26/24 14:32 [1]		

Client Sample ID: BIO-A-22-20240319

Lab Sample ID: 320-110655-9
Date Collected: 03/19/24 14:30
Matrix: Solid
Date Received: 03/21/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			749841	03/25/24 11:36	CFR	EET SAC

Client Sample ID: BIO-A-22-20240319

Lab Sample ID: 320-110655-9
Date Collected: 03/19/24 14:30
Matrix: Solid
Date Received: 03/21/24 09:30
Percent Solids: 23.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post-Prep			1.01 g	10.0 mL	749270	03/22/24 09:54	JER	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	751790	04/02/24 14:52	P1P	EET SAC
Post-Treatment	Prep	TOP Post-Prep	RE		1.01 g	10.0 mL	753365	04/09/24 06:11	HJA	EET SAC
Post-Treatment	Analysis	537 (modified)	RE	1	1 mL	1 mL	754056	04/11/24 20:13	JRB	EET SAC

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-A-22-20240319 — Lab Sample ID: 320-110655-9

Date Collected: 03/19/24 14:30 — **Matrix: Solid**
Date Received: 03/21/24 09:30 — **Percent Solids: 23.4**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Pre-Treatment	Prep	TOP Pre-Prep			1.0 g	10.0 mL	749269	03/22/24 09:47	JER	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	751790	04/02/24 13:34	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep	RE		1.01 g	10.0 mL	753348	04/09/24 06:11	HJA	EET SAC
Pre-Treatment	Analysis	537 (modified)	RE	1	1 mL	1 mL	754056	04/11/24 17:37	JRB	EET SAC
Total/NA	Prep	SHAKE			5.08 g	10.0 mL	751969	04/03/24 04:21	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	752438	04/04/24 17:27	K1S	EET SAC
Total/NA	Prep	SHAKE	RA		5.08 g	10.0 mL	751969	04/03/24 04:21	SJ	EET SAC
Total/NA	Analysis	537 (modified)	RA	1			753112	04/08/24 09:03	C1P	EET SAC

Client Sample ID: BIO-A-23-20240319 — Lab Sample ID: 320-110655-10

Date Collected: 03/19/24 15:05 — **Matrix: Solid**
Date Received: 03/21/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			749841	03/25/24 11:36	CFR	EET SAC

Client Sample ID: BIO-A-23-20240319 — Lab Sample ID: 320-110655-10

Date Collected: 03/19/24 15:05 — **Matrix: Solid**
Date Received: 03/21/24 09:30 — **Percent Solids: 26.8**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post-Prep			1.02 g	10.0 mL	749270	03/22/24 09:54	JER	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	751790	04/02/24 15:03	P1P	EET SAC
Post-Treatment	Prep	TOP Post-Prep	RE		1.2 g	10.0 mL	753365	04/09/24 06:11	HJA	EET SAC
Post-Treatment	Analysis	537 (modified)	RE	1	1 mL	1 mL	754056	04/11/24 20:25	JRB	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep			1.01 g	10.0 mL	749269	03/22/24 09:47	JER	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	751790	04/02/24 13:45	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep	RE		1.0 g	10.0 mL	753348	04/09/24 06:11	HJA	EET SAC
Pre-Treatment	Analysis	537 (modified)	RE	1	1 mL	1 mL	754056	04/11/24 17:49	JRB	EET SAC
Total/NA	Prep	SHAKE			5.26 g	10.0 mL	751969	04/03/24 04:21	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	752438	04/04/24 17:37	K1S	EET SAC
Total/NA	Prep	SHAKE	RA		5.26 g	10.0 mL	751969	04/03/24 04:21	SJ	EET SAC
Total/NA	Analysis	537 (modified)	RA	1			753112	04/08/24 09:15	C1P	EET SAC

Client Sample ID: EB-01-20240319 — Lab Sample ID: 320-110655-11

Date Collected: 03/19/24 14:45 — **Matrix: Water**
Date Received: 03/21/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			273.7 mL	10.0 mL	749216	03/22/24 05:19	VJC	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	749680	03/24/24 03:16	C1P	EET SAC

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-B-20240320

Lab Sample ID: 320-110655-12

Date Collected: 03/20/24 07:40
Date Received: 03/21/24 09:30

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			749841	03/25/24 11:36	CFR	EET SAC

Client Sample ID: BIO-B-20240320

Lab Sample ID: 320-110655-12

Date Collected: 03/20/24 07:40
Date Received: 03/21/24 09:30

Matrix: Solid
Percent Solids: 5.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post-Prep			1.0 g	10.0 mL	749270	03/22/24 09:54	JER	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	751790	04/02/24 15:14	P1P	EET SAC
Post-Treatment	Prep	TOP Post-Prep	RE		1.1 g	10.0 mL	753365	04/09/24 06:11	HJA	EET SAC
Post-Treatment	Analysis	537 (modified)	RE	1	1 mL	1 mL	754056	04/11/24 20:47	JRB	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep			1.01 g	10.0 mL	749269	03/22/24 09:47	JER	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	751790	04/02/24 13:56	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep	RE		1.01 g	10.0 mL	753348	04/09/24 06:11	HJA	EET SAC
Pre-Treatment	Analysis	537 (modified)	RE	1	1 mL	1 mL	754056	04/11/24 18:00	JRB	EET SAC
Total/NA	Prep	SHAKE	RA		5.05 g	10.0 mL	751969	04/03/24 04:21	SJ	EET SAC
Total/NA	Analysis	537 (modified)	RA	1	1 mL	1 mL	752789	04/05/24 20:28	S1M	EET SAC
Total/NA	Prep	SHAKE			5.05 g	10.0 mL	751969	04/03/24 04:21	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	752438	04/04/24 17:47	K1S	EET SAC

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Wisconsin	State	998204680	08-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-24

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
D 2216	Percent Moisture	ASTM	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC
TOP Post Prep	Solid-Phase Extraction (SPE)	SW846	EET SAC
TOP Post-Prep	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC
TOP Pre - Prep	Solid-Phase Extraction (SPE)	SW846	EET SAC
TOP Pre-Prep	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-110655-1	Inf-02 20240318	Water	03/18/24 23:59	03/21/24 09:30
320-110655-2	Inf-07 20240318	Water	03/18/24 23:59	03/21/24 09:30
320-110655-3	Inf-08 20240318	Water	03/18/24 23:59	03/21/24 09:30
320-110655-4	Inf-11 20240318	Water	03/18/24 23:59	03/21/24 09:30
320-110655-5	Inf-18 20240318	Water	03/18/24 23:59	03/21/24 09:30
320-110655-6	Inf-Comp 20240318	Water	03/18/24 23:59	03/21/24 09:30
320-110655-7	Eff-20240319	Water	03/19/24 23:59	03/21/24 09:30
320-110655-8	Eff-G-20240319	Water	03/19/24 10:25	03/21/24 09:30
320-110655-9	BIO-A-22-20240319	Solid	03/19/24 14:30	03/21/24 09:30
320-110655-10	BIO-A-23-20240319	Solid	03/19/24 15:05	03/21/24 09:30
320-110655-11	EB-01-20240319	Water	03/19/24 14:45	03/21/24 09:30
320-110655-12	BIO-B-20240320	Solid	03/20/24 07:40	03/21/24 09:30

Reports to: mursin@trccompanies.com

Address: TRC Attn Mike Ursin
708 Heartland Tr Suite 2000
Madison, WI 53711

Chain of Custody Record 721780

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Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TAL-8210

Client Contact		Project Manager: Jessica McCammon	Site Contact:	Date: 3-20-24	COC No 721780
Company Name	Madison Metro Sewerage Dist	Tel/Email: jessicam@madsewer.org	Lab Contact:	Carrier: Fed Ex	1 of 1 COCs
Address	1610 Moorland Rd	Analysis Turnaround Time			Sampler:
City/State/Zip	Madison, WI 53713-2398	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only
Phone	608 222-1201	TAT if different from Below			Walk-in Client:
Fax:		☒ 2 weeks			Lab Sampling
Project Name	MMSD Phase 3 Ext	☐ 1 week			
Site:	MMSD	☐ 2 days			Job / SDG No
PO #	2400419	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TSS	PFAS	TOP	Sample Specific Notes
Inf-02 20240318	3/18/24	23:59	C	WW	3	N	N	X	X		
Inf-07 20240318					3			X	X		
Inf-08 20240318					3			X	X		
Inf-11 20240318					3			X	X		
Inf-18 20240318					3			X	X		
Inf-Comp 20240318					3			X	X		
Eff- 20240319	3/19/24				7			X	X	X	
Eff-G- 20240319		10:35	G		3			X	X		
B10-A-22-20240319	3/19/24	14:30	C	SL	2				X	X	
B10-A-23-20240319		15:05	C		2				X	X	
EB-01-20240319		14:45	G	W	2				X		
B10-B-20240320	3/20/24	7:40	G	SL	2				X	X	

320-110655 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
For Influent samples follow EPA 1900.1 (WI PFAS method expectations) See V13 procedures for particulates in aqueous samples
Centrifuge as needed

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No | Cooler Temp (°C) Obs'd 2.6 Corr'd 2.6 | Therm ID No CC

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Jennifer Faust	MMSD	3-20-24 8:00am	[signature]	FEDEX	3/21/24 930
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

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Sacramento Sample Receiving Notes (SSRN)

Loc 320
110655

Tracking # 6570 6548 9579

Job _____ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID U10 Corr. Factor (+/-) _____°C

Ice — Wet_____ Gel _____ Other _____

Cooler Custody Seal 24179593

Cooler ID: _____

Temp Observed: 2.6 °C Corrected 2.6 °C
From Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials JF Date 3/21/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☐	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials JF Date 3/21/24

Notes: _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☑	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: JF Date 3/21/24

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Sacramento Sample Receiving Notes (SSRN)

Tracking # 6570 6548 9520

Job 110655

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm. ID: 112 Corr. Factor: (+ / -) _____°C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 2479594 / 2479595

Cooler ID _____

Temp Observed: 5.1 °C Corrected: 5.1 °C

From: Temp Blank ☐ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials MM Date 3/21/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials JF Date 3/21/24

Notes: _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s). _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☑	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials JF Date 3/21/24

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916-373-5600 Fax 916-372-1059

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Smith, Micah	Carrier Tracking No(s):	COC No: 320-334107 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Micah Smith@et eurofinsus com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): NELAP - Oregon, State - Wisconsin		Job #: 320-110655-1
Address: 2417 Bond Street, ,	Due Date Requested: 5/8/2024			
City: University Park	TAT Requested (days):			
State, Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #:			
Email:	WO #:			
Project Name: PFAS Sampling	Project #: 32021779			
Site:	SSOW#:			

320-110655 COC

Analysis Requested

Preservation Codes

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D	Total Number of containers	Special Instructions/Note.
			Preservation Code:						
Inf-02 20240318 (320-110655-1)	3/18/24	23 59 Central		Water			X	1	
Inf-07 20240318 (320-110655-2)	3/18/24	23 59 Central		Water			X	1	
Inf-08 20240318 (320-110655-3)	3/18/24	23 59 Central		Water			X	1	
Inf-11 20240318 (320-110655-4)	3/18/24	23 59 Central		Water			X	1	
Inf-18 20240318 (320-110655-5)	3/18/24	23 59 Central		Water			X	1	
Inf-Comp 20240318 (320-110655-6)	3/18/24	23 59 Central		Water			X	1	
Eff-20240319 (320-110655-7)	3/19/24	23 59 Central		Water			X	1	
Eff-6-20240319 (320-110655-8)	3/19/24	10 35 Central		Water			X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northern California, LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing Northern California LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northern California LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northern California, LLC

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
DS Mangum	03/22/24 1630	~~EESAC~~	Stephanie Hernandez	3/23/24 0915	EETA

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
Δ Yes Δ No		-0.7 + -0.2

Ver 06/08/2021

5/2/2024 (Rev. 1)

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-110655-1

Login Number: 110655
List Number: 1
Creator: Fisher, Jamyiah L

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	Refer to SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-110655-1

Login Number: 110655
List Number: 2
Creator: Hernandez, Stephanie

List Source: Eurofins Chicago
List Creation: 03/23/24 01:13 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	-0.2 Samples not frozen
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

April 2024

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Julie Maas
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

Generated 4/30/2024 3:32:14 PM

JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-111514-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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Authorization

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Authorized for release by
Micah Smith, Project Manager II
Micah.Smith@et.eurofinsus.com
(916)374-4302

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Definitions/Glossary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Qualifiers

LCMS

Qualifier	Qualifier Description
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-111514-1

Receipt
The samples were received on 4/18/2024 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.6º C.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: Eff-202404 (320-111514-2).

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

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

Organic Prep
Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-756896.

Method 3535: The following samples were yellow/brown/orange in color and contained particulates in the bottom of the bottle prior to extraction: Inf-Comp 202404 (320-111514-1), Eff-202404 (320-111514-2) and Eff-G-202404 (320-111514-3).

Method 3535: During the solid phase extraction process, the following samples Inf-Comp 202404 (320-111514-1) in preparation batch 320-756896 contained particulates which clogged the solid phase extraction column. The volume of the sample that was extracted via SPE prior to the clogging of the SPE cartridge is as follows: 70.42%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent.

Method 3535: The following samples were yellow in color after extraction/final volume: Inf-Comp 202404 (320-111514-1), Eff-202404 (320-111514-2) and Eff-G-202404 (320-111514-3).

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Client Sample ID: Inf-Comp 202404 — Lab Sample ID: 320-111514-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.4		4.7	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.7		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	9.4		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.1		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.3		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.4		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	10		1.9	0.54	ng/L	1		537 (modified)	Total/NA
NMeFOSE	1.5	J	3.8	1.3	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	320		42	16	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Eff-202404 — Lab Sample ID: 320-111514-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.2		4.5	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	12		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	18		1.8	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.8		1.8	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	7.2		1.8	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.45	J	1.8	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.81	J	1.8	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.0	I	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.53	J	1.8	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.3		1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.8		1.8	0.49	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	3.4	J	5.0	1.9	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Eff-G-202404 — Lab Sample ID: 320-111514-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.2		4.6	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	7.9		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	13		1.8	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.7		1.8	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	6.5		1.8	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.37	J	1.8	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.83	J	1.8	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.6		1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.62	J	1.8	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.6		1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.9		1.8	0.50	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	3.0	J	5.0	1.9	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Client Sample ID: Inf-Comp 202404

Date Collected: 04/15/24 23:59
Date Received: 04/18/24 09:30

Lab Sample ID: 320-111514-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.4**		4.7	2.3	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluoropentanoic acid (PFPeA)	**4.7**		1.9	0.46	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorohexanoic acid (PFHxA)	**9.4**		1.9	0.55	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluoroheptanoic acid (PFHpA)	**2.1**		1.9	0.24	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorooctanoic acid (PFOA)	**4.3**		1.9	0.80	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.25	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorobutanesulfonic acid (PFBS)	**3.4**		1.9	0.19	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.28	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorohexanesulfonic acid (PFHxS)	**10**		1.9	0.54	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.51	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.91	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.92	ng/L		04/24/24 05:33	04/26/24 07:51	1
NEtFOSA	ND		1.9	0.82	ng/L		04/24/24 05:33	04/26/24 07:51	1
NMeFOSA	ND		1.9	0.41	ng/L		04/24/24 05:33	04/26/24 07:51	1
NMeFOSAA	ND		4.7	1.1	ng/L		04/24/24 05:33	04/26/24 07:51	1
NEtFOSAA	ND		4.7	1.2	ng/L		04/24/24 05:33	04/26/24 07:51	1
NMeFOSE	**1.5**	**J**	3.8	1.3	ng/L		04/24/24 05:33	04/26/24 07:51	1
NEtFOSE	ND		1.9	0.80	ng/L		04/24/24 05:33	04/26/24 07:51	1
4:2 FTS	ND		1.9	0.23	ng/L		04/24/24 05:33	04/26/24 07:51	1
6:2 FTS	ND		4.7	2.4	ng/L		04/24/24 05:33	04/26/24 07:51	1
8:2 FTS	ND		1.9	0.43	ng/L		04/24/24 05:33	04/26/24 07:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		04/24/24 05:33	04/26/24 07:51	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		04/24/24 05:33	04/26/24 07:51	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		04/24/24 05:33	04/26/24 07:51	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		04/24/24 05:33	04/26/24 07:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C5 PFPeA	*89*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C2 PFHxA	*116*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C4 PFHpA	*105*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C4 PFOA	*99*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C5 PFNA	*105*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C2 PFDA	*96*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C2 PFUnA	*58*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C2 PFDoA	*51*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C2 PFTeDA	*30*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C3 PFBS	*96*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*

Client Sample ID: Inf-Comp 202404

Lab Sample ID: 320-111514-1

Date Collected: 04/15/24 23:59
Matrix: Water
Date Received: 04/18/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*101*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C4 PFOS	*97*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C8 FOSA	*74*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d3-NMeFOSAA	*28*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d5-NEtFOSAA	*46*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d-N-MeFOSA-M	*48*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d-N-EtFOSA-M	*45*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d7-N-MeFOSE-M	*49*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d9-N-EtFOSE-M	*80*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
M2-4:2 FTS	*80*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
M2-6:2 FTS	*144*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
M2-8:2 FTS	*106*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**320**		42	16	mg/L			04/22/24 14:27	1

Client Sample ID: Eff-202404

Lab Sample ID: 320-111514-2

Date Collected: 04/16/24 23:59
Matrix: Water
Date Received: 04/18/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.2**		4.5	2.2	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluoropentanoic acid (PFPeA)	**12**		1.8	0.44	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorohexanoic acid (PFHxA)	**18**		1.8	0.53	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluoroheptanoic acid (PFHpA)	**2.8**		1.8	0.23	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorooctanoic acid (PFOA)	**7.2**		1.8	0.77	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorononanoic acid (PFNA)	**0.45**	**J**	1.8	0.24	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorodecanoic acid (PFDA)	**0.81**	**J**	1.8	0.28	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorobutanesulfonic acid (PFBS)	**5.0**	**I**	1.8	0.18	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluoropentanesulfonic acid (PFPeS)	**0.53**	**J**	1.8	0.27	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorohexanesulfonic acid (PFHxS)	**8.3**		1.8	0.52	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorooctanesulfonic acid (PFOS)	**4.8**		1.8	0.49	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.88	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.89	ng/L		04/24/24 05:33	04/26/24 08:02	1
NEtFOSA	ND		1.8	0.79	ng/L		04/24/24 05:33	04/26/24 08:02	1

Client Sample ID: Eff-202404

Date Collected: 04/16/24 23:59
Date Received: 04/18/24 09:30

Lab Sample ID: 320-111514-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		1.8	0.39	ng/L		04/24/24 05:33	04/26/24 08:02	1
NMeFOSAA	ND		4.5	1.1	ng/L		04/24/24 05:33	04/26/24 08:02	1
NEtFOSAA	ND		4.5	1.2	ng/L		04/24/24 05:33	04/26/24 08:02	1
NMeFOSE	ND		3.6	1.3	ng/L		04/24/24 05:33	04/26/24 08:02	1
NEtFOSE	ND		1.8	0.77	ng/L		04/24/24 05:33	04/26/24 08:02	1
4:2 FTS	ND		1.8	0.22	ng/L		04/24/24 05:33	04/26/24 08:02	1
6:2 FTS	ND		4.5	2.3	ng/L		04/24/24 05:33	04/26/24 08:02	1
8:2 FTS	ND		1.8	0.42	ng/L		04/24/24 05:33	04/26/24 08:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		04/24/24 05:33	04/26/24 08:02	1
HFPO-DA (GenX)	ND		3.6	1.4	ng/L		04/24/24 05:33	04/26/24 08:02	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		04/24/24 05:33	04/26/24 08:02	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		04/24/24 05:33	04/26/24 08:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*68*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C5 PFPeA	*78*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C2 PFHxA	*113*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C4 PFHpA	*101*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C4 PFOA	*102*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C5 PFNA	*101*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C2 PFDA	*101*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C2 PFUnA	*89*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C2 PFDoA	*83*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C2 PFTeDA	*58*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C3 PFBS	*89*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
18O2 PFHxS	*91*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C4 PFOS	*87*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C8 FOSA	*92*		*10 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d3-NMeFOSAA	*81*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d5-NEtFOSAA	*88*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d-N-MeFOSA-M	*79*		*10 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d-N-EtFOSA-M	*77*		*10 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d7-N-MeFOSE-M	*77*		*10 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d9-N-EtFOSE-M	*77*		*10 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
M2-4:2 FTS	*99*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
M2-6:2 FTS	*128*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
M2-8:2 FTS	*120*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C3 HFPO-DA	*95*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**3.4**	**J**	5.0	1.9	mg/L			04/23/24 17:51	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Client Sample ID: Eff-G-202404

Date Collected: 04/16/24 07:28
Date Received: 04/18/24 09:30

Lab Sample ID: 320-111514-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.2**		4.6	2.2	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluoropentanoic acid (PFPeA)	**7.9**		1.8	0.45	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorohexanoic acid (PFHxA)	**13**		1.8	0.53	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluoroheptanoic acid (PFHpA)	**2.7**		1.8	0.23	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorooctanoic acid (PFOA)	**6.5**		1.8	0.78	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorononanoic acid (PFNA)	**0.37**	**J**	1.8	0.25	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorodecanoic acid (PFDA)	**0.83**	**J**	1.8	0.29	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.51	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.67	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorobutanesulfonic acid (PFBS)	**4.6**		1.8	0.18	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluoropentanesulfonic acid (PFPeS)	**0.62**	**J**	1.8	0.28	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorohexanesulfonic acid (PFHxS)	**7.6**		1.8	0.52	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorooctanesulfonic acid (PFOS)	**4.9**		1.8	0.50	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.89	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.90	ng/L		04/24/24 05:33	04/26/24 08:15	1
NEtFOSA	ND		1.8	0.80	ng/L		04/24/24 05:33	04/26/24 08:15	1
NMeFOSA	ND		1.8	0.40	ng/L		04/24/24 05:33	04/26/24 08:15	1
NMeFOSAA	ND		4.6	1.1	ng/L		04/24/24 05:33	04/26/24 08:15	1
NEtFOSAA	ND		4.6	1.2	ng/L		04/24/24 05:33	04/26/24 08:15	1
NMeFOSE	ND		3.7	1.3	ng/L		04/24/24 05:33	04/26/24 08:15	1
NEtFOSE	ND		1.8	0.78	ng/L		04/24/24 05:33	04/26/24 08:15	1
4:2 FTS	ND		1.8	0.22	ng/L		04/24/24 05:33	04/26/24 08:15	1
6:2 FTS	ND		4.6	2.3	ng/L		04/24/24 05:33	04/26/24 08:15	1
8:2 FTS	ND		1.8	0.42	ng/L		04/24/24 05:33	04/26/24 08:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.37	ng/L		04/24/24 05:33	04/26/24 08:15	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		04/24/24 05:33	04/26/24 08:15	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		04/24/24 05:33	04/26/24 08:15	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		04/24/24 05:33	04/26/24 08:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*70*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C5 PFPeA	*85*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C2 PFHxA	*118*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C4 PFHpA	*108*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C4 PFOA	*101*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C5 PFNA	*102*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C2 PFDA	*108*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C2 PFUnA	*88*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C2 PFDoA	*87*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C2 PFTeDA	*61*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Client Sample ID: Eff-G-202404

Lab Sample ID: 320-111514-3

Date Collected: 04/16/24 07:28

Matrix: Water

Date Received: 04/18/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	95		25 - 150	04/24/24 05:33	04/26/24 08:15	1
18O2 PFHxS	97		25 - 150	04/24/24 05:33	04/26/24 08:15	1
13C4 PFOS	93		25 - 150	04/24/24 05:33	04/26/24 08:15	1
13C8 FOSA	92		10 - 150	04/24/24 05:33	04/26/24 08:15	1
d3-NMeFOSAA	79		25 - 150	04/24/24 05:33	04/26/24 08:15	1
d5-NEtFOSAA	90		25 - 150	04/24/24 05:33	04/26/24 08:15	1
d-N-MeFOSA-M	81		10 - 150	04/24/24 05:33	04/26/24 08:15	1
d-N-EtFOSA-M	79		10 - 150	04/24/24 05:33	04/26/24 08:15	1
d7-N-MeFOSE-M	83		10 - 150	04/24/24 05:33	04/26/24 08:15	1
d9-N-EtFOSE-M	82		10 - 150	04/24/24 05:33	04/26/24 08:15	1
M2-4:2 FTS	97		25 - 150	04/24/24 05:33	04/26/24 08:15	1
M2-6:2 FTS	119		25 - 150	04/24/24 05:33	04/26/24 08:15	1
M2-8:2 FTS	120		25 - 150	04/24/24 05:33	04/26/24 08:15	1
13C3 HFPO-DA	96		25 - 150	04/24/24 05:33	04/26/24 08:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	3.0	J	5.0	1.9	mg/L			04/23/24 17:53	1

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-111514-1	Inf-Comp 202404	79	89	116	105	99	105	96	58
320-111514-2	Eff-202404	68	78	113	101	102	101	101	89
320-111514-3	Eff-G-202404	70	85	118	108	101	102	108	88
LCS 320-756896/3-A	Lab Control Sample	84	94	98	100	97	96	104	93
LCSD 320-756896/4-A	Lab Control Sample Dup	86	94	94	100	97	95	103	92
LLCS 320-756896/2-A	Lab Control Sample	88	96	95	100	99	94	103	92
MB 320-756896/1-A	Method Blank	85	99	96	104	98	94	104	94

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-111514-1	Inf-Comp 202404	51	30	96	101	97	74	28	46
320-111514-2	Eff-202404	83	58	89	91	87	92	81	88
320-111514-3	Eff-G-202404	87	61	95	97	93	92	79	90
LCS 320-756896/3-A	Lab Control Sample	96	97	97	95	90	92	92	98
LCSD 320-756896/4-A	Lab Control Sample Dup	92	93	96	95	92	98	93	93
LLCS 320-756896/2-A	Lab Control Sample	95	98	100	97	95	98	89	96
MB 320-756896/1-A	Method Blank	95	97	99	98	97	101	96	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-111514-1	Inf-Comp 202404	48	45	49	80	80	144	106	96
320-111514-2	Eff-202404	79	77	77	77	99	128	120	95
320-111514-3	Eff-G-202404	81	79	83	82	97	119	120	96
LCS 320-756896/3-A	Lab Control Sample	77	78	86	87	101	105	116	96
LCSD 320-756896/4-A	Lab Control Sample Dup	78	80	90	88	99	106	113	96
LLCS 320-756896/2-A	Lab Control Sample	78	80	90	84	97	109	114	95
MB 320-756896/1-A	Method Blank	78	80	88	90	102	109	120	96

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-111514-1
Project/Site: PFAS Sampling

M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-756896/1-A
Matrix: Water
Analysis Batch: 757328

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 756896

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		04/24/24 05:33	04/26/24 07:06	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		04/24/24 05:33	04/26/24 07:06	1
NEtFOSA	ND		2.0	0.87	ng/L		04/24/24 05:33	04/26/24 07:06	1
NMeFOSA	ND		2.0	0.43	ng/L		04/24/24 05:33	04/26/24 07:06	1
NMeFOSAA	ND		5.0	1.2	ng/L		04/24/24 05:33	04/26/24 07:06	1
NEtFOSAA	ND		5.0	1.3	ng/L		04/24/24 05:33	04/26/24 07:06	1
NMeFOSE	ND		4.0	1.4	ng/L		04/24/24 05:33	04/26/24 07:06	1
NEtFOSE	ND		2.0	0.85	ng/L		04/24/24 05:33	04/26/24 07:06	1
4:2 FTS	ND		2.0	0.24	ng/L		04/24/24 05:33	04/26/24 07:06	1
6:2 FTS	ND		5.0	2.5	ng/L		04/24/24 05:33	04/26/24 07:06	1
8:2 FTS	ND		2.0	0.46	ng/L		04/24/24 05:33	04/26/24 07:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		04/24/24 05:33	04/26/24 07:06	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		04/24/24 05:33	04/26/24 07:06	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		04/24/24 05:33	04/26/24 07:06	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		04/24/24 05:33	04/26/24 07:06	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C5 PFPeA	*99*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C2 PFHxA	*96*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C4 PFHpA	*104*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C4 PFOA	*98*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C5 PFNA	*94*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C2 PFDA	*104*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C2 PFUnA	*94*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C2 PFDoA	*95*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C2 PFTeDA	*97*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-756896/1-A
Matrix: Water
Analysis Batch: 757328

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 756896

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*99*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
18O2 PFHxS	*98*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C4 PFOS	*97*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C8 FOSA	*101*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
d3-NMeFOSAA	*96*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
d5-NEtFOSAA	*101*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
d-N-MeFOSA-M	*78*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
d-N-EtFOSA-M	*80*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
d7-N-MeFOSE-M	*88*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
d9-N-EtFOSE-M	*90*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
M2-4:2 FTS	*102*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
M2-6:2 FTS	*109*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
M2-8:2 FTS	*120*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:06*	*1*

Lab Sample ID: LCS 320-756896/3-A
Matrix: Water
Analysis Batch: 757328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 756896

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	40.0	40.5		ng/L		101	60 - 135
Perfluoropentanoic acid (PFPeA)	40.0	44.0		ng/L		110	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	40.7		ng/L		102	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	41.2		ng/L		103	60 - 135
Perfluorooctanoic acid (PFOA)	40.0	41.7		ng/L		104	60 - 135
Perfluorononanoic acid (PFNA)	40.0	42.7		ng/L		107	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	38.6		ng/L		96	60 - 135
Perfluoroundecanoic acid (PFUnA)	40.0	45.7		ng/L		114	60 - 135
Perfluorododecanoic acid (PFDoA)	40.0	43.2		ng/L		108	60 - 135
Perfluorotridecanoic acid (PFTrDA)	40.0	41.2		ng/L		103	60 - 135
Perfluorotetradecanoic acid (PFTeA)	40.0	40.2		ng/L		100	60 - 135
Perfluorobutanesulfonic acid (PFBS)	35.5	37.8		ng/L		106	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	37.6	35.1		ng/L		93	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.1		ng/L		96	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	38.2	39.9		ng/L		105	60 - 135
Perfluorooctanesulfonic acid (PFOS)	37.2	39.6		ng/L		107	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.5	40.6		ng/L		106	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	39.1		ng/L		101	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.8	41.6		ng/L		107	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-756896/3-A
Matrix: Water
Analysis Batch: 757328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 756896

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	40.0	40.7		ng/L		102	60 - 135
NEtFOSA	40.0	41.0		ng/L		102	60 - 135
NMeFOSA	40.0	42.9		ng/L		107	60 - 135
NMeFOSAA	40.0	41.1		ng/L		103	60 - 135
NEtFOSAA	40.0	39.8		ng/L		100	60 - 135
NMeFOSE	40.0	40.5		ng/L		101	60 - 135
NEtFOSE	40.0	40.3		ng/L		101	60 - 135
4:2 FTS	37.5	38.8		ng/L		104	60 - 135
6:2 FTS	38.1	40.4		ng/L		106	60 - 135
8:2 FTS	38.4	40.6		ng/L		106	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	43.7		ng/L		115	60 - 135
HFPO-DA (GenX)	40.0	42.1		ng/L		105	60 - 135
9Cl-PF3ONS	37.4	41.1		ng/L		110	60 - 135
11Cl-PF3OUdS	37.8	40.1		ng/L		106	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*84*		*25 - 150*
13C5 PFPeA	*94*		*25 - 150*
13C2 PFHxA	*98*		*25 - 150*
13C4 PFHpA	*100*		*25 - 150*
13C4 PFOA	*97*		*25 - 150*
13C5 PFNA	*96*		*25 - 150*
13C2 PFDA	*104*		*25 - 150*
13C2 PFUnA	*93*		*25 - 150*
13C2 PFDoA	*96*		*25 - 150*
13C2 PFTeDA	*97*		*25 - 150*
13C3 PFBS	*97*		*25 - 150*
18O2 PFHxS	*95*		*25 - 150*
13C4 PFOS	*90*		*25 - 150*
13C8 FOSA	*92*		*10 - 150*
d3-NMeFOSAA	*92*		*25 - 150*
d5-NEtFOSAA	*98*		*25 - 150*
d-N-MeFOSA-M	*77*		*10 - 150*
d-N-EtFOSA-M	*78*		*10 - 150*
d7-N-MeFOSE-M	*86*		*10 - 150*
d9-N-EtFOSE-M	*87*		*10 - 150*
M2-4:2 FTS	*101*		*25 - 150*
M2-6:2 FTS	*105*		*25 - 150*
M2-8:2 FTS	*116*		*25 - 150*
13C3 HFPO-DA	*96*		*25 - 150*

Lab Sample ID: LCSD 320-756896/4-A
Matrix: Water
Analysis Batch: 757328

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 756896

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	41.1		ng/L		103	60 - 135	1	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-756896/4-A
Matrix: Water
Analysis Batch: 757328

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 756896

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			40.0	42.6		ng/L		107	60 - 135	3	30
Perfluorohexanoic acid (PFHxA)			40.0	41.1		ng/L		103	60 - 135	1	30
Perfluoroheptanoic acid (PFHpA)			40.0	41.5		ng/L		104	60 - 135	1	30
Perfluorooctanoic acid (PFOA)			40.0	40.8		ng/L		102	60 - 135	2	30
Perfluorononanoic acid (PFNA)			40.0	41.8		ng/L		105	60 - 135	2	30
Perfluorodecanoic acid (PFDA)			40.0	38.3		ng/L		96	60 - 135	1	30
Perfluoroundecanoic acid (PFUnA)			40.0	46.9		ng/L		117	60 - 135	3	30
Perfluorododecanoic acid (PFDoA)			40.0	43.9		ng/L		110	60 - 135	2	30
Perfluorotridecanoic acid (PFTrDA)			40.0	42.5		ng/L		106	60 - 135	3	30
Perfluorotetradecanoic acid (PFTeA)			40.0	41.6		ng/L		104	60 - 135	3	30
Perfluorobutanesulfonic acid (PFBS)			35.5	37.4		ng/L		105	60 - 135	1	30
Perfluoropentanesulfonic acid (PFPeS)			37.6	35.5		ng/L		94	60 - 135	1	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	37.1		ng/L		102	60 - 135	6	30
Perfluoroheptanesulfonic acid (PFHpS)			38.2	38.7		ng/L		101	60 - 135	3	30
Perfluorooctanesulfonic acid (PFOS)			37.2	40.8		ng/L		110	60 - 135	3	30
Perfluorononanesulfonic acid (PFNS)			38.5	41.0		ng/L		107	60 - 135	1	30
Perfluorodecanesulfonic acid (PFDS)			38.6	38.7		ng/L		100	60 - 135	1	30
Perfluorododecanesulfonic acid (PFDoS)			38.8	43.6		ng/L		112	60 - 135	5	30
Perfluorooctanesulfonamide (FOSA)			40.0	39.0		ng/L		97	60 - 135	4	30
NEtFOSA			40.0	41.3		ng/L		103	60 - 135	1	30
NMeFOSA			40.0	42.5		ng/L		106	60 - 135	1	30
NMeFOSAA			40.0	39.6		ng/L		99	60 - 135	4	30
NEtFOSAA			40.0	42.5		ng/L		106	60 - 135	6	30
NMeFOSE			40.0	38.6		ng/L		97	60 - 135	5	30
NEtFOSE			40.0	38.7		ng/L		97	60 - 135	4	30
4:2 FTS			37.5	37.7		ng/L		100	60 - 135	3	30
6:2 FTS			38.1	39.3		ng/L		103	60 - 135	3	30
8:2 FTS			38.4	42.4		ng/L		110	60 - 135	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	43.0		ng/L		114	60 - 135	2	30
HFPO-DA (GenX)			40.0	41.8		ng/L		105	60 - 135	1	30
9Cl-PF3ONS			37.4	40.3		ng/L		108	60 - 135	2	30
11Cl-PF3OUdS			37.8	39.9		ng/L		106	60 - 135	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*86*		*25 - 150*
13C5 PFPeA	*94*		*25 - 150*
13C2 PFHxA	*94*		*25 - 150*
13C4 PFHpA	*100*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-756896/4-A
Matrix: Water
Analysis Batch: 757328

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 756896

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFOA	*97*		*25 - 150*
13C5 PFNA	*95*		*25 - 150*
13C2 PFDA	*103*		*25 - 150*
13C2 PFUnA	*92*		*25 - 150*
13C2 PFDoA	*92*		*25 - 150*
13C2 PFTeDA	*93*		*25 - 150*
13C3 PFBS	*96*		*25 - 150*
18O2 PFHxS	*95*		*25 - 150*
13C4 PFOS	*92*		*25 - 150*
13C8 FOSA	*98*		*10 - 150*
d3-NMeFOSAA	*93*		*25 - 150*
d5-NEtFOSAA	*93*		*25 - 150*
d-N-MeFOSA-M	*78*		*10 - 150*
d-N-EtFOSA-M	*80*		*10 - 150*
d7-N-MeFOSE-M	*90*		*10 - 150*
d9-N-EtFOSE-M	*88*		*10 - 150*
M2-4:2 FTS	*99*		*25 - 150*
M2-6:2 FTS	*106*		*25 - 150*
M2-8:2 FTS	*113*		*25 - 150*
13C3 HFPO-DA	*96*		*25 - 150*

Lab Sample ID: LLCS 320-756896/2-A
Matrix: Water
Analysis Batch: 757328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 756896

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	7.88		ng/L		98	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	8.53		ng/L		107	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	8.26		ng/L		103	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	8.32		ng/L		104	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	8.07		ng/L		101	50 - 150
Perfluorononanoic acid (PFNA)	8.00	8.35		ng/L		104	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	7.91		ng/L		99	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	9.33		ng/L		117	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	8.25		ng/L		103	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	8.03		ng/L		100	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	7.70		ng/L		96	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	7.16		ng/L		101	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	6.76		ng/L		90	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.05		ng/L		97	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	7.18		ng/L		94	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	7.51		ng/L		101	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-756896/2-A
Matrix: Water
Analysis Batch: 757328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 756896

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanesulfonic acid (PFNS)	7.70	7.83		ng/L		102	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	7.28		ng/L		94	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	7.54		ng/L		97	50 - 150
Perfluorooctanesulfonamide (FOSA)	8.00	7.78		ng/L		97	50 - 150
NEtFOSA	8.00	7.50		ng/L		94	50 - 150
NMeFOSA	8.00	7.63		ng/L		95	50 - 150
NMeFOSAA	8.00	8.02		ng/L		100	50 - 150
NEtFOSAA	8.00	7.64		ng/L		96	50 - 150
NMeFOSE	8.00	7.42		ng/L		93	50 - 150
NEtFOSE	8.00	7.69		ng/L		96	50 - 150
4:2 FTS	7.50	7.76		ng/L		103	50 - 150
6:2 FTS	7.62	7.69		ng/L		101	50 - 150
8:2 FTS	7.68	8.17		ng/L		106	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	8.42		ng/L		111	50 - 150
HFPO-DA (GenX)	8.00	8.62		ng/L		108	50 - 150
9Cl-PF3ONS	7.47	7.69		ng/L		103	50 - 150
11Cl-PF3OUdS	7.55	7.23		ng/L		96	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*88*		*25 - 150*
13C5 PFPeA	*96*		*25 - 150*
13C2 PFHxA	*95*		*25 - 150*
13C4 PFHpA	*100*		*25 - 150*
13C4 PFOA	*99*		*25 - 150*
13C5 PFNA	*94*		*25 - 150*
13C2 PFDA	*103*		*25 - 150*
13C2 PFUnA	*92*		*25 - 150*
13C2 PFDoA	*95*		*25 - 150*
13C2 PFTeDA	*98*		*25 - 150*
13C3 PFBS	*100*		*25 - 150*
18O2 PFHxS	*97*		*25 - 150*
13C4 PFOS	*95*		*25 - 150*
13C8 FOSA	*98*		*10 - 150*
d3-NMeFOSAA	*89*		*25 - 150*
d5-NEtFOSAA	*96*		*25 - 150*
d-N-MeFOSA-M	*78*		*10 - 150*
d-N-EtFOSA-M	*80*		*10 - 150*
d7-N-MeFOSE-M	*90*		*10 - 150*
d9-N-EtFOSE-M	*84*		*10 - 150*
M2-4:2 FTS	*97*		*25 - 150*
M2-6:2 FTS	*109*		*25 - 150*
M2-8:2 FTS	*114*		*25 - 150*
13C3 HFPO-DA	*95*		*25 - 150*

QC Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-764335/1
Matrix: Water
Analysis Batch: 764335

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			04/22/24 13:37	1

Lab Sample ID: LCS 500-764335/2
Matrix: Water
Analysis Batch: 764335

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	191		mg/L		95	80 - 120

Lab Sample ID: MB 500-764594/1
Matrix: Water
Analysis Batch: 764594

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			04/23/24 17:09	1

Lab Sample ID: LCS 500-764594/2
Matrix: Water
Analysis Batch: 764594

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	170		mg/L		85	80 - 120

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

LCMS

Prep Batch: 756896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-111514-1	Inf-Comp 202404	Total/NA	Water	3535	
320-111514-2	Eff-202404	Total/NA	Water	3535	
320-111514-3	Eff-G-202404	Total/NA	Water	3535	
MB 320-756896/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-756896/3-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-756896/4-A	Lab Control Sample Dup	Total/NA	Water	3535	
LLCS 320-756896/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 757328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-111514-1	Inf-Comp 202404	Total/NA	Water	537 (modified)	756896
320-111514-2	Eff-202404	Total/NA	Water	537 (modified)	756896
320-111514-3	Eff-G-202404	Total/NA	Water	537 (modified)	756896
MB 320-756896/1-A	Method Blank	Total/NA	Water	537 (modified)	756896
LCS 320-756896/3-A	Lab Control Sample	Total/NA	Water	537 (modified)	756896
LCSD 320-756896/4-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	756896
LLCS 320-756896/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	756896

General Chemistry

Analysis Batch: 764335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-111514-1	Inf-Comp 202404	Total/NA	Water	SM 2540D	
MB 500-764335/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-764335/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 764594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-111514-2	Eff-202404	Total/NA	Water	SM 2540D	
320-111514-3	Eff-G-202404	Total/NA	Water	SM 2540D	
MB 500-764594/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-764594/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Client Sample ID: Inf-Comp 202404

Lab Sample ID: 320-111514-1
Date Collected: 04/15/24 23:59
Matrix: Water
Date Received: 04/18/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			265.2 mL	10.0 mL	756896	04/24/24 05:33	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	757328	04/26/24 07:51	P1P	EET SAC
Total/NA	Analysis	SM 2540D		1	60 mL	500 mL	764335	04/22/24 14:27	SO	EET CHI
							Completed:	04/22/24 14:30 [1]		

Client Sample ID: Eff-202404

Lab Sample ID: 320-111514-2
Date Collected: 04/16/24 23:59
Matrix: Water
Date Received: 04/18/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			275.6 mL	10.0 mL	756896	04/24/24 05:33	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	757328	04/26/24 08:02	P1P	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	764594	04/23/24 17:51	SO	EET CHI
							Completed:	04/23/24 17:53 [1]		

Client Sample ID: Eff-G-202404

Lab Sample ID: 320-111514-3
Date Collected: 04/16/24 07:28
Matrix: Water
Date Received: 04/18/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			271.9 mL	10.0 mL	756896	04/24/24 05:33	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	757328	04/26/24 08:15	P1P	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	764594	04/23/24 17:53	SO	EET CHI
							Completed:	04/23/24 17:55 [1]		

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25
Wisconsin	State	998204680	08-31-24

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-24

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-111514-1	Inf-Comp 202404	Water	04/15/24 23:59	04/18/24 09:30
320-111514-2	Eff-202404	Water	04/16/24 23:59	04/18/24 09:30
320-111514-3	Eff-G-202404	Water	04/16/24 07:28	04/18/24 09:30

Reports to: mursinetrccompanies.com

Address TRC
708 Heartland
Madison, WI 53711

Chain of Custody Record 724376

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Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TAL-8210

Client Contact		Project Manager: Jessica McCammon	Site Contact:	Date 4-17-24	COC No 724376
Company Name	Madison Metro Sewerage Dis	Tel/Email: jessicam@madsewer.org	Lab Contact.	Carrier: Fed Ex	1 of 1 COCs
Address	1610 Moorland Rd	Analysis Turnaround Time			Sampler:
City/State/Zip	Madison, WI 53713-2398	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only
Phone	608 222-1301	TAT if different from Below			Walk-in Client:
Fax.		☒ 2 weeks			Lab Sampling
Project Name	MMSD Phase 3 EAt	☐ 1 week			
Site	MMSD	☐ 2 days			Job / SDG No
P O #	2400419	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TSS	PFAS	Sample Specific Notes
Inf-Comp 202404	4/15/24	23 59	C	WW	3	N	N	X	X	
Eff-202404	4/16/24	23.59	C	WW	3	↓	↓	X	X	
Eff-G-202404	4/16/24	7.28	G	WW	3	↓	↓	X	X	

320-111514 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:
For influent sample follow EPA 19-001 (WI PFAS method expectations) Sec V1.3 procedures for particulates in aqueous samples. Centrifuge as needed.

Custody Seals Intact: ☑ Yes ☐ No | Custody Seal No 2484824, 2484825 | Cooler Temp (°C) Obs'd 1.16 Corr'd 1.16 | Therm ID No 406

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Jennifer Faust	MMSD	4-17-24	DSMoyer	EETSac	04/18/24 0930
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

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Sacramento Sample Receiving Notes (SSRN)

Loc: 320
111514

Tracking # 6570 6550 2385

Job _____ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID: L06 Corr. Factor (+/-) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal. 2484824, 2484825

Cooler ID _____

Temp Observed. 1.6 °C Corrected. 1.6 °C
From Temp Blank ☑ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: DM Date 04/18/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials JF Date 4/18/24

Notes: _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☑	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials JF Date 4/18/24

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916-373-5600 Fax 916-372-1059

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Smith, Micah	Carrier Tracking No(s)	COC No: 320-336214 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Micah Smith@et eurofinsus com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): NELAP - Oregon, State - Wisconsin		Job #: 320 111514 1
Address: 2417 Bond Street, ,	Due Date Requested: 5/8/2024			
City: University Park	TAT Requested (days):			
State, Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fa	PO #			
Email	WO #			
Project Name: PFAS Sampling	Project #: 32021779			
Site	SSOW#			

320-111514 COC

Analysis Requested

Preservation Codes: Other

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D	Total Number of containers	Special Instructions/Note
			Preservation Code:						
Inf-Comp 202404 (320-111514 1)	4/15/24	23 59 Central		Water			X	1	
Eff-202404 (320 111514-2)	4/16/24	23 59 Central		Water			X	1	
Eff-G 202404 (320 111514-3)	4/16/24	07 28 Central		Water			X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northern California, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northern California, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northern California, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northern California, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
DS Mayo	04/18/24 1630	EETSAC	[illegible]	4/19/24 0950	PETA

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 4.8 - 7.36

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-111514-1

Login Number: 111514
List Number: 1
Creator: Medeiros, Ryan M

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	refer to ssrn
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-111514-1

Login Number: 111514
List Number: 2
Creator: Scott, Sherri L

List Source: Eurofins Chicago
List Creation: 04/19/24 02:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

May 2024

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ANALYTICAL REPORT

PREPARED FOR

Attn: Julie Maas
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

Generated 6/28/2024 11:40:11 AM Revision 1

JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-112396-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization

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Revision 1

Authorized for release by
Micah Smith, Project Manager II
Micah.Smith@et.eurofinsus.com
(916)374-4302

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Definitions/Glossary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-112396-1

Revision
The report being provided is a revision of the original report sent on 6/27/2024. The report (revision 1) is being revised to correct the job narrative.

Receipt
The samples were received on 5/16/2024 9:35 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.5º C.

Comments
The TOPS analysis was canceled, as requested, because the analysis would have been reported past holding time.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: Inf Comp 202405 (320-112396-1) and Eff 202405 (320-112396-2).

Method 537 (modified): Isotope Dilution Analyte (IDA), 13C2 10:2 FTS, recovery is above the method recommended limit for the following samples: (LCS 320-764281/3-A), (LCSD 320-764281/4-A), (LLCS 320-764281/2-A) and (MB 320-764281/1-A). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The associated target analyte, 10:2 FTS, is not state regulated. The samples were re-analyzed with concurring results; therefore, the data have been reported.

Method 537 (modified): The laboratory control sample duplicate (LCSD) for preparation batch 320-764281 and analytical batch 320-764714 recovered outside control limits for the following isotope dilution analyte (IDA): M2-8:2 FTS. The associated target analyte, 8:2 FTS, recovered within control limits in the LCSD. The LCSD was re-analyzed with concurring results. There is no adverse impact to the data; therefore, the data have been reported.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: Inf Comp 202405 (320-112396-1) and Eff-G 202405 (320-112396-3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The samples were re-analyzed with concurring results; therefore, the data have been reported.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: BIO-A-24-202405 (320-112396-5).

Method 537 (modified): Results for sample BIO-A-24-202405 (320-112396-5) were reported from the analysis of a diluted extract due sample matrix in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

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

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

Organic Prep
Method 3535: During the solid phase extraction process, the following samples contain non-settable particulates which clogged the solid phase extraction column: Inf Comp 202405 (320-112396-1) and Eff 202405 (320-112396-2). Percent volume that went through the cartridges prior to the clogging are as follows: 91.9%, and 96.4%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent.

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-764281.

Method 3535: The following samples in preparation batch 320-764281 were light yellow in color following extraction: Inf Comp 202405 (320-112396-1), Eff 202405 (320-112396-2) and Eff-G 202405 (320-112396-3).

Method SHAKE: The following sample was yellow in color after extraction/final volume: BIO-A-24-202405 (320-112396-5).

Job ID: 320-112396-1 (Continued)

Eurofins Sacramento

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Client Sample ID: Inf Comp 202405 — Lab Sample ID: 320-112396-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.2		4.7	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.4		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	6.1		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.2	J	1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.5		1.9	0.79	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.63	J I	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.2		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.8		1.9	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.0		1.9	0.50	ng/L	1		537 (modified)	Total/NA
NMeFOSE	1.6	J	3.7	1.3	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	280		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Eff 202405 — Lab Sample ID: 320-112396-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.6		4.7	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	13		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.0		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	7.7		1.9	0.81	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.1	J I	1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.0	J I	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.3		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.47	J	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.0		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.1		1.9	0.51	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	5.0		5.0	1.9	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Eff-G 202405 — Lab Sample ID: 320-112396-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.6		4.7	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	14		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	13		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.7	J	1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.2		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.58	J	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.97	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.7		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.47	J	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.5		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		1.9	0.51	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	6.8		5.0	1.9	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EB-01 202405 — Lab Sample ID: 320-112396-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	8.3		4.4	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	6.9		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14		1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.3		1.8	0.22	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: EB-01 202405 (Continued) — Lab Sample ID: 320-112396-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	15		1.8	0.76	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.4		1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.9		1.8	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	18		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.79	J	1.8	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	14		1.8	0.48	ng/L	1		537 (modified)	Total/NA

Client Sample ID: BIO-A-24-202405 — Lab Sample ID: 320-112396-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.9		0.78	0.18	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	23		0.78	0.16	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	28		0.78	0.12	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.4		0.78	0.15	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	23		0.78	0.21	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.3		0.78	0.086	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	9.5		0.78	0.19	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.0		0.78	0.16	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	2.8		0.78	0.12	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.23	J	0.78	0.082	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.66	J	0.78	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.2		0.78	0.15	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.76	J	0.78	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	9.6	I	0.78	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	1.5		0.78	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.61	J	0.78	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	25		0.78	0.090	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	7.2		0.78	0.19	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	4.1		0.78	0.18	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	1.0		0.78	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
6:2 FTS	0.70	J	0.78	0.11	ug/Kg	1	☼	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Client Sample ID: Inf Comp 202405

Date Collected: 05/13/24 23:59
Date Received: 05/16/24 09:35

Lab Sample ID: 320-112396-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.2**		4.7	2.2	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluoropentanoic acid (PFPeA)	**3.4**		1.9	0.46	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorohexanoic acid (PFHxA)	**6.1**		1.9	0.54	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluoroheptanoic acid (PFHpA)	**1.2**	**J**	1.9	0.23	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorooctanoic acid (PFOA)	**4.5**		1.9	0.79	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorononanoic acid (PFNA)	**0.63**	**J I**	1.9	0.25	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.68	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorobutanesulfonic acid (PFBS)	**3.2**		1.9	0.19	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.28	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorohexanesulfonic acid (PFHxS)	**5.8**		1.9	0.53	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorooctanesulfonic acid (PFOS)	**4.0**		1.9	0.50	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.34	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.90	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.91	ng/L		05/18/24 07:34	05/20/24 15:22	1
NEtFOSA	ND		1.9	0.81	ng/L		05/18/24 07:34	05/20/24 15:22	1
NMeFOSA	ND		1.9	0.40	ng/L		05/18/24 07:34	05/20/24 15:22	1
NMeFOSAA	ND		4.7	1.1	ng/L		05/18/24 07:34	05/20/24 15:22	1
NEtFOSAA	ND		4.7	1.2	ng/L		05/18/24 07:34	05/20/24 15:22	1
NMeFOSE	**1.6**	**J**	3.7	1.3	ng/L		05/18/24 07:34	05/20/24 15:22	1
NEtFOSE	ND		1.9	0.79	ng/L		05/18/24 07:34	05/20/24 15:22	1
4:2 FTS	ND		1.9	0.22	ng/L		05/18/24 07:34	05/20/24 15:22	1
6:2 FTS	ND		4.7	2.3	ng/L		05/18/24 07:34	05/20/24 15:22	1
8:2 FTS	ND		1.9	0.43	ng/L		05/18/24 07:34	05/20/24 15:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.37	ng/L		05/18/24 07:34	05/20/24 15:22	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		05/18/24 07:34	05/20/24 15:22	1
9Cl-PF3ONS	ND		1.9	0.22	ng/L		05/18/24 07:34	05/20/24 15:22	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*47*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C5 PFPeA	*53*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C2 PFHxA	*64*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C4 PFHpA	*75*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C4 PFOA	*72*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C5 PFNA	*79*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C2 PFDA	*72*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C2 PFUnA	*63*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C2 PFDoA	*47*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C2 PFTeDA	*32*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*

Client Sample ID: Inf Comp 202405

Lab Sample ID: 320-112396-1
Matrix: Water

Date Collected: 05/13/24 23:59
Date Received: 05/16/24 09:35

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	71		25 - 150	05/18/24 07:34	05/20/24 15:22	1
18O2 PFHxS	71		25 - 150	05/18/24 07:34	05/20/24 15:22	1
13C4 PFOS	65		25 - 150	05/18/24 07:34	05/20/24 15:22	1
13C8 FOSA	59		10 - 150	05/18/24 07:34	05/20/24 15:22	1
d3-NMeFOSAA	43		25 - 150	05/18/24 07:34	05/20/24 15:22	1
d5-NEtFOSAA	55		25 - 150	05/18/24 07:34	05/20/24 15:22	1
d-N-MeFOSA-M	25		10 - 150	05/18/24 07:34	05/20/24 15:22	1
d-N-EtFOSA-M	43		10 - 150	05/18/24 07:34	05/20/24 15:22	1
d7-N-MeFOSE-M	23		10 - 150	05/18/24 07:34	05/20/24 15:22	1
d9-N-EtFOSE-M	44		10 - 150	05/18/24 07:34	05/20/24 15:22	1
M2-4:2 FTS	140		25 - 150	05/18/24 07:34	05/20/24 15:22	1
M2-6:2 FTS	212	*5+	25 - 150	05/18/24 07:34	05/20/24 15:22	1
M2-8:2 FTS	201	*5+	25 - 150	05/18/24 07:34	05/20/24 15:22	1
13C3 HFPO-DA	57		25 - 150	05/18/24 07:34	05/20/24 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	280		50	19	mg/L			05/20/24 15:58	1

Client Sample ID: Eff 202405

Lab Sample ID: 320-112396-2
Matrix: Water

Date Collected: 05/14/24 23:59
Date Received: 05/16/24 09:35

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	7.6		4.7	2.3	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluoropentanoic acid (PFPeA)	13		1.9	0.46	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorohexanoic acid (PFHxA)	14		1.9	0.55	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluoroheptanoic acid (PFHpA)	2.0		1.9	0.24	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorooctanoic acid (PFOA)	7.7		1.9	0.81	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorononanoic acid (PFNA)	1.1	J I	1.9	0.26	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorodecanoic acid (PFDA)	1.0	J I	1.9	0.29	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorobutanesulfonic acid (PFBS)	3.3		1.9	0.19	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluoropentanesulfonic acid (PFPeS)	0.47	J	1.9	0.28	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorohexanesulfonic acid (PFHxS)	7.0		1.9	0.54	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorooctanesulfonic acid (PFOS)	4.1		1.9	0.51	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		05/18/24 07:34	05/20/24 15:32	1

Client Sample ID: Eff 202405

Date Collected: 05/14/24 23:59
Date Received: 05/16/24 09:35

Lab Sample ID: 320-112396-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.82	ng/L		05/18/24 07:34	05/20/24 15:32	1
NMeFOSA	ND		1.9	0.41	ng/L		05/18/24 07:34	05/20/24 15:32	1
NMeFOSAA	ND		4.7	1.1	ng/L		05/18/24 07:34	05/20/24 15:32	1
NEtFOSAA	ND		4.7	1.2	ng/L		05/18/24 07:34	05/20/24 15:32	1
NMeFOSE	ND		3.8	1.3	ng/L		05/18/24 07:34	05/20/24 15:32	1
NEtFOSE	ND		1.9	0.81	ng/L		05/18/24 07:34	05/20/24 15:32	1
4:2 FTS	ND		1.9	0.23	ng/L		05/18/24 07:34	05/20/24 15:32	1
6:2 FTS	ND		4.7	2.4	ng/L		05/18/24 07:34	05/20/24 15:32	1
8:2 FTS	ND		1.9	0.44	ng/L		05/18/24 07:34	05/20/24 15:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		05/18/24 07:34	05/20/24 15:32	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		05/18/24 07:34	05/20/24 15:32	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		05/18/24 07:34	05/20/24 15:32	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*62*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C5 PFPeA	*74*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C2 PFHxA	*78*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C4 PFHpA	*76*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C4 PFOA	*82*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C5 PFNA	*84*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C2 PFDA	*79*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C2 PFUnA	*71*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C2 PFDoA	*62*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C2 PFTeDA	*43*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C3 PFBS	*80*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
18O2 PFHxS	*75*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C4 PFOS	*90*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C8 FOSA	*87*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d3-NMeFOSAA	*87*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d5-NEtFOSAA	*96*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d-N-MeFOSA-M	*70*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d-N-EtFOSA-M	*60*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d7-N-MeFOSE-M	*58*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d9-N-EtFOSE-M	*53*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
M2-4:2 FTS	*142*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
M2-6:2 FTS	*123*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
M2-8:2 FTS	*150*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C3 HFPO-DA	*71*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**5.0**		5.0	1.9	mg/L			05/21/24 16:22	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Client Sample ID: Eff-G 202405

Date Collected: 05/14/24 11:15
Date Received: 05/16/24 09:35

Lab Sample ID: 320-112396-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.6**		4.7	2.3	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluoropentanoic acid (PFPeA)	**14**		1.9	0.46	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorohexanoic acid (PFHxA)	**13**		1.9	0.55	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluoroheptanoic acid (PFHpA)	**1.7**	**J**	1.9	0.24	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorooctanoic acid (PFOA)	**8.2**		1.9	0.80	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorononanoic acid (PFNA)	**0.58**	**J**	1.9	0.25	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorodecanoic acid (PFDA)	**0.97**	**J**	1.9	0.29	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorobutanesulfonic acid (PFBS)	**4.7**		1.9	0.19	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluoropentanesulfonic acid (PFPeS)	**0.47**	**J**	1.9	0.28	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorohexanesulfonic acid (PFHxS)	**6.5**		1.9	0.54	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorooctanesulfonic acid (PFOS)	**3.6**		1.9	0.51	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		05/18/24 07:34	05/20/24 15:43	1
NEtFOSA	ND		1.9	0.82	ng/L		05/18/24 07:34	05/20/24 15:43	1
NMeFOSA	ND		1.9	0.41	ng/L		05/18/24 07:34	05/20/24 15:43	1
NMeFOSAA	ND		4.7	1.1	ng/L		05/18/24 07:34	05/20/24 15:43	1
NEtFOSAA	ND		4.7	1.2	ng/L		05/18/24 07:34	05/20/24 15:43	1
NMeFOSE	ND		3.8	1.3	ng/L		05/18/24 07:34	05/20/24 15:43	1
NEtFOSE	ND		1.9	0.80	ng/L		05/18/24 07:34	05/20/24 15:43	1
4:2 FTS	ND		1.9	0.23	ng/L		05/18/24 07:34	05/20/24 15:43	1
6:2 FTS	ND		4.7	2.4	ng/L		05/18/24 07:34	05/20/24 15:43	1
8:2 FTS	ND		1.9	0.43	ng/L		05/18/24 07:34	05/20/24 15:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		05/18/24 07:34	05/20/24 15:43	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		05/18/24 07:34	05/20/24 15:43	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		05/18/24 07:34	05/20/24 15:43	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C5 PFPeA	*78*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C2 PFHxA	*84*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C4 PFHpA	*85*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C4 PFOA	*91*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C5 PFNA	*88*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C2 PFDA	*88*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C2 PFUnA	*87*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C2 PFDoA	*78*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C2 PFTeDA	*44*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*

Client Sample ID: Eff-G 202405

Lab Sample ID: 320-112396-3

Date Collected: 05/14/24 11:15
Matrix: Water
Date Received: 05/16/24 09:35

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	85		25 - 150	05/18/24 07:34	05/20/24 15:43	1
18O2 PFHxS	84		25 - 150	05/18/24 07:34	05/20/24 15:43	1
13C4 PFOS	95		25 - 150	05/18/24 07:34	05/20/24 15:43	1
13C8 FOSA	94		10 - 150	05/18/24 07:34	05/20/24 15:43	1
d3-NMeFOSAA	104		25 - 150	05/18/24 07:34	05/20/24 15:43	1
d5-NEtFOSAA	107		25 - 150	05/18/24 07:34	05/20/24 15:43	1
d-N-MeFOSA-M	80		10 - 150	05/18/24 07:34	05/20/24 15:43	1
d-N-EtFOSA-M	71		10 - 150	05/18/24 07:34	05/20/24 15:43	1
d7-N-MeFOSE-M	69		10 - 150	05/18/24 07:34	05/20/24 15:43	1
d9-N-EtFOSE-M	69		10 - 150	05/18/24 07:34	05/20/24 15:43	1
M2-4:2 FTS	155	*5+	25 - 150	05/18/24 07:34	05/20/24 15:43	1
M2-6:2 FTS	131		25 - 150	05/18/24 07:34	05/20/24 15:43	1
M2-8:2 FTS	150		25 - 150	05/18/24 07:34	05/20/24 15:43	1
13C3 HFPO-DA	82		25 - 150	05/18/24 07:34	05/20/24 15:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	6.8		5.0	1.9	mg/L			05/21/24 16:28	1

Client Sample ID: EB-01 202405

Lab Sample ID: 320-112396-4

Date Collected: 05/15/24 10:15
Matrix: Water
Date Received: 05/16/24 09:35

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	8.3		4.4	2.1	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluoropentanoic acid (PFPeA)	6.9		1.8	0.44	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorohexanoic acid (PFHxA)	14		1.8	0.52	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluoroheptanoic acid (PFHpA)	4.3		1.8	0.22	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorooctanoic acid (PFOA)	15		1.8	0.76	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorobutanesulfonic acid (PFBS)	5.4		1.8	0.18	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluoropentanesulfonic acid (PFPeS)	1.9		1.8	0.27	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorohexanesulfonic acid (PFHxS)	18		1.8	0.51	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluoroheptanesulfonic acid (PFHpS)	0.79	J	1.8	0.17	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorooctanesulfonic acid (PFOS)	14		1.8	0.48	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.86	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.87	ng/L		05/18/24 07:34	05/20/24 15:53	1

Client Sample ID: EB-01 202405

Lab Sample ID: 320-112396-4

Date Collected: 05/15/24 10:15
Matrix: Water
Date Received: 05/16/24 09:35

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.8	0.77	ng/L		05/18/24 07:34	05/20/24 15:53	1
NMeFOSA	ND		1.8	0.38	ng/L		05/18/24 07:34	05/20/24 15:53	1
NMeFOSAA	ND		4.4	1.1	ng/L		05/18/24 07:34	05/20/24 15:53	1
NEtFOSAA	ND		4.4	1.2	ng/L		05/18/24 07:34	05/20/24 15:53	1
NMeFOSE	ND		3.6	1.2	ng/L		05/18/24 07:34	05/20/24 15:53	1
NEtFOSE	ND		1.8	0.76	ng/L		05/18/24 07:34	05/20/24 15:53	1
4:2 FTS	ND		1.8	0.21	ng/L		05/18/24 07:34	05/20/24 15:53	1
6:2 FTS	ND		4.4	2.2	ng/L		05/18/24 07:34	05/20/24 15:53	1
8:2 FTS	ND		1.8	0.41	ng/L		05/18/24 07:34	05/20/24 15:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		05/18/24 07:34	05/20/24 15:53	1
HFPO-DA (GenX)	ND		3.6	1.3	ng/L		05/18/24 07:34	05/20/24 15:53	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		05/18/24 07:34	05/20/24 15:53	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		05/18/24 07:34	05/20/24 15:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*66*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C5 PFPeA	*72*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C2 PFHxA	*70*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C4 PFHpA	*76*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C4 PFOA	*76*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C5 PFNA	*79*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C2 PFDA	*71*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C2 PFUnA	*71*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C2 PFDoA	*84*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C2 PFTeDA	*70*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C3 PFBS	*76*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
18O2 PFHxS	*74*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C4 PFOS	*78*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C8 FOSA	*83*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d3-NMeFOSAA	*83*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d5-NEtFOSAA	*89*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d-N-MeFOSA-M	*66*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d-N-EtFOSA-M	*66*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d7-N-MeFOSE-M	*63*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d9-N-EtFOSE-M	*71*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
M2-4:2 FTS	*85*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
M2-6:2 FTS	*78*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
M2-8:2 FTS	*120*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C3 HFPO-DA	*68*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*

Client Sample ID: BIO-A-24-202405

Lab Sample ID: 320-112396-5

Date Collected: 05/15/24 10:45
Matrix: Solid
Date Received: 05/16/24 09:35
Percent Solids: 25.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.9**		0.78	0.18	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluoropentanoic acid (PFPeA)	**23**		0.78	0.16	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorohexanoic acid (PFHxA)	**28**		0.78	0.12	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluoroheptanoic acid (PFHpA)	**2.4**		0.78	0.15	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1

Client Sample ID: BIO-A-24-202405

Date Collected: 05/15/24 10:45
Date Received: 05/16/24 09:35

Lab Sample ID: 320-112396-5

Matrix: Solid
Percent Solids: 25.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	**23**		0.78	0.21	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorononanoic acid (PFNA)	**1.3**		0.78	0.086	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorodecanoic acid (PFDA)	**9.5**		0.78	0.19	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluoroundecanoic acid (PFUnA)	**1.0**		0.78	0.16	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorododecanoic acid (PFDoA)	**2.8**		0.78	0.12	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorotridecanoic acid (PFTrDA)	**0.23**	**J**	0.78	0.082	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorotetradecanoic acid (PFTeA)	**0.66**	**J**	0.78	0.14	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**		0.78	0.15	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.78	0.14	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorohexanesulfonic acid (PFHxS)	**0.76**	**J**	0.78	0.11	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.78	0.19	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorooctanesulfonic acid (PFOS)	**9.6**	**I**	0.78	0.17	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.78	0.11	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorodecanesulfonic acid (PFDS)	**1.5**		0.78	0.20	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.78	0.18	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorooctanesulfonamide (FOSA)	**0.61**	**J**	0.78	0.13	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NEtFOSA	ND		0.78	0.18	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NMeFOSA	ND		0.78	0.19	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NMeFOSAA	**25**		0.78	0.090	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NEtFOSAA	**7.2**		0.78	0.19	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NMeFOSE	**4.1**		0.78	0.18	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NEtFOSE	**1.0**		0.78	0.11	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
6:2 FTS	**0.70**	**J**	0.78	0.11	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.78	0.15	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
HFPO-DA (GenX)	ND		0.78	0.16	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
9Cl-PF3ONS	ND		0.78	0.14	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
11Cl-PF3OUdS	ND		0.78	0.12	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C5 PFPeA	*80*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C2 PFHxA	*78*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C4 PFHpA	*86*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C4 PFOA	*86*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C5 PFNA	*87*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C2 PFDA	*80*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C2 PFUnA	*80*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C2 PFDoA	*71*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C2 PFTeDA	*29*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C3 PFBS	*88*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*

Client Sample ID: BIO-A-24-202405

Lab Sample ID: 320-112396-5

Date Collected: 05/15/24 10:45
Date Received: 05/16/24 09:35

Matrix: Solid
Percent Solids: 25.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*86*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C4 PFOS	*71*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C8 FOSA	*73*		*10 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d3-NMeFOSAA	*67*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d5-NEtFOSAA	*77*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d-N-MeFOSA-M	*33*		*10 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d-N-EtFOSA-M	*34*		*10 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d7-N-MeFOSE-M	*31*		*10 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d9-N-EtFOSE-M	*42*		*10 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
M2-6:2 FTS	*147*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C3 HFPO-DA	*71*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 FTS	ND		7.8	2.0	ug/Kg	☼	05/22/24 04:41	05/24/24 16:14	10
8:2 FTS	ND		7.8	1.4	ug/Kg	☼	05/22/24 04:41	05/24/24 16:14	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*91*		*25 - 150*	*05/22/24 04:41*	*05/24/24 16:14*	*10*
M2-8:2 FTS	*142*		*25 - 150*	*05/22/24 04:41*	*05/24/24 16:14*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**74.6**		0.1	0.1	%			05/21/24 14:15	1
Percent Solids (ASTM D 2216)	**25.4**		0.1	0.1	%			05/21/24 14:15	1

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-112396-5	BIO-A-24-202405	71	80	78	86	86	87	80	80
320-112396-5 - DL	BIO-A-24-202405								
LLCS 320-765602/2-A	Lab Control Sample	91	90	96	100	95	90	95	88
MB 320-765602/1-A	Method Blank	97	96	106	101	99	101	102	90

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-112396-5	BIO-A-24-202405	71	29	88	86	71	73	67	77
320-112396-5 - DL	BIO-A-24-202405								
LLCS 320-765602/2-A	Lab Control Sample	86	86	100	90	94	96	107	102
MB 320-765602/1-A	Method Blank	91	82	93	96	98	107	105	107

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-112396-5	BIO-A-24-202405	33	34	31	42		147		71
320-112396-5 - DL	BIO-A-24-202405					91		142	
LLCS 320-765602/2-A	Lab Control Sample	97	89	78	77	126	104	126	87
MB 320-765602/1-A	Method Blank	92	86	77	80	124	99	140	92

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-112396-1
Project/Site: PFAS Sampling

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-112396-1	Inf Comp 202405	47	53	64	75	72	79	72	63
320-112396-2	Eff 202405	62	74	78	76	82	84	79	71
320-112396-3	Eff-G 202405	71	78	84	85	91	88	88	87
320-112396-4	EB-01 202405	66	72	70	76	76	79	71	71
LCS 320-764281/3-A	Lab Control Sample	105	100	101	107	108	111	115	107
LCSD 320-764281/4-A	Lab Control Sample Dup	106	105	106	108	109	116	114	115
LLCS 320-764281/2-A	Lab Control Sample	97	91	104	92	105	100	104	104
MB 320-764281/1-A	Method Blank	89	90	97	90	97	93	99	93

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-112396-1	Inf Comp 202405	47	32	71	71	65	59	43	55
320-112396-2	Eff 202405	62	43	80	75	90	87	87	96
320-112396-3	Eff-G 202405	78	44	85	84	95	94	104	107
320-112396-4	EB-01 202405	84	70	76	74	78	83	83	89
LCS 320-764281/3-A	Lab Control Sample	116	117	109	110	127	120	138	127
LCSD 320-764281/4-A	Lab Control Sample Dup	125	123	110	110	129	125	134	134
LLCS 320-764281/2-A	Lab Control Sample	128	103	93	95	102	108	113	106
MB 320-764281/1-A	Method Blank	95	96	89	90	95	95	108	100

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-112396-1	Inf Comp 202405	25	43	23	44	140	212 *5+	201 *5+	57
320-112396-2	Eff 202405	70	60	58	53	142	123	150	71
320-112396-3	Eff-G 202405	80	71	69	69	155 *5+	131	150	82
320-112396-4	EB-01 202405	66	66	63	71	85	78	120	68
LCS 320-764281/3-A	Lab Control Sample	108	101	109	110	134	117	142	107
LCSD 320-764281/4-A	Lab Control Sample Dup	102	90	109	110	114	127	163 *5+	102
LLCS 320-764281/2-A	Lab Control Sample	86	86	89	92	108	103	142	92
MB 320-764281/1-A	Method Blank	79	68	79	84	130	96	134	91

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-112396-1
Project/Site: PFAS Sampling

NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-764281/1-A
Matrix: Water
Analysis Batch: 764714

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 764281

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		05/18/24 07:34	05/20/24 11:19	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		05/18/24 07:34	05/20/24 11:19	1
NEtFOSA	ND		2.0	0.87	ng/L		05/18/24 07:34	05/20/24 11:19	1
NMeFOSA	ND		2.0	0.43	ng/L		05/18/24 07:34	05/20/24 11:19	1
NMeFOSAA	ND		5.0	1.2	ng/L		05/18/24 07:34	05/20/24 11:19	1
NEtFOSAA	ND		5.0	1.3	ng/L		05/18/24 07:34	05/20/24 11:19	1
NMeFOSE	ND		4.0	1.4	ng/L		05/18/24 07:34	05/20/24 11:19	1
NEtFOSE	ND		2.0	0.85	ng/L		05/18/24 07:34	05/20/24 11:19	1
4:2 FTS	ND		2.0	0.24	ng/L		05/18/24 07:34	05/20/24 11:19	1
6:2 FTS	ND		5.0	2.5	ng/L		05/18/24 07:34	05/20/24 11:19	1
8:2 FTS	ND		2.0	0.46	ng/L		05/18/24 07:34	05/20/24 11:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		05/18/24 07:34	05/20/24 11:19	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		05/18/24 07:34	05/20/24 11:19	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		05/18/24 07:34	05/20/24 11:19	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		05/18/24 07:34	05/20/24 11:19	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89*		*25 - 150*	*05/18/24 07:34*	*05/20/24 11:19*	*1*
13C5 PFPeA	*90*		*25 - 150*	*05/18/24 07:34*	*05/20/24 11:19*	*1*
13C2 PFHxA	*97*		*25 - 150*	*05/18/24 07:34*	*05/20/24 11:19*	*1*
13C4 PFHpA	*90*		*25 - 150*	*05/18/24 07:34*	*05/20/24 11:19*	*1*
13C4 PFOA	*97*		*25 - 150*	*05/18/24 07:34*	*05/20/24 11:19*	*1*
13C5 PFNA	*93*		*25 - 150*	*05/18/24 07:34*	*05/20/24 11:19*	*1*
13C2 PFDA	*99*		*25 - 150*	*05/18/24 07:34*	*05/20/24 11:19*	*1*
13C2 PFUnA	*93*		*25 - 150*	*05/18/24 07:34*	*05/20/24 11:19*	*1*
13C2 PFDoA	*95*		*25 - 150*	*05/18/24 07:34*	*05/20/24 11:19*	*1*
13C2 PFTeDA	*96*		*25 - 150*	*05/18/24 07:34*	*05/20/24 11:19*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-764281/1-A
Matrix: Water
Analysis Batch: 764714

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 764281

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	89		25 - 150	05/18/24 07:34	05/20/24 11:19	1
18O2 PFHxS	90		25 - 150	05/18/24 07:34	05/20/24 11:19	1
13C4 PFOS	95		25 - 150	05/18/24 07:34	05/20/24 11:19	1
13C8 FOSA	95		10 - 150	05/18/24 07:34	05/20/24 11:19	1
d3-NMeFOSAA	108		25 - 150	05/18/24 07:34	05/20/24 11:19	1
d5-NEtFOSAA	100		25 - 150	05/18/24 07:34	05/20/24 11:19	1
d-N-MeFOSA-M	79		10 - 150	05/18/24 07:34	05/20/24 11:19	1
d-N-EtFOSA-M	68		10 - 150	05/18/24 07:34	05/20/24 11:19	1
d7-N-MeFOSE-M	79		10 - 150	05/18/24 07:34	05/20/24 11:19	1
d9-N-EtFOSE-M	84		10 - 150	05/18/24 07:34	05/20/24 11:19	1
M2-4:2 FTS	130		25 - 150	05/18/24 07:34	05/20/24 11:19	1
M2-6:2 FTS	96		25 - 150	05/18/24 07:34	05/20/24 11:19	1
M2-8:2 FTS	134		25 - 150	05/18/24 07:34	05/20/24 11:19	1
13C3 HFPO-DA	91		25 - 150	05/18/24 07:34	05/20/24 11:19	1

Lab Sample ID: LCS 320-764281/3-A
Matrix: Water
Analysis Batch: 764714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 764281

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	40.0	39.0		ng/L		97	60 - 135
Perfluoropentanoic acid (PFPeA)	40.0	48.5		ng/L		121	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	42.9		ng/L		107	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	42.3		ng/L		106	60 - 135
Perfluorooctanoic acid (PFOA)	40.0	42.5		ng/L		106	60 - 135
Perfluorononanoic acid (PFNA)	40.0	42.6		ng/L		106	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	39.6		ng/L		99	60 - 135
Perfluoroundecanoic acid (PFUnA)	40.0	43.1		ng/L		108	60 - 135
Perfluorododecanoic acid (PFDoA)	40.0	39.7		ng/L		99	60 - 135
Perfluorotridecanoic acid (PFTrDA)	40.0	39.6		ng/L		99	60 - 135
Perfluorotetradecanoic acid (PFTeA)	40.0	47.1		ng/L		118	60 - 135
Perfluorobutanesulfonic acid (PFBS)	35.5	36.0		ng/L		101	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	37.6	38.5		ng/L		102	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.7		ng/L		98	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	38.2	39.3		ng/L		103	60 - 135
Perfluorooctanesulfonic acid (PFOS)	37.2	37.7		ng/L		101	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.5	36.3		ng/L		94	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	35.7		ng/L		93	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.8	30.9		ng/L		80	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-764281/3-A
Matrix: Water
Analysis Batch: 764714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 764281

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	40.0	39.5		ng/L		99	60 - 135
NEtFOSA	40.0	39.0		ng/L		97	60 - 135
NMeFOSA	40.0	36.5		ng/L		91	60 - 135
NMeFOSAA	40.0	41.1		ng/L		103	60 - 135
NEtFOSAA	40.0	44.7		ng/L		112	60 - 135
NMeFOSE	40.0	37.4		ng/L		94	60 - 135
NEtFOSE	40.0	35.0		ng/L		88	60 - 135
4:2 FTS	37.5	37.8		ng/L		101	60 - 135
6:2 FTS	38.1	45.0		ng/L		118	60 - 135
8:2 FTS	38.4	40.7		ng/L		106	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	31.2		ng/L		82	60 - 135
HFPO-DA (GenX)	40.0	37.1		ng/L		93	60 - 135
9Cl-PF3ONS	37.4	33.4		ng/L		89	60 - 135
11Cl-PF3OUdS	37.8	32.3		ng/L		86	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*105*		*25 - 150*
13C5 PFPeA	*100*		*25 - 150*
13C2 PFHxA	*101*		*25 - 150*
13C4 PFHpA	*107*		*25 - 150*
13C4 PFOA	*108*		*25 - 150*
13C5 PFNA	*111*		*25 - 150*
13C2 PFDA	*115*		*25 - 150*
13C2 PFUnA	*107*		*25 - 150*
13C2 PFDoA	*116*		*25 - 150*
13C2 PFTeDA	*117*		*25 - 150*
13C3 PFBS	*109*		*25 - 150*
18O2 PFHxS	*110*		*25 - 150*
13C4 PFOS	*127*		*25 - 150*
13C8 FOSA	*120*		*10 - 150*
d3-NMeFOSAA	*138*		*25 - 150*
d5-NEtFOSAA	*127*		*25 - 150*
d-N-MeFOSA-M	*108*		*10 - 150*
d-N-EtFOSA-M	*101*		*10 - 150*
d7-N-MeFOSE-M	*109*		*10 - 150*
d9-N-EtFOSE-M	*110*		*10 - 150*
M2-4:2 FTS	*134*		*25 - 150*
M2-6:2 FTS	*117*		*25 - 150*
M2-8:2 FTS	*142*		*25 - 150*
13C3 HFPO-DA	*107*		*25 - 150*

Lab Sample ID: LCSD 320-764281/4-A
Matrix: Water
Analysis Batch: 764714

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 764281

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	40.9		ng/L		102	60 - 135	5	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-764281/4-A
Matrix: Water
Analysis Batch: 764714

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 764281

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			40.0	46.6		ng/L		117	60 - 135	4	30
Perfluorohexanoic acid (PFHxA)			40.0	38.7		ng/L		97	60 - 135	10	30
Perfluoroheptanoic acid (PFHpA)			40.0	39.7		ng/L		99	60 - 135	7	30
Perfluorooctanoic acid (PFOA)			40.0	38.9		ng/L		97	60 - 135	9	30
Perfluorononanoic acid (PFNA)			40.0	42.6		ng/L		106	60 - 135	0	30
Perfluorodecanoic acid (PFDA)			40.0	41.2		ng/L		103	60 - 135	4	30
Perfluoroundecanoic acid (PFUnA)			40.0	42.1		ng/L		105	60 - 135	2	30
Perfluorododecanoic acid (PFDoA)			40.0	44.8		ng/L		112	60 - 135	12	30
Perfluorotridecanoic acid (PFTrDA)			40.0	39.4		ng/L		98	60 - 135	1	30
Perfluorotetradecanoic acid (PFTeA)			40.0	41.8		ng/L		105	60 - 135	12	30
Perfluorobutanesulfonic acid (PFBS)			35.5	38.2		ng/L		107	60 - 135	6	30
Perfluoropentanesulfonic acid (PFPeS)			37.6	40.0		ng/L		106	60 - 135	4	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	34.0		ng/L		93	60 - 135	5	30
Perfluoroheptanesulfonic acid (PFHpS)			38.2	39.8		ng/L		104	60 - 135	1	30
Perfluorooctanesulfonic acid (PFOS)			37.2	38.5		ng/L		103	60 - 135	2	30
Perfluorononanesulfonic acid (PFNS)			38.5	36.3		ng/L		94	60 - 135	0	30
Perfluorodecanesulfonic acid (PFDS)			38.6	35.9		ng/L		93	60 - 135	1	30
Perfluorododecanesulfonic acid (PFDoS)			38.8	34.6		ng/L		89	60 - 135	11	30
Perfluorooctanesulfonamide (FOSA)			40.0	38.9		ng/L		97	60 - 135	2	30
NEtFOSA			40.0	43.3		ng/L		108	60 - 135	11	30
NMeFOSA			40.0	36.9		ng/L		92	60 - 135	1	30
NMeFOSAA			40.0	41.4		ng/L		103	60 - 135	1	30
NEtFOSAA			40.0	44.4		ng/L		111	60 - 135	1	30
NMeFOSE			40.0	39.7		ng/L		99	60 - 135	6	30
NEtFOSE			40.0	35.2		ng/L		88	60 - 135	0	30
4:2 FTS			37.5	37.8		ng/L		101	60 - 135	0	30
6:2 FTS			38.1	40.8		ng/L		107	60 - 135	10	30
8:2 FTS			38.4	38.6		ng/L		101	60 - 135	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	32.6		ng/L		86	60 - 135	4	30
HFPO-DA (GenX)			40.0	41.7		ng/L		104	60 - 135	12	30
9Cl-PF3ONS			37.4	32.8		ng/L		88	60 - 135	2	30
11Cl-PF3OUdS			37.8	36.1		ng/L		96	60 - 135	11	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*106*		*25 - 150*
13C5 PFPeA	*105*		*25 - 150*
13C2 PFHxA	*106*		*25 - 150*
13C4 PFHpA	*108*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-764281/4-A
Matrix: Water
Analysis Batch: 764714

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 764281

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFOA	*109*		*25 - 150*
13C5 PFNA	*116*		*25 - 150*
13C2 PFDA	*114*		*25 - 150*
13C2 PFUnA	*115*		*25 - 150*
13C2 PFDoA	*125*		*25 - 150*
13C2 PFTeDA	*123*		*25 - 150*
13C3 PFBS	*110*		*25 - 150*
18O2 PFHxS	*110*		*25 - 150*
13C4 PFOS	*129*		*25 - 150*
13C8 FOSA	*125*		*10 - 150*
d3-NMeFOSAA	*134*		*25 - 150*
d5-NEtFOSAA	*134*		*25 - 150*
d-N-MeFOSA-M	*102*		*10 - 150*
d-N-EtFOSA-M	*90*		*10 - 150*
d7-N-MeFOSE-M	*109*		*10 - 150*
d9-N-EtFOSE-M	*110*		*10 - 150*
M2-4:2 FTS	*114*		*25 - 150*
M2-6:2 FTS	*127*		*25 - 150*
M2-8:2 FTS	*163*	**5+*	*25 - 150*
13C3 HFPO-DA	*102*		*25 - 150*

Lab Sample ID: LLCS 320-764281/2-A
Matrix: Water
Analysis Batch: 764714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 764281

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	7.17		ng/L		90	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	8.82		ng/L		110	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	7.13		ng/L		89	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	7.94		ng/L		99	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	7.31		ng/L		91	50 - 150
Perfluorononanoic acid (PFNA)	8.00	6.86		ng/L		86	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	7.46		ng/L		93	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	7.51		ng/L		94	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	7.13		ng/L		89	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	6.85		ng/L		86	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	7.80		ng/L		97	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	6.78		ng/L		96	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	7.11		ng/L		95	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	6.76		ng/L		93	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	8.14		ng/L		107	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	6.80		ng/L		91	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-764281/2-A
Matrix: Water
Analysis Batch: 764714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 764281

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanesulfonic acid (PFNS)	7.70	7.39		ng/L		96	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	7.10		ng/L		92	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	6.44		ng/L		83	50 - 150
Perfluorooctanesulfonamide (FOSA)	8.00	7.22		ng/L		90	50 - 150
NEtFOSA	8.00	6.73		ng/L		84	50 - 150
NMeFOSA	8.00	6.53		ng/L		82	50 - 150
NMeFOSAA	8.00	8.08		ng/L		101	50 - 150
NEtFOSAA	8.00	7.88		ng/L		98	50 - 150
NMeFOSE	8.00	7.90		ng/L		99	50 - 150
NEtFOSE	8.00	7.26		ng/L		91	50 - 150
4:2 FTS	7.50	6.46		ng/L		86	50 - 150
6:2 FTS	7.62	8.42		ng/L		111	50 - 150
8:2 FTS	7.68	7.11		ng/L		93	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	6.76		ng/L		89	50 - 150
HFPO-DA (GenX)	8.00	9.08		ng/L		114	50 - 150
9Cl-PF3ONS	7.47	6.95		ng/L		93	50 - 150
11Cl-PF3OUdS	7.55	7.78		ng/L		103	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*97*		*25 - 150*
13C5 PFPeA	*91*		*25 - 150*
13C2 PFHxA	*104*		*25 - 150*
13C4 PFHpA	*92*		*25 - 150*
13C4 PFOA	*105*		*25 - 150*
13C5 PFNA	*100*		*25 - 150*
13C2 PFDA	*104*		*25 - 150*
13C2 PFUnA	*104*		*25 - 150*
13C2 PFDoA	*128*		*25 - 150*
13C2 PFTeDA	*103*		*25 - 150*
13C3 PFBS	*93*		*25 - 150*
18O2 PFHxS	*95*		*25 - 150*
13C4 PFOS	*102*		*25 - 150*
13C8 FOSA	*108*		*10 - 150*
d3-NMeFOSAA	*113*		*25 - 150*
d5-NEtFOSAA	*106*		*25 - 150*
d-N-MeFOSA-M	*86*		*10 - 150*
d-N-EtFOSA-M	*86*		*10 - 150*
d7-N-MeFOSE-M	*89*		*10 - 150*
d9-N-EtFOSE-M	*92*		*10 - 150*
M2-4:2 FTS	*108*		*25 - 150*
M2-6:2 FTS	*103*		*25 - 150*
M2-8:2 FTS	*142*		*25 - 150*
13C3 HFPO-DA	*92*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-765602/1-A
Matrix: Solid
Analysis Batch: 766280

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 765602

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.20	0.046	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.041	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.031	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.038	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.053	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.022	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.048	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.042	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.030	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.021	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.037	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.038	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.037	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.029	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.043	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.029	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.052	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.047	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.033	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
NEtFOSA	ND		0.20	0.047	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
NMeFOSA	ND		0.20	0.049	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
NMeFOSAA	ND		0.20	0.023	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
NEtFOSAA	ND		0.20	0.048	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
NMeFOSE	ND		0.20	0.047	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
NEtFOSE	ND		0.20	0.028	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
4:2 FTS	ND		0.20	0.051	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
6:2 FTS	ND		0.20	0.027	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
8:2 FTS	ND		0.20	0.035	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.039	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
HFPO-DA (GenX)	ND		0.20	0.041	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
9Cl-PF3ONS	ND		0.20	0.035	ug/Kg		05/22/24 04:41	05/23/24 21:35	1
11Cl-PF3OUdS	ND		0.20	0.031	ug/Kg		05/22/24 04:41	05/23/24 21:35	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97*		*25 - 150*	*05/22/24 04:41*	*05/23/24 21:35*	*1*
13C5 PFPeA	*96*		*25 - 150*	*05/22/24 04:41*	*05/23/24 21:35*	*1*
13C2 PFHxA	*106*		*25 - 150*	*05/22/24 04:41*	*05/23/24 21:35*	*1*
13C4 PFHpA	*101*		*25 - 150*	*05/22/24 04:41*	*05/23/24 21:35*	*1*
13C4 PFOA	*99*		*25 - 150*	*05/22/24 04:41*	*05/23/24 21:35*	*1*
13C5 PFNA	*101*		*25 - 150*	*05/22/24 04:41*	*05/23/24 21:35*	*1*
13C2 PFDA	*102*		*25 - 150*	*05/22/24 04:41*	*05/23/24 21:35*	*1*
13C2 PFUnA	*90*		*25 - 150*	*05/22/24 04:41*	*05/23/24 21:35*	*1*
13C2 PFDoA	*91*		*25 - 150*	*05/22/24 04:41*	*05/23/24 21:35*	*1*
13C2 PFTeDA	*82*		*25 - 150*	*05/22/24 04:41*	*05/23/24 21:35*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-765602/1-A
Matrix: Solid
Analysis Batch: 766280

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 765602

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	93		25 - 150	05/22/24 04:41	05/23/24 21:35	1
18O2 PFHxS	96		25 - 150	05/22/24 04:41	05/23/24 21:35	1
13C4 PFOS	98		25 - 150	05/22/24 04:41	05/23/24 21:35	1
13C8 FOSA	107		10 - 150	05/22/24 04:41	05/23/24 21:35	1
d3-NMeFOSAA	105		25 - 150	05/22/24 04:41	05/23/24 21:35	1
d5-NEtFOSAA	107		25 - 150	05/22/24 04:41	05/23/24 21:35	1
d-N-MeFOSA-M	92		10 - 150	05/22/24 04:41	05/23/24 21:35	1
d-N-EtFOSA-M	86		10 - 150	05/22/24 04:41	05/23/24 21:35	1
d7-N-MeFOSE-M	77		10 - 150	05/22/24 04:41	05/23/24 21:35	1
d9-N-EtFOSE-M	80		10 - 150	05/22/24 04:41	05/23/24 21:35	1
M2-4:2 FTS	124		25 - 150	05/22/24 04:41	05/23/24 21:35	1
M2-6:2 FTS	99		25 - 150	05/22/24 04:41	05/23/24 21:35	1
M2-8:2 FTS	140		25 - 150	05/22/24 04:41	05/23/24 21:35	1
13C3 HFPO-DA	92		25 - 150	05/22/24 04:41	05/23/24 21:35	1

Lab Sample ID: LLCS 320-765602/2-A
Matrix: Solid
Analysis Batch: 766280

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 765602

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.400	0.399		ug/Kg		100	50 - 150
Perfluoropentanoic acid (PFPeA)	0.400	0.456		ug/Kg		114	50 - 150
Perfluorohexanoic acid (PFHxA)	0.400	0.388		ug/Kg		97	50 - 150
Perfluoroheptanoic acid (PFHpA)	0.400	0.384		ug/Kg		96	50 - 150
Perfluorooctanoic acid (PFOA)	0.400	0.424		ug/Kg		106	50 - 150
Perfluorononanoic acid (PFNA)	0.400	0.412		ug/Kg		103	50 - 150
Perfluorodecanoic acid (PFDA)	0.400	0.414		ug/Kg		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	0.400	0.450		ug/Kg		113	50 - 150
Perfluorododecanoic acid (PFDoA)	0.400	0.425		ug/Kg		106	50 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.460		ug/Kg		115	50 - 150
Perfluorotetradecanoic acid (PFTeA)	0.400	0.426		ug/Kg		106	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.360		ug/Kg		101	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.344		ug/Kg		91	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.387		ug/Kg		106	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.405		ug/Kg		106	50 - 150
Perfluorooctanesulfonic acid (PFOS)	0.372	0.399		ug/Kg		107	50 - 150
Perfluorononanesulfonic acid (PFNS)	0.385	0.443		ug/Kg		115	50 - 150
Perfluorodecanesulfonic acid (PFDS)	0.386	0.354		ug/Kg		92	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.342		ug/Kg		88	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-765602/2-A
Matrix: Solid
Analysis Batch: 766280

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 765602

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	0.400	0.444		ug/Kg		111	50 - 150
NEtFOSA	0.400	0.404		ug/Kg		101	50 - 150
NMeFOSA	0.400	0.374		ug/Kg		94	50 - 150
NMeFOSAA	0.400	0.406		ug/Kg		101	50 - 150
NEtFOSAA	0.400	0.451		ug/Kg		113	50 - 150
NMeFOSE	0.400	0.407		ug/Kg		102	50 - 150
NEtFOSE	0.400	0.377		ug/Kg		94	50 - 150
4:2 FTS	0.375	0.349		ug/Kg		93	50 - 150
6:2 FTS	0.381	0.434		ug/Kg		114	50 - 150
8:2 FTS	0.384	0.367		ug/Kg		95	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.376		ug/Kg		99	50 - 150
HFPO-DA (GenX)	0.400	0.343		ug/Kg		86	50 - 150
9Cl-PF3ONS	0.374	0.375		ug/Kg		100	50 - 150
11Cl-PF3OUdS	0.378	0.370		ug/Kg		98	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*91*		*25 - 150*
13C5 PFPeA	*90*		*25 - 150*
13C2 PFHxA	*96*		*25 - 150*
13C4 PFHpA	*100*		*25 - 150*
13C4 PFOA	*95*		*25 - 150*
13C5 PFNA	*90*		*25 - 150*
13C2 PFDA	*95*		*25 - 150*
13C2 PFUnA	*88*		*25 - 150*
13C2 PFDoA	*86*		*25 - 150*
13C2 PFTeDA	*86*		*25 - 150*
13C3 PFBS	*100*		*25 - 150*
18O2 PFHxS	*90*		*25 - 150*
13C4 PFOS	*94*		*25 - 150*
13C8 FOSA	*96*		*10 - 150*
d3-NMeFOSAA	*107*		*25 - 150*
d5-NEtFOSAA	*102*		*25 - 150*
d-N-MeFOSA-M	*97*		*10 - 150*
d-N-EtFOSA-M	*89*		*10 - 150*
d7-N-MeFOSE-M	*78*		*10 - 150*
d9-N-EtFOSE-M	*77*		*10 - 150*
M2-4:2 FTS	*126*		*25 - 150*
M2-6:2 FTS	*104*		*25 - 150*
M2-8:2 FTS	*126*		*25 - 150*
13C3 HFPO-DA	*87*		*25 - 150*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-768758/1
Matrix: Water
Analysis Batch: 768758

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			05/20/24 15:22	1

Lab Sample ID: LCS 500-768758/2
Matrix: Water
Analysis Batch: 768758

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	179		mg/L		90	80 - 120

Lab Sample ID: MB 500-768941/1
Matrix: Water
Analysis Batch: 768941

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			05/21/24 13:57	1

Lab Sample ID: LCS 500-768941/2
Matrix: Water
Analysis Batch: 768941

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	199		mg/L		99	80 - 120

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

LCMS

Prep Batch: 764281

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-112396-1	Inf Comp 202405	Total/NA	Water	3535	
320-112396-2	Eff 202405	Total/NA	Water	3535	
320-112396-3	Eff-G 202405	Total/NA	Water	3535	
320-112396-4	EB-01 202405	Total/NA	Water	3535	
MB 320-764281/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-764281/3-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-764281/4-A	Lab Control Sample Dup	Total/NA	Water	3535	
LLCS 320-764281/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 764714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-112396-1	Inf Comp 202405	Total/NA	Water	537 (modified)	764281
320-112396-2	Eff 202405	Total/NA	Water	537 (modified)	764281
320-112396-3	Eff-G 202405	Total/NA	Water	537 (modified)	764281
320-112396-4	EB-01 202405	Total/NA	Water	537 (modified)	764281
MB 320-764281/1-A	Method Blank	Total/NA	Water	537 (modified)	764281
LCS 320-764281/3-A	Lab Control Sample	Total/NA	Water	537 (modified)	764281
LCSD 320-764281/4-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	764281
LLCS 320-764281/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	764281

Prep Batch: 765602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-112396-5 - DL	BIO-A-24-202405	Total/NA	Solid	SHAKE	
320-112396-5	BIO-A-24-202405	Total/NA	Solid	SHAKE	
MB 320-765602/1-A	Method Blank	Total/NA	Solid	SHAKE	
LLCS 320-765602/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 766280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-112396-5	BIO-A-24-202405	Total/NA	Solid	537 (modified)	765602
MB 320-765602/1-A	Method Blank	Total/NA	Solid	537 (modified)	765602
LLCS 320-765602/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	765602

Analysis Batch: 766741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-112396-5 - DL	BIO-A-24-202405	Total/NA	Solid	537 (modified)	765602

General Chemistry

Analysis Batch: 765346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-112396-5	BIO-A-24-202405	Total/NA	Solid	D 2216	

Analysis Batch: 768758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-112396-1	Inf Comp 202405	Total/NA	Water	SM 2540D	
MB 500-768758/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-768758/2	Lab Control Sample	Total/NA	Water	SM 2540D	

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

General Chemistry

Analysis Batch: 768941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-112396-2	Eff 202405	Total/NA	Water	SM 2540D	
320-112396-3	Eff-G 202405	Total/NA	Water	SM 2540D	
MB 500-768941/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-768941/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Client Sample ID: Inf Comp 202405 — Lab Sample ID: 320-112396-1

Date Collected: 05/13/24 23:59 — **Matrix: Water**
Date Received: 05/16/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			268.8 mL	10.0 mL	764281	05/18/24 07:34	V1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	764714	05/20/24 15:22	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	768758	05/20/24 15:58	SO	EET CHI
							Completed:	05/20/24 16:00 [1]		

Client Sample ID: Eff 202405 — Lab Sample ID: 320-112396-2

Date Collected: 05/14/24 23:59 — **Matrix: Water**
Date Received: 05/16/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			263.9 mL	10.0 mL	764281	05/18/24 07:34	V1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	764714	05/20/24 15:32	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	768941	05/21/24 16:22	SO	EET CHI
							Completed:	05/21/24 16:28 [1]		

Client Sample ID: Eff-G 202405 — Lab Sample ID: 320-112396-3

Date Collected: 05/14/24 11:15 — **Matrix: Water**
Date Received: 05/16/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			264.8 mL	10.0 mL	764281	05/18/24 07:34	V1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	764714	05/20/24 15:43	C1P	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	768941	05/21/24 16:28	SO	EET CHI
							Completed:	05/21/24 16:35 [1]		

Client Sample ID: EB-01 202405 — Lab Sample ID: 320-112396-4

Date Collected: 05/15/24 10:15 — **Matrix: Water**
Date Received: 05/16/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			281.4 mL	10.0 mL	764281	05/18/24 07:34	V1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	764714	05/20/24 15:53	C1P	EET SAC

Client Sample ID: BIO-A-24-202405 — Lab Sample ID: 320-112396-5

Date Collected: 05/15/24 10:45 — **Matrix: Solid**
Date Received: 05/16/24 09:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			765346	05/21/24 14:15	JCB	EET SAC

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Client Sample ID: BIO-A-24-202405

Date Collected: 05/15/24 10:45
Date Received: 05/16/24 09:35

Lab Sample ID: 320-112396-5

Matrix: Solid
Percent Solids: 25.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.04 g	10.0 mL	765602	05/22/24 04:41	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	766280	05/23/24 23:52	K1S	EET SAC
Total/NA	Prep	SHAKE	DL		5.04 g	10.0 mL	765602	05/22/24 04:41	SJ	EET SAC
Total/NA	Analysis	537 (modified)	DL	10	1 mL	1 mL	766741	05/24/24 16:14	C1P	EET SAC

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Wisconsin	State	998204680	08-31-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-24

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
D 2216	Percent Moisture	ASTM	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-112396-1	Inf Comp 202405	Water	05/13/24 23:59	05/16/24 09:35
320-112396-2	Eff 202405	Water	05/14/24 23:59	05/16/24 09:35
320-112396-3	Eff-G 202405	Water	05/14/24 11:15	05/16/24 09:35
320-112396-4	EB-01 202405	Water	05/15/24 10:15	05/16/24 09:35
320-112396-5	BIO-A-24-202405	Solid	05/15/24 10:45	05/16/24 09:35

Reports to mursin@trccompanies.com

Address TRC % Mike Ursin
999 Fourier Dr Suite 101
Madison, WI 53717

Chain of Custody Record 724730

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Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☒ Other

TAL-8210

Client Contact		Project Manager: Jessica McCammon	Site Contact:	Date: 5-15-24	COC No 724730
Company Name	Madison Metro Sewerage Dist	Tel/Email: jessicam@madsewer.org	Lab Contact:	Carrier: Fed Ex	1 of 1 COCs
Address	1610 Moorland Rd	Analysis Turnaround Time			Sampler:
City/State/Zip	Madison, WI	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only
Phone		TAT if different from Below 20 business days per contract			Walk-in Client.
Fax.		☐ 2 weeks			Lab Sampling
Project Name	PHAS Phase 3	☐ 1 week			
Site	MMSD	☐ 2 days			Job / SDG No
PO#	2400419	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TSS	PFAS	TOP	Sample Specific Notes
Inf Comp 202405	5/13/24	23 59	C	WW	3	N	N	X	X		
Eff 202405	5/14/24	23 59	C	WW	3	↓	↓	X	X		
Eff-G 202405	5/14/24	11:15	G	WW	3			X	X		
EB-01 202405	5/15/24	10:15	G	WW	2				X		
BIO-A-24-202405	5/15/24	10 45	G	SL	1	↓	↓		X	X	

320-112396 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
For Inf Sample follow EPA Air WI PFAS expectations See V13 procedures for particulates in aqueous samples. Centrifuge as needed.

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No | Cooler Temp (°C) Obs'd 0.5 Corr'd 0.5 | Therm ID No LOC

Relinquished by:	Company	Date/Time	Received by:	Company	Date/Time
Jennifer Jacot	MMSD	5/15/24 11:15	DSMcCammon	EECSA	05/16/24 0935
Relinquished by:	Company:	Date/Time	Received by:	Company:	Date/Time
Relinquished by:	Company:	Date/Time	Received in Laboratory by:	Company	Date/Time

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Sacramento Sample Receiving Notes (SSRN)

Loc. 320
112396

Tracking # 6570 6550 9552

Job _____ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID: L06 Corr. Factor (+ / -) NA °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal _____

Cooler ID _____

Temp Observed: 0.5 °C Corrected. 0.5 °C
From Temp Blank ☑ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials DM Date 05/16/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 05/16/24

Notes: _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 05/16/24

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916-373-5600 Fax 916-372-1059

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Smith, Micah	Carrier Tracking No(s):	COC No: 320-338711 1
Client Contact: Shipping/Receiving	Phone:	E Mail: Micah Smith@et.eurofinsus com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): NELAP - Oregon, State - Wisconsin		Job #: 320-112396-1
Address: 2417 Bond Street, ,	Due Date Requested: 6/6/2024			Preservation Codes.
City: University Park	TAT Requested (days):			
State Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #:			
Email:	WO #:			320-112396 COC
Project Name: PFAS Sampling	Project #: 32021779			
Site:	SSOW#:			Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Inf Comp 202405 (320-112396-1)	5/13/24	23 59 Central		Water			X	1	
Eff 202405 (320-112396-2)	5/14/24	23 59 Central		Water			X	1	
Eff-G 202405 (320-112396-3)	5/14/24	11 15 Central		Water			X	1	

Note Since laboratory accreditations are subject to change Eurofins Environment Testing Northern California LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing Northern California LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northern California LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northern California LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
[signature]	05/17/24 1630	EETSac	Stephanie Hernandez	5/18/24 0940	ETA
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks. 2.6 + 2.2

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-112396-1

Login Number: 112396
List Number: 1
Creator: Morazzini, Dominic S

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	REFER TO SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-112396-1

Login Number: 112396
List Number: 2
Creator: Hernandez, Stephanie

List Source: Eurofins Chicago
List Creation: 05/18/24 03:36 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

June 2024

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Julie Maas
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

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JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-113052-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization

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Authorized for release by
Micah Smith, Project Manager II
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(916)374-4302

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Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-113052-1

Receipt
The samples were received on 6/13/2024 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.4º C and 2.7º C.

Comment
The TOPS analysis initially requested required re-extraction outside of holding time. However, the client requested the TOPS analysis be canceled rather than be reported outside of holding time.

Receipt Exceptions
The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): EB01 202406 (320-113052-10), BIOA-23- 202406 (320-113052-11) and EB02 202406 (320-113052-12).

Sample 10, containers have ID as EB-1-BIOA-202406.
Sample 11, containers have time 1214.
Sample 12, containers have ID as EB-2-BIOA-202406.

Samples logged in and labeled according to COC.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: INF02 202406 (320-113052-1), INF07 202406 (320-113052-2), INF08 202406 (320-113052-3), INF11 202406 (320-113052-4) and INF COMP 202406 (320-113052-6).

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: INF02 202406 (320-113052-1), INF07 202406 (320-113052-2), INF08 202406 (320-113052-3), INF11 202406 (320-113052-4), INF18 202406 (320-113052-5), INF COMP 202406 (320-113052-6) and EFFG 202406 (320-113052-8). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: EFF 202406 (320-113052-7). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: BIOB 202406 (320-113052-9) and BIOA-23- 202406 (320-113052-11). The samples were reanalyzed with concurring results. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: BIOA-23- 202406 (320-113052-11). The sample was reanalyzed with concurring results. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s).

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: BIOB 202406 (320-113052-9), BIOA-23- 202406 (320-113052-11), BIOA-22-202406 (320-113052-13), (320-113052-B-13-B MS) and (320-113052-B-13-C MSD).

Method 537 (modified): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 320-776005 and analytical batch 320-776990 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: BIOA-23- 202406 (320-113052-11). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

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

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

Job ID: 320-113052-1 (Continued) Eurofins Sacramento

Organic Prep

Method 3535: Due to the matrix, the initial volumes used for the following samples deviated from the standard procedure: INF02 202406 (320-113052-1), INF07 202406 (320-113052-2), INF08 202406 (320-113052-3), INF11 202406 (320-113052-4), INF18 202406 (320-113052-5) and INF COMP 202406 (320-113052-6). A 2x dilution was made on the sample, then fortified with IDA and extracted. The reporting limits (RLs) have been adjusted proportionately.

Method 3535: The following samples in preparation batch 320-772168 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: EFF 202406 (320-113052-7) and EFFG 202406 (320-113052-8).

Method 3535: The following samples in preparation batch 320-772168 were yellow/light brown in color prior to extraction: INF02 202406 (320-113052-1), INF07 202406 (320-113052-2), INF08 202406 (320-113052-3), INF11 202406 (320-113052-4), INF18 202406 (320-113052-5) and INF COMP 202406 (320-113052-6).

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-772168.

Method SHAKE: The following samples were yellow in color after extraction/final volume: BIOB 202406 (320-113052-9), BIOA-23-202406 (320-113052-11), BIOA-22-202406 (320-113052-13), BIOA-24-202406 (320-113052-14), (320-113052-B-13 MS) and (320-113052-B-13 MSD).

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: INF02 202406 — Lab Sample ID: 320-113052-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.4	J	10	4.8	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.5	J	4.0	0.98	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	5.6		4.0	1.2	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.8	J	4.0	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.8		4.0	1.7	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.0	J	4.0	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.6	J	4.0	0.40	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.5	I	4.0	1.1	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.5		4.0	1.1	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	400		63	24	mg/L	1		SM 2540D	Total/NA

Client Sample ID: INF07 202406 — Lab Sample ID: 320-113052-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	20		10	4.8	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	7.0		4.0	0.98	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	24		4.0	1.2	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.1	J	4.0	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	7.1		4.0	1.7	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.70	J	4.0	0.62	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	7.7		4.0	0.40	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.5	I	4.0	1.1	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.1		4.0	1.1	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	200		63	24	mg/L	1		SM 2540D	Total/NA

Client Sample ID: INF08 202406 — Lab Sample ID: 320-113052-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	82		10	4.8	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.3	J	4.0	0.98	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.4		4.0	1.2	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.87	J	4.0	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.7	J	4.0	1.7	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.93	J I	4.0	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.2	J	4.0	0.40	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.4	I	4.0	1.1	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.4	J I	4.0	1.1	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	260		63	24	mg/L	1		SM 2540D	Total/NA

Client Sample ID: INF11 202406 — Lab Sample ID: 320-113052-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	1.2	J	4.0	0.98	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	3.8	J	4.0	1.2	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.55	J	4.0	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.7	J	4.0	1.7	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.5	J	4.0	0.40	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.0	J I	4.0	1.1	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	280		63	24	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: INF18 202406 — Lab Sample ID: 320-113052-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	12		10	4.8	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	7.0		4.0	0.98	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	9.8		4.0	1.2	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.2	J	4.0	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	11		4.0	1.7	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.9		4.0	0.40	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.2	J	4.0	0.60	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	19		4.0	1.1	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	13		4.0	1.1	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	260		63	24	mg/L	1		SM 2540D	Total/NA

Client Sample ID: INF COMP 202406 — Lab Sample ID: 320-113052-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	21		10	4.8	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.5	J	4.0	0.98	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	9.1		4.0	1.2	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.6	J	4.0	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.7		4.0	1.7	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.2	J I	4.0	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.0		4.0	0.40	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.74	J	4.0	0.60	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	10	I	4.0	1.1	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.1		4.0	1.1	ng/L	1		537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	11	I	4.0	0.64	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	270		63	24	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EFF 202406 — Lab Sample ID: 320-113052-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	32		4.6	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	14		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14		1.8	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.1		1.8	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	10		1.8	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.91	J	1.8	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.1	J	1.8	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.6		1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.2		1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.8		1.8	0.50	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	3.8	J	5.0	1.9	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EFFG 202406 — Lab Sample ID: 320-113052-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	16		4.8	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	11		1.9	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	13		1.9	0.56	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.5		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	9.3		1.9	0.82	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.1	J	1.9	0.26	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: EFFG 202406 (Continued) — Lab Sample ID: 320-113052-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	1.0	J	1.9	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.3		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.6		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.6		1.9	0.52	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	3.0	J	5.0	1.9	mg/L	1		SM 2540D	Total/NA

Client Sample ID: BIOB 202406 — Lab Sample ID: 320-113052-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	4.1		3.6	0.56	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA) - RA	1.4	J	3.6	0.95	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA) - RA	1.9	J I	3.6	0.39	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA) - RA	5.1		3.6	0.86	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA) - RA	1.5	J I	3.6	0.75	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA) - RA	1.9	J	3.6	0.54	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA) - RA	0.68	J	3.6	0.66	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA) - RA	0.65	J	3.6	0.59	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA - RA	11		3.6	0.41	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA - RA	5.3		3.6	0.86	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE - RA	5.8		3.6	0.84	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE - RA	1.2	J	3.6	0.50	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA2	9.7		3.6	0.77	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: EB01 202406 — Lab Sample ID: 320-113052-10

No Detections.

Client Sample ID: BIOA-23- 202406 — Lab Sample ID: 320-113052-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	7.3		0.74	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA) - RA	1.5		0.74	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	4.3		0.74	0.15	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA) - RA	0.52	J	0.74	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA) - RA	6.0		0.74	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA) - RA	1.2	I	0.74	0.081	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA) - RA	14	I	0.74	0.18	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA) - RA	2.1		0.74	0.15	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA) - RA	3.7		0.74	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA) - RA	0.51	J	0.74	0.077	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA) - RA	0.78		0.74	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	0.35	J	0.74	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA) - RA	1.2		0.74	0.12	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA - RA	22		0.74	0.085	ug/Kg	1	☼	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIOA-23- 202406 (Continued) — Lab Sample ID: 320-113052-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
NEtFOSAA - RA	13		0.74	0.18	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE - RA	16		0.74	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE - RA	3.1		0.74	0.10	ug/Kg	1	☼	537 (modified)	Total/NA
8:2 FTS - RA	1.2		0.74	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA2	14		0.74	0.16	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: EB02 202406 — Lab Sample ID: 320-113052-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.53	J	1.8	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: BIOA-22-202406 — Lab Sample ID: 320-113052-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	38		0.73	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA) - RA	9.0		0.73	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	22		0.73	0.15	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA) - RA	3.2		0.73	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA) - RA	32		0.73	0.19	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA) - RA	1.8		0.73	0.080	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA) - RA	18	F1	0.73	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA) - RA	2.0	F1	0.73	0.15	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA) - RA	3.9		0.73	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA) - RA	0.43	J	0.73	0.076	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA) - RA	0.94		0.73	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	2.0		0.73	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	1.0	I	0.73	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS) - RA	1.8		0.73	0.19	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA) - RA	1.2		0.73	0.12	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA - RA	31	F1	0.73	0.084	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA - RA	12	F1	0.73	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE - RA	9.0		0.73	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE - RA	1.9		0.73	0.10	ug/Kg	1	☼	537 (modified)	Total/NA
6:2 FTS - RA	1.5		0.73	0.098	ug/Kg	1	☼	537 (modified)	Total/NA
8:2 FTS - RA	0.96		0.73	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA2	14		0.73	0.16	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: BIOA-24-202406 — Lab Sample ID: 320-113052-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	21		0.96	0.15	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA) - RA	6.9		0.96	0.22	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA) - RA	21		0.96	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA) - RA	1.8		0.96	0.18	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA) - RA	19		0.96	0.26	ug/Kg	1	☼	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIOA-24-202406 (Continued)

Lab Sample ID: 320-113052-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA) - RA	1.5		0.96	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA) - RA	12		0.96	0.23	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA) - RA	1.9		0.96	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA) - RA	3.0		0.96	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA) - RA	0.31	J	0.96	0.10	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA) - RA	0.64	J	0.96	0.18	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - RA	0.81	J	0.96	0.18	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS) - RA	1.7		0.96	0.25	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA) - RA	0.77	J	0.96	0.16	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA - RA	24		0.96	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA - RA	10		0.96	0.23	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE - RA	6.9		0.96	0.23	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE - RA	1.9		0.96	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
6:2 FTS - RA	1.0		0.96	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
8:2 FTS - RA	0.89	J	0.96	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA2	12		0.96	0.21	ug/Kg	1	☼	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: INF02 202406

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.4**	**J**	10	4.8	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluoropentanoic acid (PFPeA)	**3.5**	**J**	4.0	0.98	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorohexanoic acid (PFHxA)	**5.6**		4.0	1.2	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluoroheptanoic acid (PFHpA)	**1.8**	**J**	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorooctanoic acid (PFOA)	**4.8**		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorononanoic acid (PFNA)	**1.0**	**J**	4.0	0.54	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorodecanoic acid (PFDA)	ND		4.0	0.62	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluoroundecanoic acid (PFUnA)	ND		4.0	2.2	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorobutanesulfonic acid (PFBS)	**3.6**	**J**	4.0	0.40	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.0	0.60	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorohexanesulfonic acid (PFHxS)	**6.5**	**I**	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.0	0.38	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorooctanesulfonic acid (PFOS)	**6.5**		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorononanesulfonic acid (PFNS)	ND		4.0	0.74	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.9	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorooctanesulfonamide (FOSA)	ND		4.0	2.0	ng/L		06/14/24 12:05	06/17/24 11:29	1
NEtFOSA	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:29	1
NMeFOSA	ND		4.0	0.86	ng/L		06/14/24 12:05	06/17/24 11:29	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 11:29	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 11:29	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 11:29	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:29	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:29	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 11:29	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 11:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 11:29	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 11:29	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:29	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C5 PFPeA	*90*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C2 PFHxA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C4 PFHpA	*93*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C4 PFOA	*101*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C5 PFNA	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C2 PFDA	*95*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C2 PFUnA	*80*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C2 PFDoA	*61*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C2 PFTeDA	*47*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*

Client Sample ID: INF02 202406

Lab Sample ID: 320-113052-1

Date Collected: 06/10/24 23:59
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*88*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
18O2 PFHxS	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C4 PFOS	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C8 FOSA	*86*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
d3-NMeFOSAA	*52*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
d5-NEtFOSAA	*74*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
d-N-MeFOSA-M	*52*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
d-N-EtFOSA-M	*68*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
d7-N-MeFOSE-M	*57*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
d9-N-EtFOSE-M	*93*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
M2-4:2 FTS	*163*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
M2-6:2 FTS	*294*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
M2-8:2 FTS	*224*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C3 HFPO-DA	*81*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**400**		63	24	mg/L			06/17/24 14:16	1

Client Sample ID: INF07 202406

Lab Sample ID: 320-113052-2

Date Collected: 06/10/24 23:59
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**20**		10	4.8	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluoropentanoic acid (PFPeA)	**7.0**		4.0	0.98	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorohexanoic acid (PFHxA)	**24**		4.0	1.2	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluoroheptanoic acid (PFHpA)	**3.1**	**J**	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorooctanoic acid (PFOA)	**7.1**		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorononanoic acid (PFNA)	ND		4.0	0.54	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorodecanoic acid (PFDA)	**0.70**	**J**	4.0	0.62	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluoroundecanoic acid (PFUnA)	ND		4.0	2.2	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorobutanesulfonic acid (PFBS)	**7.7**		4.0	0.40	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.0	0.60	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorohexanesulfonic acid (PFHxS)	**6.5**	**I**	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.0	0.38	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorooctanesulfonic acid (PFOS)	**6.1**		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorononanesulfonic acid (PFNS)	ND		4.0	0.74	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.9	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorooctanesulfonamide (FOSA)	ND		4.0	2.0	ng/L		06/14/24 12:05	06/17/24 11:41	1

Client Sample ID: INF07 202406

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:41	1
NMeFOSA	ND		4.0	0.86	ng/L		06/14/24 12:05	06/17/24 11:41	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 11:41	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 11:41	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 11:41	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:41	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:41	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 11:41	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 11:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 11:41	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 11:41	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:41	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*81*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C5 PFPeA	*90*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C2 PFHxA	*96*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C4 PFHpA	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C4 PFOA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C5 PFNA	*97*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C2 PFDA	*93*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C2 PFUnA	*81*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C2 PFDoA	*64*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C2 PFTeDA	*45*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C3 PFBS	*88*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
18O2 PFHxS	*92*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C4 PFOS	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C8 FOSA	*85*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d3-NMeFOSAA	*46*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d5-NEtFOSAA	*68*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d-N-MeFOSA-M	*47*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d-N-EtFOSA-M	*67*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d7-N-MeFOSE-M	*51*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d9-N-EtFOSE-M	*91*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
M2-4:2 FTS	*194*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
M2-6:2 FTS	*276*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
M2-8:2 FTS	*214*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C3 HFPO-DA	*85*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**200**		63	24	mg/L			06/17/24 14:18	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: INF08 202406

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**82**		10	4.8	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluoropentanoic acid (PFPeA)	**2.3**	**J**	4.0	0.98	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorohexanoic acid (PFHxA)	**4.4**		4.0	1.2	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluoroheptanoic acid (PFHpA)	**0.87**	**J**	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorooctanoic acid (PFOA)	**2.7**	**J**	4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorononanoic acid (PFNA)	**0.93**	**J I**	4.0	0.54	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorodecanoic acid (PFDA)	ND		4.0	0.62	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluoroundecanoic acid (PFUnA)	ND		4.0	2.2	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorobutanesulfonic acid (PFBS)	**2.2**	**J**	4.0	0.40	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.0	0.60	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorohexanesulfonic acid (PFHxS)	**4.4**	**I**	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.0	0.38	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorooctanesulfonic acid (PFOS)	**2.4**	**J I**	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorononanesulfonic acid (PFNS)	ND		4.0	0.74	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.9	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorooctanesulfonamide (FOSA)	ND		4.0	2.0	ng/L		06/14/24 12:05	06/17/24 11:54	1
NEtFOSA	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:54	1
NMeFOSA	ND		4.0	0.86	ng/L		06/14/24 12:05	06/17/24 11:54	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 11:54	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 11:54	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 11:54	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:54	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:54	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 11:54	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 11:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 11:54	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 11:54	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:54	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*80*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C5 PFPeA	*88*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C2 PFHxA	*103*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C4 PFHpA	*99*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C4 PFOA	*99*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C5 PFNA	*99*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C2 PFDA	*95*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C2 PFUnA	*79*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C2 PFDoA	*66*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C2 PFTeDA	*44*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*

Client Sample ID: INF08 202406

Lab Sample ID: 320-113052-3
Matrix: Water

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	86		25 - 150	06/14/24 12:05	06/17/24 11:54	1
18O2 PFHxS	94		25 - 150	06/14/24 12:05	06/17/24 11:54	1
13C4 PFOS	88		25 - 150	06/14/24 12:05	06/17/24 11:54	1
13C8 FOSA	88		10 - 150	06/14/24 12:05	06/17/24 11:54	1
d3-NMeFOSAA	44		25 - 150	06/14/24 12:05	06/17/24 11:54	1
d5-NEtFOSAA	64		25 - 150	06/14/24 12:05	06/17/24 11:54	1
d-N-MeFOSA-M	44		10 - 150	06/14/24 12:05	06/17/24 11:54	1
d-N-EtFOSA-M	67		10 - 150	06/14/24 12:05	06/17/24 11:54	1
d7-N-MeFOSE-M	46		10 - 150	06/14/24 12:05	06/17/24 11:54	1
d9-N-EtFOSE-M	90		10 - 150	06/14/24 12:05	06/17/24 11:54	1
M2-4:2 FTS	162	*5+	25 - 150	06/14/24 12:05	06/17/24 11:54	1
M2-6:2 FTS	280	*5+	25 - 150	06/14/24 12:05	06/17/24 11:54	1
M2-8:2 FTS	240	*5+	25 - 150	06/14/24 12:05	06/17/24 11:54	1
13C3 HFPO-DA	88		25 - 150	06/14/24 12:05	06/17/24 11:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		63	24	mg/L			06/17/24 14:20	1

Client Sample ID: INF11 202406

Lab Sample ID: 320-113052-4
Matrix: Water

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		10	4.8	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluoropentanoic acid (PFPeA)	**1.2**	**J**	4.0	0.98	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorohexanoic acid (PFHxA)	**3.8**	**J**	4.0	1.2	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluoroheptanoic acid (PFHpA)	**0.55**	**J**	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorooctanoic acid (PFOA)	**2.7**	**J**	4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorononanoic acid (PFNA)	ND		4.0	0.54	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorodecanoic acid (PFDA)	ND		4.0	0.62	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluoroundecanoic acid (PFUnA)	ND		4.0	2.2	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	**J**	4.0	0.40	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.0	0.60	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorohexanesulfonic acid (PFHxS)	**2.0**	**J I**	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.0	0.38	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorononanesulfonic acid (PFNS)	ND		4.0	0.74	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.9	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorooctanesulfonamide (FOSA)	ND		4.0	2.0	ng/L		06/14/24 12:05	06/17/24 12:06	1
NEtFOSA	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:06	1

Client Sample ID: INF11 202406

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-4

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		4.0	0.86	ng/L		06/14/24 12:05	06/17/24 12:06	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 12:06	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 12:06	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 12:06	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:06	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:06	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 12:06	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 12:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 12:06	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 12:06	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:06	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*80*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C5 PFPeA	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C2 PFHxA	*103*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C4 PFHpA	*100*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C4 PFOA	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C5 PFNA	*96*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C2 PFDA	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C2 PFUnA	*79*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C2 PFDoA	*59*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C2 PFTeDA	*40*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C3 PFBS	*90*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
18O2 PFHxS	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C4 PFOS	*87*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C8 FOSA	*75*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d3-NMeFOSAA	*34*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d5-NEtFOSAA	*60*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d-N-MeFOSA-M	*46*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d-N-EtFOSA-M	*61*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d7-N-MeFOSE-M	*40*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d9-N-EtFOSE-M	*84*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
M2-4:2 FTS	*190*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
M2-6:2 FTS	*277*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
M2-8:2 FTS	*258*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C3 HFPO-DA	*93*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**280**		63	24	mg/L			06/17/24 14:22	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: INF18 202406

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-5

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**12**		10	4.8	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluoropentanoic acid (PFPeA)	**7.0**		4.0	0.98	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorohexanoic acid (PFHxA)	**9.8**		4.0	1.2	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluoroheptanoic acid (PFHpA)	**2.2**	**J**	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorooctanoic acid (PFOA)	**11**		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorononanoic acid (PFNA)	ND		4.0	0.54	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorodecanoic acid (PFDA)	ND		4.0	0.62	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluoroundecanoic acid (PFUnA)	ND		4.0	2.2	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorobutanesulfonic acid (PFBS)	**4.9**		4.0	0.40	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluoropentanesulfonic acid (PFPeS)	**1.2**	**J**	4.0	0.60	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorohexanesulfonic acid (PFHxS)	**19**		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.0	0.38	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorooctanesulfonic acid (PFOS)	**13**		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorononanesulfonic acid (PFNS)	ND		4.0	0.74	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.9	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorooctanesulfonamide (FOSA)	ND		4.0	2.0	ng/L		06/14/24 12:05	06/17/24 12:19	1
NEtFOSA	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:19	1
NMeFOSA	ND		4.0	0.86	ng/L		06/14/24 12:05	06/17/24 12:19	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 12:19	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 12:19	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 12:19	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:19	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:19	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 12:19	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 12:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 12:19	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 12:19	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:19	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C5 PFPeA	*102*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C2 PFHxA	*112*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C4 PFHpA	*109*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C4 PFOA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C5 PFNA	*103*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C2 PFDA	*103*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C2 PFUnA	*89*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C2 PFDoA	*74*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C2 PFTeDA	*48*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*

Client Sample ID: INF18 202406

Lab Sample ID: 320-113052-5

Date Collected: 06/10/24 23:59
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*99*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
18O2 PFHxS	*106*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C4 PFOS	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C8 FOSA	*89*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d3-NMeFOSAA	*46*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d5-NEtFOSAA	*80*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d-N-MeFOSA-M	*50*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d-N-EtFOSA-M	*70*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d7-N-MeFOSE-M	*48*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d9-N-EtFOSE-M	*97*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
M2-4:2 FTS	*183*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
M2-6:2 FTS	*317*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
M2-8:2 FTS	*318*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		63	24	mg/L			06/17/24 14:24	1

Client Sample ID: INF COMP 202406

Lab Sample ID: 320-113052-6

Date Collected: 06/10/24 23:59
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**21**		10	4.8	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluoropentanoic acid (PFPeA)	**3.5**	**J**	4.0	0.98	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorohexanoic acid (PFHxA)	**9.1**		4.0	1.2	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorooctanoic acid (PFOA)	**5.7**		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorononanoic acid (PFNA)	**1.2**	**J I**	4.0	0.54	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorodecanoic acid (PFDA)	ND		4.0	0.62	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluoroundecanoic acid (PFUnA)	ND		4.0	2.2	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorobutanesulfonic acid (PFBS)	**4.0**		4.0	0.40	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluoropentanesulfonic acid (PFPeS)	**0.74**	**J**	4.0	0.60	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorohexanesulfonic acid (PFHxS)	**10**	**I**	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.0	0.38	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorooctanesulfonic acid (PFOS)	**6.1**		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorononanesulfonic acid (PFNS)	ND		4.0	0.74	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorodecanesulfonic acid (PFDS)	**11**	**I**	4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.9	ng/L		06/14/24 12:05	06/17/24 12:31	1

Client Sample ID: INF COMP 202406

Lab Sample ID: 320-113052-6

Date Collected: 06/10/24 23:59
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	ND		4.0	2.0	ng/L		06/14/24 12:05	06/17/24 12:31	1
NEtFOSA	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:31	1
NMeFOSA	ND		4.0	0.86	ng/L		06/14/24 12:05	06/17/24 12:31	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 12:31	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 12:31	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 12:31	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:31	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:31	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 12:31	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 12:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 12:31	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 12:31	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:31	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C5 PFPeA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C2 PFHxA	*100*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C4 PFHpA	*96*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C4 PFOA	*102*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C5 PFNA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C2 PFDA	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C2 PFUnA	*85*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C2 PFDoA	*63*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C2 PFTeDA	*41*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C3 PFBS	*92*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
18O2 PFHxS	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C4 PFOS	*83*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C8 FOSA	*81*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d3-NMeFOSAA	*42*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d5-NEtFOSAA	*67*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d-N-MeFOSA-M	*49*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d-N-EtFOSA-M	*66*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d7-N-MeFOSE-M	*45*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d9-N-EtFOSE-M	*87*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
M2-4:2 FTS	*174*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
M2-6:2 FTS	*295*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
M2-8:2 FTS	*265*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C3 HFPO-DA	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**270**		63	24	mg/L			06/17/24 14:26	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: EFF 202406

Date Collected: 06/11/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**32**		4.6	2.2	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluoropentanoic acid (PFPeA)	**14**		1.8	0.45	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorohexanoic acid (PFHxA)	**14**		1.8	0.53	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluoroheptanoic acid (PFHpA)	**3.1**		1.8	0.23	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorooctanoic acid (PFOA)	**10**		1.8	0.78	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorononanoic acid (PFNA)	**0.91**	**J**	1.8	0.25	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorodecanoic acid (PFDA)	**1.1**	**J**	1.8	0.28	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.51	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.67	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorobutanesulfonic acid (PFBS)	**3.6**		1.8	0.18	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.28	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorohexanesulfonic acid (PFHxS)	**8.2**		1.8	0.52	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorooctanesulfonic acid (PFOS)	**5.8**		1.8	0.50	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.89	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.90	ng/L		06/14/24 12:05	06/18/24 14:24	1
NEtFOSA	ND		1.8	0.80	ng/L		06/14/24 12:05	06/18/24 14:24	1
NMeFOSA	ND		1.8	0.39	ng/L		06/14/24 12:05	06/18/24 14:24	1
NMeFOSAA	ND		4.6	1.1	ng/L		06/14/24 12:05	06/18/24 14:24	1
NEtFOSAA	ND		4.6	1.2	ng/L		06/14/24 12:05	06/18/24 14:24	1
NMeFOSE	ND		3.7	1.3	ng/L		06/14/24 12:05	06/18/24 14:24	1
NEtFOSE	ND		1.8	0.78	ng/L		06/14/24 12:05	06/18/24 14:24	1
4:2 FTS	ND		1.8	0.22	ng/L		06/14/24 12:05	06/18/24 14:24	1
6:2 FTS	ND		4.6	2.3	ng/L		06/14/24 12:05	06/18/24 14:24	1
8:2 FTS	ND		1.8	0.42	ng/L		06/14/24 12:05	06/18/24 14:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.37	ng/L		06/14/24 12:05	06/18/24 14:24	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		06/14/24 12:05	06/18/24 14:24	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		06/14/24 12:05	06/18/24 14:24	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		06/14/24 12:05	06/18/24 14:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C5 PFPeA	*93*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C2 PFHxA	*103*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C4 PFHpA	*98*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C4 PFOA	*94*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C5 PFNA	*102*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C2 PFDA	*91*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C2 PFUnA	*85*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C2 PFDoA	*74*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C2 PFTeDA	*52*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*

Client Sample ID: EFF 202406

Lab Sample ID: 320-113052-7

Date Collected: 06/11/24 23:59
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*91*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
18O2 PFHxS	*97*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C4 PFOS	*93*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C8 FOSA	*95*		*10 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d3-NMeFOSAA	*88*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d5-NEtFOSAA	*91*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d-N-MeFOSA-M	*80*		*10 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d-N-EtFOSA-M	*71*		*10 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d7-N-MeFOSE-M	*77*		*10 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d9-N-EtFOSE-M	*78*		*10 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
M2-4:2 FTS	*162*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
M2-6:2 FTS	*151*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
M2-8:2 FTS	*139*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C3 HFPO-DA	*93*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**3.8**	**J**	5.0	1.9	mg/L			06/18/24 17:31	1

Client Sample ID: EFFG 202406

Lab Sample ID: 320-113052-8

Date Collected: 06/11/24 09:48
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**16**		4.8	2.3	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluoropentanoic acid (PFPeA)	**11**		1.9	0.47	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorohexanoic acid (PFHxA)	**13**		1.9	0.56	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluoroheptanoic acid (PFHpA)	**2.5**		1.9	0.24	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorooctanoic acid (PFOA)	**9.3**		1.9	0.82	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorononanoic acid (PFNA)	**1.1**	**J**	1.9	0.26	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorodecanoic acid (PFDA)	**1.0**	**J**	1.9	0.30	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.3	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.71	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorobutanesulfonic acid (PFBS)	**4.3**		1.9	0.19	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.29	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorohexanesulfonic acid (PFHxS)	**8.6**		1.9	0.55	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorooctanesulfonic acid (PFOS)	**5.6**		1.9	0.52	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.36	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.94	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.95	ng/L		06/14/24 12:05	06/17/24 13:21	1

Client Sample ID: EFFG 202406

Lab Sample ID: 320-113052-8

Date Collected: 06/11/24 09:48

Matrix: Water

Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.84	ng/L		06/14/24 12:05	06/17/24 13:21	1
NMeFOSA	ND		1.9	0.42	ng/L		06/14/24 12:05	06/17/24 13:21	1
NMeFOSAA	ND		4.8	1.2	ng/L		06/14/24 12:05	06/17/24 13:21	1
NEtFOSAA	ND		4.8	1.3	ng/L		06/14/24 12:05	06/17/24 13:21	1
NMeFOSE	ND		3.9	1.4	ng/L		06/14/24 12:05	06/17/24 13:21	1
NEtFOSE	ND		1.9	0.82	ng/L		06/14/24 12:05	06/17/24 13:21	1
4:2 FTS	ND		1.9	0.23	ng/L		06/14/24 12:05	06/17/24 13:21	1
6:2 FTS	ND		4.8	2.4	ng/L		06/14/24 12:05	06/17/24 13:21	1
8:2 FTS	ND		1.9	0.44	ng/L		06/14/24 12:05	06/17/24 13:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.39	ng/L		06/14/24 12:05	06/17/24 13:21	1
HFPO-DA (GenX)	ND		3.9	1.5	ng/L		06/14/24 12:05	06/17/24 13:21	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		06/14/24 12:05	06/17/24 13:21	1
11Cl-PF3OUdS	ND		1.9	0.31	ng/L		06/14/24 12:05	06/17/24 13:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C5 PFPeA	*93*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C2 PFHxA	*101*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C4 PFHpA	*97*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C4 PFOA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C5 PFNA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C2 PFDA	*92*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C2 PFUnA	*87*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C2 PFDoA	*71*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C2 PFTeDA	*47*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C3 PFBS	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
18O2 PFHxS	*97*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C4 PFOS	*92*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C8 FOSA	*94*		*10 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d3-NMeFOSAA	*86*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d5-NEtFOSAA	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d-N-MeFOSA-M	*79*		*10 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d-N-EtFOSA-M	*72*		*10 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d7-N-MeFOSE-M	*78*		*10 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d9-N-EtFOSE-M	*77*		*10 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
M2-4:2 FTS	*177*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
M2-6:2 FTS	*167*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
M2-8:2 FTS	*149*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C3 HFPO-DA	*92*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**3.0**	**J**	5.0	1.9	mg/L			06/18/24 17:33	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: BIOB 202406

Date Collected: 06/11/24 11:12
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-9

Matrix: Solid
Percent Solids: 5.3

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**4.1**		3.6	0.56	ug/Kg	☼	07/02/24 04:35	07/05/24 00:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*94*		*25 - 150*	*07/02/24 04:35*	*07/05/24 00:59*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.6	0.82	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluoropentanoic acid (PFPeA)	ND		3.6	0.74	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluoroheptanoic acid (PFHpA)	ND		3.6	0.68	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorooctanoic acid (PFOA)	**1.4**	**J**	3.6	0.95	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorononanoic acid (PFNA)	**1.9**	**J I**	3.6	0.39	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorodecanoic acid (PFDA)	**5.1**		3.6	0.86	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluoroundecanoic acid (PFUnA)	**1.5**	**J I**	3.6	0.75	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorododecanoic acid (PFDoA)	**1.9**	**J**	3.6	0.54	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.6	0.38	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorotetradecanoic acid (PFTeA)	**0.68**	**J**	3.6	0.66	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		3.6	0.68	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.66	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		3.6	0.52	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.6	0.88	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.52	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.6	0.93	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.6	0.84	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorooctanesulfonamide (FOSA)	**0.65**	**J**	3.6	0.59	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NEtFOSA	ND		3.6	0.84	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NMeFOSA	ND		3.6	0.88	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NMeFOSAA	**11**		3.6	0.41	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NEtFOSAA	**5.3**		3.6	0.86	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NMeFOSE	**5.8**		3.6	0.84	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NEtFOSE	**1.2**	**J**	3.6	0.50	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
4:2 FTS	ND		3.6	0.91	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
6:2 FTS	ND		3.6	0.48	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
8:2 FTS	ND		3.6	0.63	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.6	0.70	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
HFPO-DA (GenX)	ND		3.6	0.74	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
9Cl-PF3ONS	ND		3.6	0.63	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
11Cl-PF3OUdS	ND		3.6	0.56	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*61*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C5 PFPeA	*63*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C4 PFHpA	*91*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C4 PFOA	*96*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C5 PFNA	*87*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*

Client Sample ID: BIOB 202406

Lab Sample ID: 320-113052-9

Date Collected: 06/11/24 11:12
Date Received: 06/13/24 09:30

Matrix: Solid
Percent Solids: 5.3

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*74*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C2 PFUnA	*96*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C2 PFDoA	*80*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C2 PFTeDA	*30*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C3 PFBS	*81*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
18O2 PFHxS	*92*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C4 PFOS	*85*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C8 FOSA	*94*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d3-NMeFOSAA	*74*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d5-NEtFOSAA	*107*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d-N-MeFOSA-M	*61*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d-N-EtFOSA-M	*46*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d7-N-MeFOSE-M	*49*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d9-N-EtFOSE-M	*69*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
M2-4:2 FTS	*109*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
M2-6:2 FTS	*190*	**5+*	*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
M2-8:2 FTS	*101*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C3 HFPO-DA	*77*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**9.7**		3.6	0.77	ug/Kg	☼	07/02/24 04:35	07/15/24 18:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*109*		*25 - 150*	*07/02/24 04:35*	*07/15/24 18:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**94.7**		0.1	0.1	%			06/18/24 13:46	1
Percent Solids (ASTM D 2216)	**5.3**		0.1	0.1	%			06/18/24 13:46	1

Client Sample ID: EB01 202406

Lab Sample ID: 320-113052-10

Date Collected: 06/11/24 11:40
Date Received: 06/13/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.4	2.1	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.43	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.51	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.22	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.75	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		06/18/24 11:52	06/19/24 23:32	1

Client Sample ID: EB01 202406

Lab Sample ID: 320-113052-10

Date Collected: 06/11/24 11:40
Date Received: 06/13/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.50	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.48	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.86	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.87	ng/L		06/18/24 11:52	06/19/24 23:32	1
NEtFOSA	ND		1.8	0.77	ng/L		06/18/24 11:52	06/19/24 23:32	1
NMeFOSA	ND		1.8	0.38	ng/L		06/18/24 11:52	06/19/24 23:32	1
NMeFOSAA	ND		4.4	1.1	ng/L		06/18/24 11:52	06/19/24 23:32	1
NEtFOSAA	ND		4.4	1.2	ng/L		06/18/24 11:52	06/19/24 23:32	1
NMeFOSE	ND		3.5	1.2	ng/L		06/18/24 11:52	06/19/24 23:32	1
NEtFOSE	ND		1.8	0.75	ng/L		06/18/24 11:52	06/19/24 23:32	1
4:2 FTS	ND		1.8	0.21	ng/L		06/18/24 11:52	06/19/24 23:32	1
6:2 FTS	ND		4.4	2.2	ng/L		06/18/24 11:52	06/19/24 23:32	1
8:2 FTS	ND		1.8	0.41	ng/L		06/18/24 11:52	06/19/24 23:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		06/18/24 11:52	06/19/24 23:32	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		06/18/24 11:52	06/19/24 23:32	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		06/18/24 11:52	06/19/24 23:32	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		06/18/24 11:52	06/19/24 23:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C5 PFPeA	*87*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C2 PFHxA	*81*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C4 PFHpA	*89*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C4 PFOA	*91*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C5 PFNA	*97*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C2 PFDA	*99*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C2 PFUnA	*76*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C2 PFDoA	*50*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C2 PFTeDA	*79*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C3 PFBS	*89*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
18O2 PFHxS	*91*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C4 PFOS	*91*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C8 FOSA	*79*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d3-NMeFOSAA	*93*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d5-NEtFOSAA	*68*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d-N-MeFOSA-M	*67*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d-N-EtFOSA-M	*59*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d7-N-MeFOSE-M	*55*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d9-N-EtFOSE-M	*51*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
M2-4:2 FTS	*102*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
M2-6:2 FTS	*124*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
M2-8:2 FTS	*113*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C3 HFPO-DA	*99*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: BIOA-23- 202406

Date Collected: 06/11/24 12:18
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-11

Matrix: Solid
Percent Solids: 25.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	7.3		0.74	0.11	ug/Kg	☼	07/02/24 04:35	07/05/24 01:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*87*		*25 - 150*	*07/02/24 04:35*	*07/05/24 01:11*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1.5		0.74	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluoropentanoic acid (PFPeA)	4.3		0.74	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluoroheptanoic acid (PFHpA)	0.52	J	0.74	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorooctanoic acid (PFOA)	6.0		0.74	0.20	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorononanoic acid (PFNA)	1.2	I	0.74	0.081	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorodecanoic acid (PFDA)	14	I	0.74	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluoroundecanoic acid (PFUnA)	2.1		0.74	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorododecanoic acid (PFDoA)	3.7		0.74	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorotridecanoic acid (PFTrDA)	0.51	J	0.74	0.077	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorotetradecanoic acid (PFTeA)	0.78		0.74	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorobutanesulfonic acid (PFBS)	0.35	J	0.74	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.74	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.74	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.74	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorononanesulfonic acid (PFNS)	ND		0.74	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.74	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.74	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorooctanesulfonamide (FOSA)	1.2		0.74	0.12	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NEtFOSA	ND		0.74	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NMeFOSA	ND		0.74	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NMeFOSAA	22		0.74	0.085	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NEtFOSAA	13		0.74	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NMeFOSE	16		0.74	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NEtFOSE	3.1		0.74	0.10	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
4:2 FTS	ND		0.74	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
6:2 FTS	ND		0.74	0.10	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
8:2 FTS	1.2		0.74	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.74	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
HFPO-DA (GenX)	ND		0.74	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
9Cl-PF3ONS	ND		0.74	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
11Cl-PF3OUdS	ND		0.74	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*66*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C5 PFPeA	*59*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C4 PFHpA	*78*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C4 PFOA	*80*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*

Client Sample ID: BIOA-23- 202406

Lab Sample ID: 320-113052-11

Date Collected: 06/11/24 12:18
Date Received: 06/13/24 09:30

Matrix: Solid
Percent Solids: 25.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	79		25 - 150	07/02/24 04:35	07/06/24 09:12	1
13C2 PFDA	74		25 - 150	07/02/24 04:35	07/06/24 09:12	1
13C2 PFUnA	58		25 - 150	07/02/24 04:35	07/06/24 09:12	1
13C2 PFDoA	38		25 - 150	07/02/24 04:35	07/06/24 09:12	1
13C2 PFTeDA	24	*5-	25 - 150	07/02/24 04:35	07/06/24 09:12	1
13C3 PFBS	75		25 - 150	07/02/24 04:35	07/06/24 09:12	1
18O2 PFHxS	83		25 - 150	07/02/24 04:35	07/06/24 09:12	1
13C4 PFOS	84		25 - 150	07/02/24 04:35	07/06/24 09:12	1
13C8 FOSA	58		10 - 150	07/02/24 04:35	07/06/24 09:12	1
d3-NMeFOSAA	38		25 - 150	07/02/24 04:35	07/06/24 09:12	1
d5-NEtFOSAA	44		25 - 150	07/02/24 04:35	07/06/24 09:12	1
d-N-MeFOSA-M	34		10 - 150	07/02/24 04:35	07/06/24 09:12	1
d-N-EtFOSA-M	15		10 - 150	07/02/24 04:35	07/06/24 09:12	1
d7-N-MeFOSE-M	30		10 - 150	07/02/24 04:35	07/06/24 09:12	1
d9-N-EtFOSE-M	14		10 - 150	07/02/24 04:35	07/06/24 09:12	1
M2-4:2 FTS	105		25 - 150	07/02/24 04:35	07/06/24 09:12	1
M2-6:2 FTS	154	*5+	25 - 150	07/02/24 04:35	07/06/24 09:12	1
M2-8:2 FTS	176	*5+	25 - 150	07/02/24 04:35	07/06/24 09:12	1
13C3 HFPO-DA	75		25 - 150	07/02/24 04:35	07/06/24 09:12	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	14		0.74	0.16	ug/Kg	☼	07/02/24 04:35	07/15/24 19:05	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	76		25 - 150	07/02/24 04:35	07/15/24 19:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	74.5		0.1	0.1	%			06/18/24 13:46	1
Percent Solids (ASTM D 2216)	25.5		0.1	0.1	%			06/18/24 13:46	1

Client Sample ID: EB02 202406

Lab Sample ID: 320-113052-12

Date Collected: 06/11/24 14:00
Date Received: 06/13/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.6	2.2	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorohexanoic acid (PFHxA)	0.53	J	1.8	0.53	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.23	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.78	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.67	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		06/18/24 11:52	06/19/24 23:43	1

Client Sample ID: EB02 202406

Date Collected: 06/11/24 14:00
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-12

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.52	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.89	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.90	ng/L		06/18/24 11:52	06/19/24 23:43	1
NEtFOSA	ND		1.8	0.80	ng/L		06/18/24 11:52	06/19/24 23:43	1
NMeFOSA	ND		1.8	0.39	ng/L		06/18/24 11:52	06/19/24 23:43	1
NMeFOSAA	ND		4.6	1.1	ng/L		06/18/24 11:52	06/19/24 23:43	1
NEtFOSAA	ND		4.6	1.2	ng/L		06/18/24 11:52	06/19/24 23:43	1
NMeFOSE	ND		3.7	1.3	ng/L		06/18/24 11:52	06/19/24 23:43	1
NEtFOSE	ND		1.8	0.78	ng/L		06/18/24 11:52	06/19/24 23:43	1
4:2 FTS	ND		1.8	0.22	ng/L		06/18/24 11:52	06/19/24 23:43	1
6:2 FTS	ND		4.6	2.3	ng/L		06/18/24 11:52	06/19/24 23:43	1
8:2 FTS	ND		1.8	0.42	ng/L		06/18/24 11:52	06/19/24 23:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.37	ng/L		06/18/24 11:52	06/19/24 23:43	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		06/18/24 11:52	06/19/24 23:43	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		06/18/24 11:52	06/19/24 23:43	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		06/18/24 11:52	06/19/24 23:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C5 PFPeA	*79*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C2 PFHxA	*78*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C4 PFHpA	*75*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C4 PFOA	*84*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C5 PFNA	*89*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C2 PFDA	*87*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C2 PFUnA	*56*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C2 PFDoA	*35*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C2 PFTeDA	*67*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C3 PFBS	*75*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
18O2 PFHxS	*79*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C4 PFOS	*75*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C8 FOSA	*74*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d3-NMeFOSAA	*50*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d5-NEtFOSAA	*46*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d-N-MeFOSA-M	*52*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d-N-EtFOSA-M	*39*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d7-N-MeFOSE-M	*50*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d9-N-EtFOSE-M	*41*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
M2-4:2 FTS	*87*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
M2-6:2 FTS	*107*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
M2-8:2 FTS	*106*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C3 HFPO-DA	*90*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: BIOA-22-202406

Date Collected: 06/11/24 14:27
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-13

Matrix: Solid
Percent Solids: 26.7

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	38		0.73	0.11	ug/Kg	☼	07/02/24 04:35	07/05/24 01:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*84*		*25 - 150*	*07/02/24 04:35*	*07/05/24 01:24*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	9.0		0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluoropentanoic acid (PFPeA)	22		0.73	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluoroheptanoic acid (PFHpA)	3.2		0.73	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorooctanoic acid (PFOA)	32		0.73	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorononanoic acid (PFNA)	1.8		0.73	0.080	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorodecanoic acid (PFDA)	18	F1	0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluoroundecanoic acid (PFUnA)	2.0	F1	0.73	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorododecanoic acid (PFDoA)	3.9		0.73	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorotridecanoic acid (PFTrDA)	0.43	J	0.73	0.076	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorotetradecanoic acid (PFTeA)	0.94		0.73	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorobutanesulfonic acid (PFBS)	2.0		0.73	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.73	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorohexanesulfonic acid (PFHxS)	1.0	I	0.73	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.73	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorononanesulfonic acid (PFNS)	ND		0.73	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorodecanesulfonic acid (PFDS)	1.8		0.73	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorododecanesulfonic acid (PFDoS)	ND	F1	0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorooctanesulfonamide (FOSA)	1.2		0.73	0.12	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NEtFOSA	ND	F1	0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NMeFOSA	ND		0.73	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NMeFOSAA	31	F1	0.73	0.084	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NEtFOSAA	12	F1	0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NMeFOSE	9.0		0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NEtFOSE	1.9		0.73	0.10	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
4:2 FTS	ND		0.73	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
6:2 FTS	1.5		0.73	0.098	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
8:2 FTS	0.96		0.73	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.73	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
HFPO-DA (GenX)	ND		0.73	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
9Cl-PF3ONS	ND		0.73	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
11Cl-PF3OUdS	ND		0.73	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*59*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:22*	*1*
13C5 PFPeA	*63*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:22*	*1*

Client Sample ID: BIOA-22-202406

Lab Sample ID: 320-113052-13

Date Collected: 06/11/24 14:27
Date Received: 06/13/24 09:30

Matrix: Solid
Percent Solids: 26.7

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	75		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C4 PFOA	74		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C5 PFNA	72		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C2 PFDA	63		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C2 PFUnA	64		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C2 PFDoA	49		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C2 PFTeDA	26		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C3 PFBS	69		25 - 150	07/02/24 04:35	07/06/24 09:22	1
18O2 PFHxS	68		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C4 PFOS	67		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C8 FOSA	66		10 - 150	07/02/24 04:35	07/06/24 09:22	1
d3-NMeFOSAA	51		25 - 150	07/02/24 04:35	07/06/24 09:22	1
d5-NEtFOSAA	58		25 - 150	07/02/24 04:35	07/06/24 09:22	1
d-N-MeFOSA-M	41		10 - 150	07/02/24 04:35	07/06/24 09:22	1
d-N-EtFOSA-M	15		10 - 150	07/02/24 04:35	07/06/24 09:22	1
d7-N-MeFOSE-M	41		10 - 150	07/02/24 04:35	07/06/24 09:22	1
d9-N-EtFOSE-M	23		10 - 150	07/02/24 04:35	07/06/24 09:22	1
M2-4:2 FTS	121		25 - 150	07/02/24 04:35	07/06/24 09:22	1
M2-6:2 FTS	125		25 - 150	07/02/24 04:35	07/06/24 09:22	1
M2-8:2 FTS	105		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C3 HFPO-DA	65		25 - 150	07/02/24 04:35	07/06/24 09:22	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	14		0.73	0.16	ug/Kg	☼	07/02/24 04:35	07/15/24 19:21	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	80		25 - 150	07/02/24 04:35	07/15/24 19:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	73.3		0.1	0.1	%			06/18/24 13:46	1
Percent Solids (ASTM D 2216)	26.7		0.1	0.1	%			06/18/24 13:46	1

Client Sample ID: BIOA-24-202406

Lab Sample ID: 320-113052-14

Date Collected: 06/11/24 14:42
Date Received: 06/13/24 09:30

Matrix: Solid
Percent Solids: 19.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	21		0.96	0.15	ug/Kg	☼	07/02/24 04:35	07/05/24 02:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	83		25 - 150	07/02/24 04:35	07/05/24 02:02	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	6.9		0.96	0.22	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluoropentanoic acid (PFPeA)	21		0.96	0.20	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluoroheptanoic acid (PFHpA)	1.8		0.96	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorooctanoic acid (PFOA)	19		0.96	0.26	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1

Client Sample ID: BIOA-24-202406

Date Collected: 06/11/24 14:42
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-14

Matrix: Solid
Percent Solids: 19.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	**1.5**		0.96	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorodecanoic acid (PFDA)	**12**		0.96	0.23	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluoroundecanoic acid (PFUnA)	**1.9**		0.96	0.20	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorododecanoic acid (PFDoA)	**3.0**		0.96	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorotridecanoic acid (PFTrDA)	**0.31**	**J**	0.96	0.10	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorotetradecanoic acid (PFTeA)	**0.64**	**J**	0.96	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorobutanesulfonic acid (PFBS)	**0.81**	**J**	0.96	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.96	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.96	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.96	0.24	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.96	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorodecanesulfonic acid (PFDS)	**1.7**		0.96	0.25	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.96	0.23	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorooctanesulfonamide (FOSA)	**0.77**	**J**	0.96	0.16	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NEtFOSA	ND		0.96	0.23	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NMeFOSA	ND		0.96	0.24	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NMeFOSAA	**24**		0.96	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NEtFOSAA	**10**		0.96	0.23	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NMeFOSE	**6.9**		0.96	0.23	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NEtFOSE	**1.9**		0.96	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
4:2 FTS	ND		0.96	0.25	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
6:2 FTS	**1.0**		0.96	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
8:2 FTS	**0.89**	**J**	0.96	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.96	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
HFPO-DA (GenX)	ND		0.96	0.20	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
9Cl-PF3ONS	ND		0.96	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
11Cl-PF3OUdS	ND		0.96	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C5 PFPeA	*68*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C4 PFHpA	*84*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C4 PFOA	*82*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C5 PFNA	*81*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C2 PFDA	*83*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C2 PFUnA	*69*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C2 PFDoA	*52*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C2 PFTeDA	*31*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C3 PFBS	*75*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
18O2 PFHxS	*80*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C4 PFOS	*79*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C8 FOSA	*66*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: BIOA-24-202406

Date Collected: 06/11/24 14:42
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-14

Matrix: Solid
Percent Solids: 19.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d3-NMeFOSAA	*43*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
d5-NEtFOSAA	*62*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
d-N-MeFOSA-M	*29*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
d-N-EtFOSA-M	*16*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
d7-N-MeFOSE-M	*30*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
d9-N-EtFOSE-M	*15*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
M2-4:2 FTS	*127*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
M2-6:2 FTS	*127*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
M2-8:2 FTS	*138*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C3 HFPO-DA	*75*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**12**		0.96	0.21	ug/Kg	☼	07/02/24 04:35	07/15/24 20:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*81*		*25 - 150*	*07/02/24 04:35*	*07/15/24 20:11*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**80.1**		0.1	0.1	%			06/18/24 13:46	1
Percent Solids (ASTM D 2216)	**19.9**		0.1	0.1	%			06/18/24 13:46	1

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFHxA (25-150)							
320-113052-9	BIOB 202406	94							
320-113052-11	BIOA-23- 202406	87							
320-113052-13	BIOA-22-202406	84							
320-113052-13 MS	BIOA-22-202406	84							
320-113052-13 MSD	BIOA-22-202406	85							
320-113052-14	BIOA-24-202406	83							
LCS 320-776005/3-A	Lab Control Sample	92							
LLCS 320-776005/2-A	Lab Control Sample	93							
MB 320-776005/1-A	Method Blank	88							

Surrogate Legend

PFHxA = 13C2 PFHxA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)	PFDoA (25-150)
320-113052-9 - RA	BIOB 202406	61	63	91	96	87	74	96	80
320-113052-11 - RA	BIOA-23- 202406	66	59	78	80	79	74	58	38
320-113052-13 - RA	BIOA-22-202406	59	63	75	74	72	63	64	49
320-113052-13 MS - RA	BIOA-22-202406	62	69	79	81	78	69	69	54
320-113052-13 MSD - RA	BIOA-22-202406	62	69	80	80	73	72	67	52
320-113052-14 - RA	BIOA-24-202406	64	68	84	82	81	83	69	52
LCS 320-776005/3-A - RA	Lab Control Sample	99	102	103	100	92	95	96	89
LLCS 320-776005/2-A - RA	Lab Control Sample	97	95	98	96	90	94	95	86
MB 320-776005/1-A - RA	Method Blank	94	91	97	95	88	92	86	85

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)	dMeFOSA (10-150)
320-113052-9 - RA	BIOB 202406	30	81	92	85	94	74	107	61
320-113052-11 - RA	BIOA-23- 202406	24 *5-	75	83	84	58	38	44	34
320-113052-13 - RA	BIOA-22-202406	26	69	68	67	66	51	58	41
320-113052-13 MS - RA	BIOA-22-202406	30	76	77	73	70	52	59	46
320-113052-13 MSD - RA	BIOA-22-202406	28	72	75	74	67	50	58	44
320-113052-14 - RA	BIOA-24-202406	31	75	80	79	66	43	62	29
LCS 320-776005/3-A - RA	Lab Control Sample	88	95	102	98	106	95	100	98
LLCS 320-776005/2-A - RA	Lab Control Sample	86	89	96	94	105	88	92	85
MB 320-776005/1-A - RA	Method Blank	84	89	93	86	101	83	93	99

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-113052-9 - RA	BIOB 202406	46	49	69	109	190 *5+	101	77
320-113052-11 - RA	BIOA-23- 202406	15	30	14	105	154 *5+	176 *5+	75
320-113052-13 - RA	BIOA-22-202406	15	41	23	121	125	105	65
320-113052-13 MS - RA	BIOA-22-202406	16	45	23	124	126	104	71
320-113052-13 MSD - RA	BIOA-22-202406	16	43	22	115	127	121	70
320-113052-14 - RA	BIOA-24-202406	16	30	15	127	127	138	75
LCS 320-776005/3-A - RA	Lab Control Sample	97	109	116	62	64	84	99

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-113052-1
Project/Site: PFAS Sampling

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
LLCS 320-776005/2-A - RA	Lab Control Sample	87	102	109	70	64	85	99
MB 320-776005/1-A - RA	Method Blank	96	98	106	63	64	75	99

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	PFOS (25-150)
320-113052-9 - RA2	BIOB 202406	109
320-113052-11 - RA2	BIOA-23- 202406	76
320-113052-13 - RA2	BIOA-22-202406	80
320-113052-13 MS - RA2	BIOA-22-202406	85
320-113052-13 MSD - RA2	BIOA-22-202406	77
320-113052-14 - RA2	BIOA-24-202406	81

Surrogate Legend

PFOS = 13C4 PFOS

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-113052-1	INF02 202406	79	90	98	93	101	94	95	80
320-113052-2	INF07 202406	81	90	96	94	98	97	93	81

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-113052-1
Project/Site: PFAS Sampling

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-113052-3	INF08 202406	80	88	103	99	99	99	95	79
320-113052-4	INF11 202406	80	91	103	100	94	96	91	79
320-113052-5	INF18 202406	88	102	112	109	98	103	103	89
320-113052-6	INF COMP 202406	84	98	100	96	102	98	94	85
320-113052-7	EFF 202406	78	93	103	98	94	102	91	85
320-113052-8	EFFG 202406	79	93	101	97	98	98	92	87
320-113052-10	EB01 202406	86	87	81	89	91	97	99	76
320-113052-12	EB02 202406	76	79	78	75	84	89	87	56
LCS 320-772168/3-A	Lab Control Sample	96	97	93	100	98	96	92	91
LCS 320-772939/3-A	Lab Control Sample	73	78	78	76	86	87	86	79
LCSD 320-772168/4-A	Lab Control Sample Dup	104	101	101	101	103	101	95	93
LLCS 320-772168/2-A	Lab Control Sample	98	96	91	97	97	98	96	93
LLCS 320-772939/2-A	Lab Control Sample	87	87	89	91	96	105	104	93
MB 320-772168/1-A	Method Blank	86	85	83	86	89	86	89	81
MB 320-772939/1-A	Method Blank	94	96	93	95	98	111	104	104

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-113052-1	INF02 202406	61	47	88	91	91	86	52	74
320-113052-2	INF07 202406	64	45	88	92	91	85	46	68
320-113052-3	INF08 202406	66	44	86	94	88	88	44	64
320-113052-4	INF11 202406	59	40	90	94	87	75	34	60
320-113052-5	INF18 202406	74	48	99	106	94	89	46	80
320-113052-6	INF COMP 202406	63	41	92	98	83	81	42	67
320-113052-7	EFF 202406	74	52	91	97	93	95	88	91
320-113052-8	EFFG 202406	71	47	91	97	92	94	86	91
320-113052-10	EB01 202406	50	79	89	91	91	79	93	68
320-113052-12	EB02 202406	35	67	75	79	75	74	50	46
LCS 320-772168/3-A	Lab Control Sample	86	78	92	97	99	96	86	76
LCS 320-772939/3-A	Lab Control Sample	73	66	75	80	84	70	84	66
LCSD 320-772168/4-A	Lab Control Sample Dup	91	93	98	105	107	108	94	88
LLCS 320-772168/2-A	Lab Control Sample	93	70	91	97	95	93	85	87
LLCS 320-772939/2-A	Lab Control Sample	96	96	89	95	84	98	97	102
MB 320-772168/1-A	Method Blank	76	67	83	89	89	78	80	74
MB 320-772939/1-A	Method Blank	96	89	92	98	95	100	101	100

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-113052-1	INF02 202406	52	68	57	93	163 *5+	294 *5+	224 *5+	81
320-113052-2	INF07 202406	47	67	51	91	194 *5+	276 *5+	214 *5+	85
320-113052-3	INF08 202406	44	67	46	90	162 *5+	280 *5+	240 *5+	88
320-113052-4	INF11 202406	46	61	40	84	190 *5+	277 *5+	258 *5+	93
320-113052-5	INF18 202406	50	70	48	97	183 *5+	317 *5+	318 *5+	96
320-113052-6	INF COMP 202406	49	66	45	87	174 *5+	295 *5+	265 *5+	91
320-113052-7	EFF 202406	80	71	77	78	162 *5+	151 *5+	139	93
320-113052-8	EFFG 202406	79	72	78	77	177 *5+	167 *5+	149	92
320-113052-10	EB01 202406	67	59	55	51	102	124	113	99
320-113052-12	EB02 202406	52	39	50	41	87	107	106	90
LCS 320-772168/3-A	Lab Control Sample	88	82	103	112	107	122	121	93

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-113052-1
Project/Site: PFAS Sampling

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
LCS 320-772939/3-A	Lab Control Sample	59	57	58	57	82	101	87	91
LCSD 320-772168/4-A	Lab Control Sample Dup	97	96	112	118	121	129	125	99
LLCS 320-772168/2-A	Lab Control Sample	79	78	96	94	111	132	128	93
LLCS 320-772939/2-A	Lab Control Sample	71	76	80	76	106	121	111	101
MB 320-772168/1-A	Method Blank	66	65	81	85	101	123	113	81
MB 320-772939/1-A	Method Blank	78	85	78	76	105	129	108	106

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-772168/1-A
Matrix: Water
Analysis Batch: 772588

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 772168

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		06/14/24 12:05	06/17/24 10:39	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		06/14/24 12:05	06/17/24 10:39	1
NEtFOSA	ND		2.0	0.87	ng/L		06/14/24 12:05	06/17/24 10:39	1
NMeFOSA	ND		2.0	0.43	ng/L		06/14/24 12:05	06/17/24 10:39	1
NMeFOSAA	ND		5.0	1.2	ng/L		06/14/24 12:05	06/17/24 10:39	1
NEtFOSAA	ND		5.0	1.3	ng/L		06/14/24 12:05	06/17/24 10:39	1
NMeFOSE	ND		4.0	1.4	ng/L		06/14/24 12:05	06/17/24 10:39	1
NEtFOSE	ND		2.0	0.85	ng/L		06/14/24 12:05	06/17/24 10:39	1
4:2 FTS	ND		2.0	0.24	ng/L		06/14/24 12:05	06/17/24 10:39	1
6:2 FTS	ND		5.0	2.5	ng/L		06/14/24 12:05	06/17/24 10:39	1
8:2 FTS	ND		2.0	0.46	ng/L		06/14/24 12:05	06/17/24 10:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		06/14/24 12:05	06/17/24 10:39	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 10:39	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		06/14/24 12:05	06/17/24 10:39	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		06/14/24 12:05	06/17/24 10:39	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*06/14/24 12:05*	*06/17/24 10:39*	*1*
13C5 PFPeA	*85*		*25 - 150*	*06/14/24 12:05*	*06/17/24 10:39*	*1*
13C2 PFHxA	*83*		*25 - 150*	*06/14/24 12:05*	*06/17/24 10:39*	*1*
13C4 PFHpA	*86*		*25 - 150*	*06/14/24 12:05*	*06/17/24 10:39*	*1*
13C4 PFOA	*89*		*25 - 150*	*06/14/24 12:05*	*06/17/24 10:39*	*1*
13C5 PFNA	*86*		*25 - 150*	*06/14/24 12:05*	*06/17/24 10:39*	*1*
13C2 PFDA	*89*		*25 - 150*	*06/14/24 12:05*	*06/17/24 10:39*	*1*
13C2 PFUnA	*81*		*25 - 150*	*06/14/24 12:05*	*06/17/24 10:39*	*1*
13C2 PFDoA	*76*		*25 - 150*	*06/14/24 12:05*	*06/17/24 10:39*	*1*
13C2 PFTeDA	*67*		*25 - 150*	*06/14/24 12:05*	*06/17/24 10:39*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-772168/1-A
Matrix: Water
Analysis Batch: 772588

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 772168

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	83		25 - 150	06/14/24 12:05	06/17/24 10:39	1
18O2 PFHxS	89		25 - 150	06/14/24 12:05	06/17/24 10:39	1
13C4 PFOS	89		25 - 150	06/14/24 12:05	06/17/24 10:39	1
13C8 FOSA	78		10 - 150	06/14/24 12:05	06/17/24 10:39	1
d3-NMeFOSAA	80		25 - 150	06/14/24 12:05	06/17/24 10:39	1
d5-NEtFOSAA	74		25 - 150	06/14/24 12:05	06/17/24 10:39	1
d-N-MeFOSA-M	66		10 - 150	06/14/24 12:05	06/17/24 10:39	1
d-N-EtFOSA-M	65		10 - 150	06/14/24 12:05	06/17/24 10:39	1
d7-N-MeFOSE-M	81		10 - 150	06/14/24 12:05	06/17/24 10:39	1
d9-N-EtFOSE-M	85		10 - 150	06/14/24 12:05	06/17/24 10:39	1
M2-4:2 FTS	101		25 - 150	06/14/24 12:05	06/17/24 10:39	1
M2-6:2 FTS	123		25 - 150	06/14/24 12:05	06/17/24 10:39	1
M2-8:2 FTS	113		25 - 150	06/14/24 12:05	06/17/24 10:39	1
13C3 HFPO-DA	81		25 - 150	06/14/24 12:05	06/17/24 10:39	1

Lab Sample ID: LCS 320-772168/3-A
Matrix: Water
Analysis Batch: 772588

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 772168

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	160	167		ng/L		104	60 - 135
Perfluoropentanoic acid (PFPeA)	160	167		ng/L		104	60 - 135
Perfluorohexanoic acid (PFHxA)	160	168		ng/L		105	60 - 135
Perfluoroheptanoic acid (PFHpA)	160	164		ng/L		103	60 - 135
Perfluorooctanoic acid (PFOA)	160	150		ng/L		94	60 - 135
Perfluorononanoic acid (PFNA)	160	128		ng/L		80	60 - 135
Perfluorodecanoic acid (PFDA)	160	176		ng/L		110	60 - 135
Perfluoroundecanoic acid (PFUnA)	160	163		ng/L		102	60 - 135
Perfluorododecanoic acid (PFDoA)	160	180		ng/L		113	60 - 135
Perfluorotridecanoic acid (PFTrDA)	160	166		ng/L		104	60 - 135
Perfluorotetradecanoic acid (PFTeA)	160	190		ng/L		119	60 - 135
Perfluorobutanesulfonic acid (PFBS)	142	152		ng/L		107	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	150	167		ng/L		111	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	146	146		ng/L		100	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	153	174		ng/L		114	60 - 135
Perfluorooctanesulfonic acid (PFOS)	149	148		ng/L		99	60 - 135
Perfluorononanesulfonic acid (PFNS)	154	165		ng/L		107	60 - 135
Perfluorodecanesulfonic acid (PFDS)	154	152		ng/L		99	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	155	154		ng/L		99	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-772168/3-A
Matrix: Water
Analysis Batch: 772588

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 772168

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	160	161		ng/L		100	60 - 135
NEtFOSA	160	157		ng/L		98	60 - 135
NMeFOSA	160	163		ng/L		102	60 - 135
NMeFOSAA	160	141		ng/L		88	60 - 135
NEtFOSAA	160	134		ng/L		84	60 - 135
NMeFOSE	160	156		ng/L		98	60 - 135
NEtFOSE	160	150		ng/L		94	60 - 135
4:2 FTS	150	149		ng/L		99	60 - 135
6:2 FTS	152	159		ng/L		104	60 - 135
8:2 FTS	154	133		ng/L		86	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	151	120		ng/L		80	60 - 135
HFPO-DA (GenX)	160	166		ng/L		104	60 - 135
9Cl-PF3ONS	149	123		ng/L		82	60 - 135
11Cl-PF3OUdS	151	129		ng/L		85	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*96*		*25 - 150*
13C5 PFPeA	*97*		*25 - 150*
13C2 PFHxA	*93*		*25 - 150*
13C4 PFHpA	*100*		*25 - 150*
13C4 PFOA	*98*		*25 - 150*
13C5 PFNA	*96*		*25 - 150*
13C2 PFDA	*92*		*25 - 150*
13C2 PFUnA	*91*		*25 - 150*
13C2 PFDoA	*86*		*25 - 150*
13C2 PFTeDA	*78*		*25 - 150*
13C3 PFBS	*92*		*25 - 150*
18O2 PFHxS	*97*		*25 - 150*
13C4 PFOS	*99*		*25 - 150*
13C8 FOSA	*96*		*10 - 150*
d3-NMeFOSAA	*86*		*25 - 150*
d5-NEtFOSAA	*76*		*25 - 150*
d-N-MeFOSA-M	*88*		*10 - 150*
d-N-EtFOSA-M	*82*		*10 - 150*
d7-N-MeFOSE-M	*103*		*10 - 150*
d9-N-EtFOSE-M	*112*		*10 - 150*
M2-4:2 FTS	*107*		*25 - 150*
M2-6:2 FTS	*122*		*25 - 150*
M2-8:2 FTS	*121*		*25 - 150*
13C3 HFPO-DA	*93*		*25 - 150*

Lab Sample ID: LCSD 320-772168/4-A
Matrix: Water
Analysis Batch: 772588

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 772168

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	160	161		ng/L		100	60 - 135	4	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-772168/4-A
Matrix: Water
Analysis Batch: 772588

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 772168

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			160	169		ng/L		106	60 - 135	1	30
Perfluorohexanoic acid (PFHxA)			160	156		ng/L		97	60 - 135	7	30
Perfluoroheptanoic acid (PFHpA)			160	164		ng/L		102	60 - 135	0	30
Perfluorooctanoic acid (PFOA)			160	144		ng/L		90	60 - 135	4	30
Perfluorononanoic acid (PFNA)			160	126		ng/L		79	60 - 135	1	30
Perfluorodecanoic acid (PFDA)			160	179		ng/L		112	60 - 135	2	30
Perfluoroundecanoic acid (PFUnA)			160	158		ng/L		99	60 - 135	3	30
Perfluorododecanoic acid (PFDoA)			160	170		ng/L		106	60 - 135	6	30
Perfluorotridecanoic acid (PFTrDA)			160	168		ng/L		105	60 - 135	1	30
Perfluorotetradecanoic acid (PFTeA)			160	179		ng/L		112	60 - 135	6	30
Perfluorobutanesulfonic acid (PFBS)			142	158		ng/L		111	60 - 135	4	30
Perfluoropentanesulfonic acid (PFPeS)			150	166		ng/L		111	60 - 135	0	30
Perfluorohexanesulfonic acid (PFHxS)			146	147		ng/L		101	60 - 135	1	30
Perfluoroheptanesulfonic acid (PFHpS)			153	172		ng/L		113	60 - 135	1	30
Perfluorooctanesulfonic acid (PFOS)			149	148		ng/L		100	60 - 135	0	30
Perfluorononanesulfonic acid (PFNS)			154	155		ng/L		101	60 - 135	6	30
Perfluorodecanesulfonic acid (PFDS)			154	157		ng/L		102	60 - 135	3	30
Perfluorododecanesulfonic acid (PFDoS)			155	166		ng/L		107	60 - 135	7	30
Perfluorooctanesulfonamide (FOSA)			160	162		ng/L		101	60 - 135	1	30
NEtFOSA			160	144		ng/L		90	60 - 135	9	30
NMeFOSA			160	152		ng/L		95	60 - 135	7	30
NMeFOSAA			160	138		ng/L		86	60 - 135	2	30
NEtFOSAA			160	125		ng/L		78	60 - 135	7	30
NMeFOSE			160	155		ng/L		97	60 - 135	1	30
NEtFOSE			160	148		ng/L		93	60 - 135	1	30
4:2 FTS			150	141		ng/L		94	60 - 135	6	30
6:2 FTS			152	159		ng/L		104	60 - 135	0	30
8:2 FTS			154	138		ng/L		90	60 - 135	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			151	118		ng/L		78	60 - 135	2	30
HFPO-DA (GenX)			160	164		ng/L		102	60 - 135	1	30
9Cl-PF3ONS			149	118		ng/L		79	60 - 135	4	30
11Cl-PF3OUdS			151	137		ng/L		91	60 - 135	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*104*		*25 - 150*
13C5 PFPeA	*101*		*25 - 150*
13C2 PFHxA	*101*		*25 - 150*
13C4 PFHpA	*101*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-772168/4-A
Matrix: Water
Analysis Batch: 772588

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 772168

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFOA	*103*		*25 - 150*
13C5 PFNA	*101*		*25 - 150*
13C2 PFDA	*95*		*25 - 150*
13C2 PFUnA	*93*		*25 - 150*
13C2 PFDoA	*91*		*25 - 150*
13C2 PFTeDA	*93*		*25 - 150*
13C3 PFBS	*98*		*25 - 150*
18O2 PFHxS	*105*		*25 - 150*
13C4 PFOS	*107*		*25 - 150*
13C8 FOSA	*108*		*10 - 150*
d3-NMeFOSAA	*94*		*25 - 150*
d5-NEtFOSAA	*88*		*25 - 150*
d-N-MeFOSA-M	*97*		*10 - 150*
d-N-EtFOSA-M	*96*		*10 - 150*
d7-N-MeFOSE-M	*112*		*10 - 150*
d9-N-EtFOSE-M	*118*		*10 - 150*
M2-4:2 FTS	*121*		*25 - 150*
M2-6:2 FTS	*129*		*25 - 150*
M2-8:2 FTS	*125*		*25 - 150*
13C3 HFPO-DA	*99*		*25 - 150*

Lab Sample ID: LLCS 320-772168/2-A
Matrix: Water
Analysis Batch: 772588

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 772168

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	9.00		ng/L		112	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	8.88		ng/L		111	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	9.05		ng/L		113	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	9.27		ng/L		116	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	8.12		ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	8.00	6.71		ng/L		84	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	9.05		ng/L		113	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	8.51		ng/L		106	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	8.81		ng/L		110	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	7.80		ng/L		97	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	10.6		ng/L		133	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	8.17		ng/L		115	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	8.66		ng/L		115	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	8.12		ng/L		111	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	9.67		ng/L		127	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	8.22		ng/L		111	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-772168/2-A
Matrix: Water
Analysis Batch: 772588

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 772168

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanesulfonic acid (PFNS)	7.70	8.70		ng/L		113	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	8.04		ng/L		104	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	8.01		ng/L		103	50 - 150
Perfluorooctanesulfonamide (FOSA)	8.00	8.57		ng/L		107	50 - 150
NEtFOSA	8.00	7.09		ng/L		89	50 - 150
NMeFOSA	8.00	7.91		ng/L		99	50 - 150
NMeFOSAA	8.00	8.25		ng/L		103	50 - 150
NEtFOSAA	8.00	6.40		ng/L		80	50 - 150
NMeFOSE	8.00	8.37		ng/L		105	50 - 150
NEtFOSE	8.00	8.02		ng/L		100	50 - 150
4:2 FTS	7.50	8.52		ng/L		114	50 - 150
6:2 FTS	7.62	8.05		ng/L		106	50 - 150
8:2 FTS	7.68	7.54		ng/L		98	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	7.06		ng/L		93	50 - 150
HFPO-DA (GenX)	8.00	8.71		ng/L		109	50 - 150
9Cl-PF3ONS	7.47	6.12		ng/L		82	50 - 150
11Cl-PF3OUdS	7.55	7.28		ng/L		96	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*98*		*25 - 150*
13C5 PFPeA	*96*		*25 - 150*
13C2 PFHxA	*91*		*25 - 150*
13C4 PFHpA	*97*		*25 - 150*
13C4 PFOA	*97*		*25 - 150*
13C5 PFNA	*98*		*25 - 150*
13C2 PFDA	*96*		*25 - 150*
13C2 PFUnA	*93*		*25 - 150*
13C2 PFDoA	*93*		*25 - 150*
13C2 PFTeDA	*70*		*25 - 150*
13C3 PFBS	*91*		*25 - 150*
18O2 PFHxS	*97*		*25 - 150*
13C4 PFOS	*95*		*25 - 150*
13C8 FOSA	*93*		*10 - 150*
d3-NMeFOSAA	*85*		*25 - 150*
d5-NEtFOSAA	*87*		*25 - 150*
d-N-MeFOSA-M	*79*		*10 - 150*
d-N-EtFOSA-M	*78*		*10 - 150*
d7-N-MeFOSE-M	*96*		*10 - 150*
d9-N-EtFOSE-M	*94*		*10 - 150*
M2-4:2 FTS	*111*		*25 - 150*
M2-6:2 FTS	*132*		*25 - 150*
M2-8:2 FTS	*128*		*25 - 150*
13C3 HFPO-DA	*93*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-772939/1-A
Matrix: Water
Analysis Batch: 773311

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 772939

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		06/18/24 11:52	06/19/24 23:01	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		06/18/24 11:52	06/19/24 23:01	1
NEtFOSA	ND		2.0	0.87	ng/L		06/18/24 11:52	06/19/24 23:01	1
NMeFOSA	ND		2.0	0.43	ng/L		06/18/24 11:52	06/19/24 23:01	1
NMeFOSAA	ND		5.0	1.2	ng/L		06/18/24 11:52	06/19/24 23:01	1
NEtFOSAA	ND		5.0	1.3	ng/L		06/18/24 11:52	06/19/24 23:01	1
NMeFOSE	ND		4.0	1.4	ng/L		06/18/24 11:52	06/19/24 23:01	1
NEtFOSE	ND		2.0	0.85	ng/L		06/18/24 11:52	06/19/24 23:01	1
4:2 FTS	ND		2.0	0.24	ng/L		06/18/24 11:52	06/19/24 23:01	1
6:2 FTS	ND		5.0	2.5	ng/L		06/18/24 11:52	06/19/24 23:01	1
8:2 FTS	ND		2.0	0.46	ng/L		06/18/24 11:52	06/19/24 23:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		06/18/24 11:52	06/19/24 23:01	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		06/18/24 11:52	06/19/24 23:01	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		06/18/24 11:52	06/19/24 23:01	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		06/18/24 11:52	06/19/24 23:01	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:01*	*1*
13C5 PFPeA	*96*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:01*	*1*
13C2 PFHxA	*93*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:01*	*1*
13C4 PFHpA	*95*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:01*	*1*
13C4 PFOA	*98*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:01*	*1*
13C5 PFNA	*111*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:01*	*1*
13C2 PFDA	*104*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:01*	*1*
13C2 PFUnA	*104*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:01*	*1*
13C2 PFDoA	*96*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:01*	*1*
13C2 PFTeDA	*89*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:01*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-772939/1-A
Matrix: Water
Analysis Batch: 773311

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 772939

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	92		25 - 150	06/18/24 11:52	06/19/24 23:01	1
18O2 PFHxS	98		25 - 150	06/18/24 11:52	06/19/24 23:01	1
13C4 PFOS	95		25 - 150	06/18/24 11:52	06/19/24 23:01	1
13C8 FOSA	100		10 - 150	06/18/24 11:52	06/19/24 23:01	1
d3-NMeFOSAA	101		25 - 150	06/18/24 11:52	06/19/24 23:01	1
d5-NEtFOSAA	100		25 - 150	06/18/24 11:52	06/19/24 23:01	1
d-N-MeFOSA-M	78		10 - 150	06/18/24 11:52	06/19/24 23:01	1
d-N-EtFOSA-M	85		10 - 150	06/18/24 11:52	06/19/24 23:01	1
d7-N-MeFOSE-M	78		10 - 150	06/18/24 11:52	06/19/24 23:01	1
d9-N-EtFOSE-M	76		10 - 150	06/18/24 11:52	06/19/24 23:01	1
M2-4:2 FTS	105		25 - 150	06/18/24 11:52	06/19/24 23:01	1
M2-6:2 FTS	129		25 - 150	06/18/24 11:52	06/19/24 23:01	1
M2-8:2 FTS	108		25 - 150	06/18/24 11:52	06/19/24 23:01	1
13C3 HFPO-DA	106		25 - 150	06/18/24 11:52	06/19/24 23:01	1

Lab Sample ID: LCS 320-772939/3-A
Matrix: Water
Analysis Batch: 773311

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 772939

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	160	152		ng/L		95	60 - 135
Perfluoropentanoic acid (PFPeA)	160	164		ng/L		102	60 - 135
Perfluorohexanoic acid (PFHxA)	160	170		ng/L		106	60 - 135
Perfluoroheptanoic acid (PFHpA)	160	158		ng/L		99	60 - 135
Perfluorooctanoic acid (PFOA)	160	159		ng/L		99	60 - 135
Perfluorononanoic acid (PFNA)	160	160		ng/L		100	60 - 135
Perfluorodecanoic acid (PFDA)	160	161		ng/L		101	60 - 135
Perfluoroundecanoic acid (PFUnA)	160	173		ng/L		108	60 - 135
Perfluorododecanoic acid (PFDoA)	160	155		ng/L		97	60 - 135
Perfluorotridecanoic acid (PFTrDA)	160	151		ng/L		94	60 - 135
Perfluorotetradecanoic acid (PFTeA)	160	177		ng/L		110	60 - 135
Perfluorobutanesulfonic acid (PFBS)	142	145		ng/L		102	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	150	164		ng/L		109	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	146	147		ng/L		101	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	153	171		ng/L		112	60 - 135
Perfluorooctanesulfonic acid (PFOS)	149	152		ng/L		102	60 - 135
Perfluorononanesulfonic acid (PFNS)	154	158		ng/L		103	60 - 135
Perfluorodecanesulfonic acid (PFDS)	154	134		ng/L		87	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	155	129		ng/L		83	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-772939/3-A
Matrix: Water
Analysis Batch: 773311

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 772939

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	160	163		ng/L		102	60 - 135
NEtFOSA	160	168		ng/L		105	60 - 135
NMeFOSA	160	180		ng/L		112	60 - 135
NMeFOSAA	160	166		ng/L		103	60 - 135
NEtFOSAA	160	181		ng/L		113	60 - 135
NMeFOSE	160	159		ng/L		99	60 - 135
NEtFOSE	160	158		ng/L		99	60 - 135
4:2 FTS	150	166		ng/L		111	60 - 135
6:2 FTS	152	170		ng/L		111	60 - 135
8:2 FTS	154	147		ng/L		96	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	151	136		ng/L		90	60 - 135
HFPO-DA (GenX)	160	161		ng/L		100	60 - 135
9Cl-PF3ONS	149	144		ng/L		97	60 - 135
11Cl-PF3OUdS	151	135		ng/L		89	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*73*		*25 - 150*
13C5 PFPeA	*78*		*25 - 150*
13C2 PFHxA	*78*		*25 - 150*
13C4 PFHpA	*76*		*25 - 150*
13C4 PFOA	*86*		*25 - 150*
13C5 PFNA	*87*		*25 - 150*
13C2 PFDA	*86*		*25 - 150*
13C2 PFUnA	*79*		*25 - 150*
13C2 PFDoA	*73*		*25 - 150*
13C2 PFTeDA	*66*		*25 - 150*
13C3 PFBS	*75*		*25 - 150*
18O2 PFHxS	*80*		*25 - 150*
13C4 PFOS	*84*		*25 - 150*
13C8 FOSA	*70*		*10 - 150*
d3-NMeFOSAA	*84*		*25 - 150*
d5-NEtFOSAA	*66*		*25 - 150*
d-N-MeFOSA-M	*59*		*10 - 150*
d-N-EtFOSA-M	*57*		*10 - 150*
d7-N-MeFOSE-M	*58*		*10 - 150*
d9-N-EtFOSE-M	*57*		*10 - 150*
M2-4:2 FTS	*82*		*25 - 150*
M2-6:2 FTS	*101*		*25 - 150*
M2-8:2 FTS	*87*		*25 - 150*
13C3 HFPO-DA	*91*		*25 - 150*

Lab Sample ID: LLCS 320-772939/2-A
Matrix: Water
Analysis Batch: 773311

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 772939

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	7.97		ng/L		100	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-772939/2-A
Matrix: Water
Analysis Batch: 773311

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 772939

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)	8.00	9.32		ng/L		116	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	9.07		ng/L		113	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	9.20		ng/L		115	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	9.19		ng/L		115	50 - 150
Perfluorononanoic acid (PFNA)	8.00	8.54		ng/L		107	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	6.89		ng/L		86	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	9.99		ng/L		125	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	8.24		ng/L		103	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	8.12		ng/L		101	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	7.61		ng/L		95	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	7.40		ng/L		104	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	8.14		ng/L		108	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	6.92		ng/L		95	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	9.67		ng/L		127	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	8.37		ng/L		112	50 - 150
Perfluorononanesulfonic acid (PFNS)	7.70	8.60		ng/L		112	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	7.73		ng/L		100	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	8.20		ng/L		106	50 - 150
Perfluorooctanesulfonamide (FOSA)	8.00	8.34		ng/L		104	50 - 150
NEtFOSA	8.00	6.62		ng/L		83	50 - 150
NMeFOSA	8.00	7.99		ng/L		100	50 - 150
NMeFOSAA	8.00	9.76		ng/L		122	50 - 150
NEtFOSAA	8.00	8.69		ng/L		109	50 - 150
NMeFOSE	8.00	7.92		ng/L		99	50 - 150
NEtFOSE	8.00	7.79		ng/L		97	50 - 150
4:2 FTS	7.50	7.51		ng/L		100	50 - 150
6:2 FTS	7.62	7.51		ng/L		99	50 - 150
8:2 FTS	7.68	7.85		ng/L		102	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	8.79		ng/L		116	50 - 150
HFPO-DA (GenX)	8.00	7.62		ng/L		95	50 - 150
9Cl-PF3ONS	7.47	7.41		ng/L		99	50 - 150
11Cl-PF3OUdS	7.55	8.20		ng/L		109	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*87*		*25 - 150*
13C5 PFPeA	*87*		*25 - 150*
13C2 PFHxA	*89*		*25 - 150*
13C4 PFHpA	*91*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-772939/2-A
Matrix: Water
Analysis Batch: 773311

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 772939

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFOA	*96*		*25 - 150*
13C5 PFNA	*105*		*25 - 150*
13C2 PFDA	*104*		*25 - 150*
13C2 PFUnA	*93*		*25 - 150*
13C2 PFDoA	*96*		*25 - 150*
13C2 PFTeDA	*96*		*25 - 150*
13C3 PFBS	*89*		*25 - 150*
18O2 PFHxS	*95*		*25 - 150*
13C4 PFOS	*84*		*25 - 150*
13C8 FOSA	*98*		*10 - 150*
d3-NMeFOSAA	*97*		*25 - 150*
d5-NEtFOSAA	*102*		*25 - 150*
d-N-MeFOSA-M	*71*		*10 - 150*
d-N-EtFOSA-M	*76*		*10 - 150*
d7-N-MeFOSE-M	*80*		*10 - 150*
d9-N-EtFOSE-M	*76*		*10 - 150*
M2-4:2 FTS	*106*		*25 - 150*
M2-6:2 FTS	*121*		*25 - 150*
M2-8:2 FTS	*111*		*25 - 150*
13C3 HFPO-DA	*101*		*25 - 150*

Lab Sample ID: MB 320-776005/1-A
Matrix: Solid
Analysis Batch: 776590

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 776005

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.031	ug/Kg		07/02/24 04:35	07/05/24 00:21	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*88*		*25 - 150*	*07/02/24 04:35*	*07/05/24 00:21*	*1*

Lab Sample ID: LCS 320-776005/3-A
Matrix: Solid
Analysis Batch: 776590

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 776005

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorohexanoic acid (PFHxA)			4.00	4.30		ug/Kg		107	60 - 135		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*92*		*25 - 150*

Lab Sample ID: LLCS 320-776005/2-A
Matrix: Solid
Analysis Batch: 776590

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 776005

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorohexanoic acid (PFHxA)			0.800	0.948		ug/Kg		118	50 - 150		

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	LLCS %Recovery	LLCS Qualifier	Limits
13C2 PFHxA	93		25 - 150

Lab Sample ID: 320-113052-13 MS — **Client Sample ID: BIOA-22-202406**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 776590 — **Prep Batch: 776005**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	38		13.7	52.7		ug/Kg	☼	109	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2 PFHxA	84		25 - 150

Lab Sample ID: 320-113052-13 MSD — **Client Sample ID: BIOA-22-202406**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 776590 — **Prep Batch: 776005**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	38		14.4	53.1		ug/Kg	☼	106	70 - 130	1	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C2 PFHxA	85		25 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances - RA

Lab Sample ID: MB 320-776005/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 776990 — **Prep Batch: 776005**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA) - RA	ND		0.20	0.046	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluoropentanoic acid (PFPeA) - RA	ND		0.20	0.041	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluoroheptanoic acid (PFHpA) - RA	ND		0.20	0.038	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorooctanoic acid (PFOA) - RA	ND		0.20	0.053	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorononanoic acid (PFNA) - RA	ND		0.20	0.022	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorodecanoic acid (PFDA) - RA	ND		0.20	0.048	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluoroundecanoic acid (PFUnA) - RA	ND		0.20	0.042	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorododecanoic acid (PFDoA) - RA	ND		0.20	0.030	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorotridecanoic acid (PFTrDA) - RA	ND		0.20	0.021	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorotetradecanoic acid (PFTeA) - RA	ND		0.20	0.037	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorobutanesulfonic acid (PFBS) - RA	ND		0.20	0.038	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluoropentanesulfonic acid (PFPeS) - RA	ND		0.20	0.037	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorohexanesulfonic acid (PFHxS) - RA	ND		0.20	0.029	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluoroheptanesulfonic acid (PFHpS) - RA	ND		0.20	0.049	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorooctanesulfonic acid (PFOS) - RA	ND		0.20	0.043	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorononanesulfonic acid (PFNS) - RA	ND		0.20	0.029	ug/Kg		07/02/24 04:35	07/06/24 08:32	1

Method: 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Lab Sample ID: MB 320-776005/1-A
Matrix: Solid
Analysis Batch: 776990

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 776005

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS) - RA	ND		0.20	0.052	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorododecanesulfonic acid (PFDoS) - RA	ND		0.20	0.047	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
Perfluorooctanesulfonamide (FOSA) - RA	ND		0.20	0.033	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
NEtFOSA - RA	ND		0.20	0.047	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
NMeFOSA - RA	ND		0.20	0.049	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
NMeFOSAA - RA	ND		0.20	0.023	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
NEtFOSAA - RA	ND		0.20	0.048	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
NMeFOSE - RA	ND		0.20	0.047	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
NEtFOSE - RA	ND		0.20	0.028	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
4:2 FTS - RA	ND		0.20	0.051	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
6:2 FTS - RA	ND		0.20	0.027	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
8:2 FTS - RA	ND		0.20	0.035	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	ND		0.20	0.039	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
HFPO-DA (GenX) - RA	ND		0.20	0.041	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
9Cl-PF3ONS - RA	ND		0.20	0.035	ug/Kg		07/02/24 04:35	07/06/24 08:32	1
11Cl-PF3OUdS - RA	ND		0.20	0.031	ug/Kg		07/02/24 04:35	07/06/24 08:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA - RA	*94*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C5 PFPeA - RA	*91*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C4 PFHpA - RA	*97*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C4 PFOA - RA	*95*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C5 PFNA - RA	*88*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C2 PFDA - RA	*92*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C2 PFUnA - RA	*86*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C2 PFDoA - RA	*85*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C2 PFTeDA - RA	*84*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C3 PFBS - RA	*89*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
18O2 PFHxS - RA	*93*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C4 PFOS - RA	*86*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C8 FOSA - RA	*101*		*10 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
d3-NMeFOSAA - RA	*83*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
d5-NEtFOSAA - RA	*93*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
d-N-MeFOSA-M - RA	*99*		*10 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
d-N-EtFOSA-M - RA	*96*		*10 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
d7-N-MeFOSE-M - RA	*98*		*10 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
d9-N-EtFOSE-M - RA	*106*		*10 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
M2-4:2 FTS - RA	*63*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
M2-6:2 FTS - RA	*64*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
M2-8:2 FTS - RA	*75*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*
13C3 HFPO-DA - RA	*99*		*25 - 150*	*07/02/24 04:35*	*07/06/24 08:32*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Lab Sample ID: LCS 320-776005/3-A
Matrix: Solid
Analysis Batch: 776990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 776005

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA) - RA	4.00	4.08		ug/Kg		102	60 - 135
Perfluoropentanoic acid (PFPeA) - RA	4.00	3.98		ug/Kg		100	60 - 135
Perfluoroheptanoic acid (PFHpA) - RA	4.00	4.12		ug/Kg		103	60 - 135
Perfluorooctanoic acid (PFOA) - RA	4.00	4.13		ug/Kg		103	60 - 135
Perfluorononanoic acid (PFNA) - RA	4.00	4.26		ug/Kg		106	60 - 135
Perfluorodecanoic acid (PFDA) - RA	4.00	4.24		ug/Kg		106	60 - 135
Perfluoroundecanoic acid (PFUnA) - RA	4.00	4.08		ug/Kg		102	60 - 135
Perfluorododecanoic acid (PFDoA) - RA	4.00	4.10		ug/Kg		103	60 - 135
Perfluorotridecanoic acid (PFTrDA) - RA	4.00	4.25		ug/Kg		106	60 - 135
Perfluorotetradecanoic acid (PFTeA) - RA	4.00	4.20		ug/Kg		105	60 - 135
Perfluorobutanesulfonic acid (PFBS) - RA	3.55	3.98		ug/Kg		112	60 - 135
Perfluoropentanesulfonic acid (PFPeS) - RA	3.76	4.20		ug/Kg		112	60 - 135
Perfluorohexanesulfonic acid (PFHxS) - RA	3.65	3.70		ug/Kg		102	60 - 135
Perfluoroheptanesulfonic acid (PFHpS) - RA	3.82	4.18		ug/Kg		110	60 - 135
Perfluorooctanesulfonic acid (PFOS) - RA	3.72	3.67		ug/Kg		99	60 - 135
Perfluorononanesulfonic acid (PFNS) - RA	3.85	4.06		ug/Kg		105	60 - 135
Perfluorodecanesulfonic acid (PFDS) - RA	3.86	4.10		ug/Kg		106	60 - 135
Perfluorododecanesulfonic acid (PFDoS) - RA	3.88	4.06		ug/Kg		105	60 - 135
Perfluorooctanesulfonamide (FOSA) - RA	4.00	4.17		ug/Kg		104	60 - 135
NEtFOSA - RA	4.00	3.69		ug/Kg		92	60 - 135
NMeFOSA - RA	4.00	3.95		ug/Kg		99	60 - 135
NMeFOSAA - RA	4.00	4.47		ug/Kg		112	60 - 135
NEtFOSAA - RA	4.00	5.06		ug/Kg		127	60 - 135
NMeFOSE - RA	4.00	4.32		ug/Kg		108	60 - 135
NEtFOSE - RA	4.00	3.79		ug/Kg		95	60 - 135
4:2 FTS - RA	3.75	4.11		ug/Kg		110	60 - 135
6:2 FTS - RA	3.81	4.24		ug/Kg		111	60 - 135
8:2 FTS - RA	3.84	3.99		ug/Kg		104	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	3.78	4.25		ug/Kg		112	60 - 135
HFPO-DA (GenX) - RA	4.00	4.04		ug/Kg		101	60 - 135
9Cl-PF3ONS - RA	3.74	3.87		ug/Kg		104	60 - 135
11Cl-PF3OUdS - RA	3.78	4.09		ug/Kg		108	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA - RA	99		25 - 150
13C5 PFPeA - RA	102		25 - 150
13C4 PFHpA - RA	103		25 - 150
13C4 PFOA - RA	100		25 - 150
13C5 PFNA - RA	92		25 - 150
13C2 PFDA - RA	95		25 - 150
13C2 PFUnA - RA	96		25 - 150
13C2 PFDoA - RA	89		25 - 150
13C2 PFTeDA - RA	88		25 - 150
13C3 PFBS - RA	95		25 - 150
18O2 PFHxS - RA	102		25 - 150
13C4 PFOS - RA	98		25 - 150
13C8 FOSA - RA	106		10 - 150
d3-NMeFOSAA - RA	95		25 - 150
d5-NEtFOSAA - RA	100		25 - 150
d-N-MeFOSA-M - RA	98		10 - 150
d-N-EtFOSA-M - RA	97		10 - 150
d7-N-MeFOSE-M - RA	109		10 - 150
d9-N-EtFOSE-M - RA	116		10 - 150
M2-4:2 FTS - RA	62		25 - 150
M2-6:2 FTS - RA	64		25 - 150
M2-8:2 FTS - RA	84		25 - 150
13C3 HFPO-DA - RA	99		25 - 150

Lab Sample ID: LLCS 320-776005/2-A
Matrix: Solid
Analysis Batch: 776990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 776005

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA) - RA	0.800	0.861		ug/Kg		108	50 - 150
Perfluoropentanoic acid (PFPeA) - RA	0.800	0.839		ug/Kg		105	50 - 150
Perfluoroheptanoic acid (PFHpA) - RA	0.800	0.842		ug/Kg		105	50 - 150
Perfluorooctanoic acid (PFOA) - RA	0.800	0.831		ug/Kg		104	50 - 150
Perfluorononanoic acid (PFNA) - RA	0.800	0.925		ug/Kg		116	50 - 150
Perfluorodecanoic acid (PFDA) - RA	0.800	0.823		ug/Kg		103	50 - 150
Perfluoroundecanoic acid (PFUnA) - RA	0.800	0.867		ug/Kg		108	50 - 150
Perfluorododecanoic acid (PFDoA) - RA	0.800	0.853		ug/Kg		107	50 - 150
Perfluorotridecanoic acid (PFTrDA) - RA	0.800	0.858		ug/Kg		107	50 - 150
Perfluorotetradecanoic acid (PFTeA) - RA	0.800	0.822		ug/Kg		103	50 - 150
Perfluorobutanesulfonic acid (PFBS) - RA	0.710	0.839		ug/Kg		118	50 - 150
Perfluoropentanesulfonic acid (PFPeS) - RA	0.752	0.896		ug/Kg		119	50 - 150
Perfluorohexanesulfonic acid (PFHxS) - RA	0.730	0.746		ug/Kg		102	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Lab Sample ID: LLCS 320-776005/2-A
Matrix: Solid
Analysis Batch: 776990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 776005

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanesulfonic acid (PFHpS) - RA	0.763	0.877		ug/Kg		115	50 - 150
Perfluorooctanesulfonic acid (PFOS) - RA	0.744	0.743		ug/Kg		100	50 - 150
Perfluorononanesulfonic acid (PFNS) - RA	0.770	0.842		ug/Kg		109	50 - 150
Perfluorodecanesulfonic acid (PFDS) - RA	0.771	0.788		ug/Kg		102	50 - 150
Perfluorododecanesulfonic acid (PFDoS) - RA	0.776	0.790		ug/Kg		102	50 - 150
Perfluorooctanesulfonamide (FOSA) - RA	0.800	0.833		ug/Kg		104	50 - 150
NEtFOSA - RA	0.800	0.794		ug/Kg		99	50 - 150
NMeFOSA - RA	0.800	0.757		ug/Kg		95	50 - 150
NMeFOSAA - RA	0.800	0.888		ug/Kg		111	50 - 150
NEtFOSAA - RA	0.800	1.12		ug/Kg		139	50 - 150
NMeFOSE - RA	0.800	0.886		ug/Kg		111	50 - 150
NEtFOSE - RA	0.800	0.749		ug/Kg		94	50 - 150
4:2 FTS - RA	0.750	0.739		ug/Kg		98	50 - 150
6:2 FTS - RA	0.762	0.774		ug/Kg		102	50 - 150
8:2 FTS - RA	0.768	0.853		ug/Kg		111	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	0.757	0.864		ug/Kg		114	50 - 150
HFPO-DA (GenX) - RA	0.800	0.779		ug/Kg		97	50 - 150
9Cl-PF3ONS - RA	0.747	0.759		ug/Kg		102	50 - 150
11Cl-PF3OUdS - RA	0.755	0.802		ug/Kg		106	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA - RA	*97*		*25 - 150*
13C5 PFPeA - RA	*95*		*25 - 150*
13C4 PFHpA - RA	*98*		*25 - 150*
13C4 PFOA - RA	*96*		*25 - 150*
13C5 PFNA - RA	*90*		*25 - 150*
13C2 PFDA - RA	*94*		*25 - 150*
13C2 PFUnA - RA	*95*		*25 - 150*
13C2 PFDoA - RA	*86*		*25 - 150*
13C2 PFTeDA - RA	*86*		*25 - 150*
13C3 PFBS - RA	*89*		*25 - 150*
18O2 PFHxS - RA	*96*		*25 - 150*
13C4 PFOS - RA	*94*		*25 - 150*
13C8 FOSA - RA	*105*		*10 - 150*
d3-NMeFOSAA - RA	*88*		*25 - 150*
d5-NEtFOSAA - RA	*92*		*25 - 150*
d-N-MeFOSA-M - RA	*85*		*10 - 150*
d-N-EtFOSA-M - RA	*87*		*10 - 150*
d7-N-MeFOSE-M - RA	*102*		*10 - 150*
d9-N-EtFOSE-M - RA	*109*		*10 - 150*
M2-4:2 FTS - RA	*70*		*25 - 150*
M2-6:2 FTS - RA	*64*		*25 - 150*
M2-8:2 FTS - RA	*85*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Lab Sample ID: LLCS 320-776005/2-A
Matrix: Solid
Analysis Batch: 776990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 776005

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C3 HFPO-DA - RA	*99*		*25 - 150*

Lab Sample ID: 320-113052-13 MS
Matrix: Solid
Analysis Batch: 776990

Client Sample ID: BIOA-22-202406
Prep Type: Total/NA
Prep Batch: 776005

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA) - RA	9.0		13.7	23.9		ug/Kg	☼	109	70 - 130
Perfluoropentanoic acid (PFPeA) - RA	22		13.7	38.5		ug/Kg	☼	118	70 - 130
Perfluoroheptanoic acid (PFHpA) - RA	3.2		13.7	17.4		ug/Kg	☼	104	70 - 130
Perfluorooctanoic acid (PFOA) - RA	32		13.7	45.0		ug/Kg	☼	92	70 - 130
Perfluorononanoic acid (PFNA) - RA	1.8		13.7	16.0		ug/Kg	☼	103	70 - 130
Perfluorodecanoic acid (PFDA) - RA	18	F1	13.7	38.7	F1	ug/Kg	☼	149	70 - 130
Perfluoroundecanoic acid (PFUnA) - RA	2.0	F1	13.7	22.7	F1	ug/Kg	☼	151	70 - 130
Perfluorododecanoic acid (PFDoA) - RA	3.9		13.7	17.1		ug/Kg	☼	97	70 - 130
Perfluorotridecanoic acid (PFTrDA) - RA	0.43	J	13.7	11.5		ug/Kg	☼	81	70 - 130
Perfluorotetradecanoic acid (PFTeA) - RA	0.94		13.7	16.3		ug/Kg	☼	113	70 - 130
Perfluorobutanesulfonic acid (PFBS) - RA	2.0		12.1	15.1		ug/Kg	☼	108	70 - 130
Perfluoropentanesulfonic acid (PFPeS) - RA	ND		12.9	14.3		ug/Kg	☼	111	70 - 130
Perfluorohexanesulfonic acid (PFHxS) - RA	1.0	I	12.5	14.5		ug/Kg	☼	108	70 - 130
Perfluoroheptanesulfonic acid (PFHpS) - RA	ND		13.0	15.0		ug/Kg	☼	115	70 - 130
Perfluorooctanesulfonic acid (PFOS) - RA	13	I	12.7	24.8	I	ug/Kg	☼	93	70 - 130
Perfluorononanesulfonic acid (PFNS) - RA	ND		13.2	13.7		ug/Kg	☼	104	70 - 130
Perfluorodecanesulfonic acid (PFDS) - RA	1.8		13.2	15.5		ug/Kg	☼	104	70 - 130
Perfluorododecanesulfonic acid (PFDoS) - RA	ND	F1	13.3	8.17	F1	ug/Kg	☼	62	70 - 130
Perfluorooctanesulfonamide (FOSA) - RA	1.2		13.7	15.6		ug/Kg	☼	105	70 - 130
NEtFOSA - RA	ND	F1	13.7	25.4	F1	ug/Kg	☼	186	70 - 130
NMeFOSA - RA	ND		13.7	14.2		ug/Kg	☼	104	70 - 130
NMeFOSAA - RA	31	F1	13.7	47.4		ug/Kg	☼	122	70 - 130
NEtFOSAA - RA	12	F1	13.7	30.6	F1	ug/Kg	☼	134	70 - 130
NMeFOSE - RA	9.0		13.7	24.1		ug/Kg	☼	110	70 - 130
NEtFOSE - RA	1.9		13.7	11.8		ug/Kg	☼	72	70 - 130
4:2 FTS - RA	ND		12.8	13.4		ug/Kg	☼	104	70 - 130
6:2 FTS - RA	1.5		13.0	15.1		ug/Kg	☼	104	70 - 130
8:2 FTS - RA	0.96		13.1	15.3		ug/Kg	☼	109	70 - 130

Method: 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Lab Sample ID: 320-113052-13 MS
Matrix: Solid
Analysis Batch: 776990

Client Sample ID: BIOA-22-202406
Prep Type: Total/NA
Prep Batch: 776005

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	ND		12.9	13.7		ug/Kg	☼	106	70 - 130
HFPO-DA (GenX) - RA	ND		13.7	13.8		ug/Kg	☼	101	70 - 130
9Cl-PF3ONS - RA	ND		12.8	13.0		ug/Kg	☼	102	70 - 130
11Cl-PF3OUdS - RA	ND		12.9	9.83		ug/Kg	☼	76	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA - RA	*62*		*25 - 150*
13C5 PFPeA - RA	*69*		*25 - 150*
13C4 PFHpA - RA	*79*		*25 - 150*
13C4 PFOA - RA	*81*		*25 - 150*
13C5 PFNA - RA	*78*		*25 - 150*
13C2 PFDA - RA	*69*		*25 - 150*
13C2 PFUnA - RA	*69*		*25 - 150*
13C2 PFDoA - RA	*54*		*25 - 150*
13C2 PFTeDA - RA	*30*		*25 - 150*
13C3 PFBS - RA	*76*		*25 - 150*
18O2 PFHxS - RA	*77*		*25 - 150*
13C4 PFOS - RA	*73*		*25 - 150*
13C8 FOSA - RA	*70*		*10 - 150*
d3-NMeFOSAA - RA	*52*		*25 - 150*
d5-NEtFOSAA - RA	*59*		*25 - 150*
d-N-MeFOSA-M - RA	*46*		*10 - 150*
d-N-EtFOSA-M - RA	*16*		*10 - 150*
d7-N-MeFOSE-M - RA	*45*		*10 - 150*
d9-N-EtFOSE-M - RA	*23*		*10 - 150*
M2-4:2 FTS - RA	*124*		*25 - 150*
M2-6:2 FTS - RA	*126*		*25 - 150*
M2-8:2 FTS - RA	*104*		*25 - 150*
13C3 HFPO-DA - RA	*71*		*25 - 150*

Lab Sample ID: 320-113052-13 MSD
Matrix: Solid
Analysis Batch: 776990

Client Sample ID: BIOA-22-202406
Prep Type: Total/NA
Prep Batch: 776005

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA) - RA	9.0		14.4	24.6		ug/Kg	☼	109	70 - 130	3	30
Perfluoropentanoic acid (PFPeA) - RA	22		14.4	38.0		ug/Kg	☼	109	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA) - RA	3.2		14.4	17.8		ug/Kg	☼	101	70 - 130	2	30
Perfluorooctanoic acid (PFOA) - RA	32		14.4	46.8		ug/Kg	☼	100	70 - 130	4	30
Perfluorononanoic acid (PFNA) - RA	1.8		14.4	17.5		ug/Kg	☼	109	70 - 130	9	30
Perfluorodecanoic acid (PFDA) - RA	18	F1	14.4	41.5	F1	ug/Kg	☼	161	70 - 130	7	30
Perfluoroundecanoic acid (PFUnA) - RA	2.0	F1	14.4	23.9	F1	ug/Kg	☼	152	70 - 130	5	30

Method: 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Lab Sample ID: 320-113052-13 MSD
Matrix: Solid
Analysis Batch: 776990

Client Sample ID: BIOA-22-202406
Prep Type: Total/NA
Prep Batch: 776005

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorododecanoic acid (PFDoA) - RA	3.9		14.4	18.6		ug/Kg	☼	103	70 - 130	8	30
Perfluorotridecanoic acid (PFTrDA) - RA	0.43	J	14.4	12.3		ug/Kg	☼	83	70 - 130	7	30
Perfluorotetradecanoic acid (PFTeA) - RA	0.94		14.4	16.0		ug/Kg	☼	105	70 - 130	2	30
Perfluorobutanesulfonic acid (PFBS) - RA	2.0		12.7	16.9		ug/Kg	☼	117	70 - 130	12	30
Perfluoropentanesulfonic acid (PFPeS) - RA	ND		13.5	15.3		ug/Kg	☼	114	70 - 130	7	30
Perfluorohexanesulfonic acid (PFHxS) - RA	1.0	I	13.1	15.7		ug/Kg	☼	112	70 - 130	7	30
Perfluoroheptanesulfonic acid (PFHpS) - RA	ND		13.7	15.4		ug/Kg	☼	112	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS) - RA	13	I	13.4	25.8	I	ug/Kg	☼	96	70 - 130	4	30
Perfluorononanesulfonic acid (PFNS) - RA	ND		13.8	14.4		ug/Kg	☼	104	70 - 130	5	30
Perfluorodecanesulfonic acid (PFDS) - RA	1.8		13.8	14.1		ug/Kg	☼	88	70 - 130	10	30
Perfluorododecanesulfonic acid (PFDoS) - RA	ND	F1	13.9	8.69	F1	ug/Kg	☼	62	70 - 130	6	30
Perfluorooctanesulfonamide (FOSA) - RA	1.2		14.4	16.6		ug/Kg	☼	107	70 - 130	6	30
NEtFOSA - RA	ND	F1	14.4	24.3	F1	ug/Kg	☼	169	70 - 130	4	30
NMeFOSA - RA	ND		14.4	14.3		ug/Kg	☼	99	70 - 130	1	30
NMeFOSAA - RA	31	F1	14.4	50.2	F1	ug/Kg	☼	136	70 - 130	6	30
NEtFOSAA - RA	12	F1	14.4	31.8	F1	ug/Kg	☼	136	70 - 130	4	30
NMeFOSE - RA	9.0		14.4	25.3		ug/Kg	☼	113	70 - 130	5	30
NEtFOSE - RA	1.9		14.4	12.2		ug/Kg	☼	72	70 - 130	4	30
4:2 FTS - RA	ND		13.5	15.0		ug/Kg	☼	112	70 - 130	12	30
6:2 FTS - RA	1.5		13.7	16.1		ug/Kg	☼	107	70 - 130	7	30
8:2 FTS - RA	0.96		13.8	15.3		ug/Kg	☼	104	70 - 130	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA) - RA	ND		13.6	13.8		ug/Kg	☼	102	70 - 130	1	30
HFPO-DA (GenX) - RA	ND		14.4	15.3		ug/Kg	☼	106	70 - 130	10	30
9Cl-PF3ONS - RA	ND		13.4	13.6		ug/Kg	☼	102	70 - 130	4	30
11Cl-PF3OUdS - RA	ND		13.6	10.1		ug/Kg	☼	74	70 - 130	2	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA - RA	*62*		*25 - 150*
13C5 PFPeA - RA	*69*		*25 - 150*
13C4 PFHpA - RA	*80*		*25 - 150*
13C4 PFOA - RA	*80*		*25 - 150*
13C5 PFNA - RA	*73*		*25 - 150*
13C2 PFDA - RA	*72*		*25 - 150*
13C2 PFUnA - RA	*67*		*25 - 150*
13C2 PFDoA - RA	*52*		*25 - 150*
13C2 PFTeDA - RA	*28*		*25 - 150*
13C3 PFBS - RA	*72*		*25 - 150*
18O2 PFHxS - RA	*75*		*25 - 150*
13C4 PFOS - RA	*74*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Lab Sample ID: 320-113052-13 MSD
Matrix: Solid
Analysis Batch: 776990

Client Sample ID: BIOA-22-202406
Prep Type: Total/NA
Prep Batch: 776005

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C8 FOSA - RA	*67*		*10 - 150*
d3-NMeFOSAA - RA	*50*		*25 - 150*
d5-NEtFOSAA - RA	*58*		*25 - 150*
d-N-MeFOSA-M - RA	*44*		*10 - 150*
d-N-EtFOSA-M - RA	*16*		*10 - 150*
d7-N-MeFOSE-M - RA	*43*		*10 - 150*
d9-N-EtFOSE-M - RA	*22*		*10 - 150*
M2-4:2 FTS - RA	*115*		*25 - 150*
M2-6:2 FTS - RA	*127*		*25 - 150*
M2-8:2 FTS - RA	*121*		*25 - 150*
13C3 HFPO-DA - RA	*70*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances - RA2

Lab Sample ID: 320-113052-13 MS
Matrix: Solid
Analysis Batch: 779725

Client Sample ID: BIOA-22-202406
Prep Type: Total/NA
Prep Batch: 776005

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonic acid (PFOS) - RA2	14		12.7	25.2		ug/Kg	☼	87	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFOS - RA2	*85*		*25 - 150*

Lab Sample ID: 320-113052-13 MSD
Matrix: Solid
Analysis Batch: 779725

Client Sample ID: BIOA-22-202406
Prep Type: Total/NA
Prep Batch: 776005

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS) - RA2	14		13.4	31.5		ug/Kg	☼	130	70 - 130	22	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFOS - RA2	*77*		*25 - 150*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-772875/1
Matrix: Water
Analysis Batch: 772875

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			06/17/24 13:40	1

Lab Sample ID: LCS 500-772875/2
Matrix: Water
Analysis Batch: 772875

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	189		mg/L		95	80 - 120

QC Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-773120/1
Matrix: Water
Analysis Batch: 773120

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			06/18/24 17:01	1

Lab Sample ID: LCS 500-773120/2
Matrix: Water
Analysis Batch: 773120

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	163		mg/L		82	80 - 120

LCMS

Prep Batch: 772168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-1	INF02 202406	Total/NA	Water	3535	
320-113052-2	INF07 202406	Total/NA	Water	3535	
320-113052-3	INF08 202406	Total/NA	Water	3535	
320-113052-4	INF11 202406	Total/NA	Water	3535	
320-113052-5	INF18 202406	Total/NA	Water	3535	
320-113052-6	INF COMP 202406	Total/NA	Water	3535	
320-113052-7	EFF 202406	Total/NA	Water	3535	
320-113052-8	EFFG 202406	Total/NA	Water	3535	
MB 320-772168/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-772168/3-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-772168/4-A	Lab Control Sample Dup	Total/NA	Water	3535	
LLCS 320-772168/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 772588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-1	INF02 202406	Total/NA	Water	537 (modified)	772168
320-113052-2	INF07 202406	Total/NA	Water	537 (modified)	772168
320-113052-3	INF08 202406	Total/NA	Water	537 (modified)	772168
320-113052-4	INF11 202406	Total/NA	Water	537 (modified)	772168
320-113052-5	INF18 202406	Total/NA	Water	537 (modified)	772168
320-113052-6	INF COMP 202406	Total/NA	Water	537 (modified)	772168
320-113052-8	EFFG 202406	Total/NA	Water	537 (modified)	772168
MB 320-772168/1-A	Method Blank	Total/NA	Water	537 (modified)	772168
LCS 320-772168/3-A	Lab Control Sample	Total/NA	Water	537 (modified)	772168
LCSD 320-772168/4-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	772168
LLCS 320-772168/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	772168

Prep Batch: 772939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-10	EB01 202406	Total/NA	Water	3535	
320-113052-12	EB02 202406	Total/NA	Water	3535	
MB 320-772939/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-772939/3-A	Lab Control Sample	Total/NA	Water	3535	
LLCS 320-772939/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 772958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-7	EFF 202406	Total/NA	Water	537 (modified)	772168

Analysis Batch: 773311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-10	EB01 202406	Total/NA	Water	537 (modified)	772939
320-113052-12	EB02 202406	Total/NA	Water	537 (modified)	772939
MB 320-772939/1-A	Method Blank	Total/NA	Water	537 (modified)	772939
LCS 320-772939/3-A	Lab Control Sample	Total/NA	Water	537 (modified)	772939
LLCS 320-772939/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	772939

Prep Batch: 776005

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-9 - RA2	BIOB 202406	Total/NA	Solid	SHAKE	
320-113052-9 - RA	BIOB 202406	Total/NA	Solid	SHAKE	

LCMS (Continued)

Prep Batch: 776005 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-9	BIOB 202406	Total/NA	Solid	SHAKE	
320-113052-11 - RA2	BIOA-23- 202406	Total/NA	Solid	SHAKE	
320-113052-11 - RA	BIOA-23- 202406	Total/NA	Solid	SHAKE	
320-113052-11	BIOA-23- 202406	Total/NA	Solid	SHAKE	
320-113052-13 - RA2	BIOA-22-202406	Total/NA	Solid	SHAKE	
320-113052-13 - RA	BIOA-22-202406	Total/NA	Solid	SHAKE	
320-113052-13	BIOA-22-202406	Total/NA	Solid	SHAKE	
320-113052-14 - RA2	BIOA-24-202406	Total/NA	Solid	SHAKE	
320-113052-14 - RA	BIOA-24-202406	Total/NA	Solid	SHAKE	
320-113052-14	BIOA-24-202406	Total/NA	Solid	SHAKE	
MB 320-776005/1-A - RA	Method Blank	Total/NA	Solid	SHAKE	
MB 320-776005/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-776005/3-A - RA	Lab Control Sample	Total/NA	Solid	SHAKE	
LCS 320-776005/3-A	Lab Control Sample	Total/NA	Solid	SHAKE	
LLCS 320-776005/2-A - RA	Lab Control Sample	Total/NA	Solid	SHAKE	
LLCS 320-776005/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-113052-13 MS - RA2	BIOA-22-202406	Total/NA	Solid	SHAKE	
320-113052-13 MS - RA	BIOA-22-202406	Total/NA	Solid	SHAKE	
320-113052-13 MS	BIOA-22-202406	Total/NA	Solid	SHAKE	
320-113052-13 MSD - RA2	BIOA-22-202406	Total/NA	Solid	SHAKE	
320-113052-13 MSD - RA	BIOA-22-202406	Total/NA	Solid	SHAKE	
320-113052-13 MSD	BIOA-22-202406	Total/NA	Solid	SHAKE	

Analysis Batch: 776590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-9	BIOB 202406	Total/NA	Solid	537 (modified)	776005
320-113052-11	BIOA-23- 202406	Total/NA	Solid	537 (modified)	776005
320-113052-13	BIOA-22-202406	Total/NA	Solid	537 (modified)	776005
320-113052-14	BIOA-24-202406	Total/NA	Solid	537 (modified)	776005
MB 320-776005/1-A	Method Blank	Total/NA	Solid	537 (modified)	776005
LCS 320-776005/3-A	Lab Control Sample	Total/NA	Solid	537 (modified)	776005
LLCS 320-776005/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	776005
320-113052-13 MS	BIOA-22-202406	Total/NA	Solid	537 (modified)	776005
320-113052-13 MSD	BIOA-22-202406	Total/NA	Solid	537 (modified)	776005

Analysis Batch: 776990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-9 - RA	BIOB 202406	Total/NA	Solid	537 (modified)	776005
320-113052-11 - RA	BIOA-23- 202406	Total/NA	Solid	537 (modified)	776005
320-113052-13 - RA	BIOA-22-202406	Total/NA	Solid	537 (modified)	776005
320-113052-14 - RA	BIOA-24-202406	Total/NA	Solid	537 (modified)	776005
MB 320-776005/1-A - RA	Method Blank	Total/NA	Solid	537 (modified)	776005
LCS 320-776005/3-A - RA	Lab Control Sample	Total/NA	Solid	537 (modified)	776005
LLCS 320-776005/2-A - RA	Lab Control Sample	Total/NA	Solid	537 (modified)	776005
320-113052-13 MS - RA	BIOA-22-202406	Total/NA	Solid	537 (modified)	776005
320-113052-13 MSD - RA	BIOA-22-202406	Total/NA	Solid	537 (modified)	776005

Analysis Batch: 779725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-9 - RA2	BIOB 202406	Total/NA	Solid	537 (modified)	776005
320-113052-11 - RA2	BIOA-23- 202406	Total/NA	Solid	537 (modified)	776005

LCMS (Continued)

Analysis Batch: 779725 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-13 - RA2	BIOA-22-202406	Total/NA	Solid	537 (modified)	776005
320-113052-14 - RA2	BIOA-24-202406	Total/NA	Solid	537 (modified)	776005
320-113052-13 MS - RA2	BIOA-22-202406	Total/NA	Solid	537 (modified)	776005
320-113052-13 MSD - RA2	BIOA-22-202406	Total/NA	Solid	537 (modified)	776005

General Chemistry

Analysis Batch: 772875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-1	INF02 202406	Total/NA	Water	SM 2540D	
320-113052-2	INF07 202406	Total/NA	Water	SM 2540D	
320-113052-3	INF08 202406	Total/NA	Water	SM 2540D	
320-113052-4	INF11 202406	Total/NA	Water	SM 2540D	
320-113052-5	INF18 202406	Total/NA	Water	SM 2540D	
320-113052-6	INF COMP 202406	Total/NA	Water	SM 2540D	
MB 500-772875/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-772875/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 772956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-9	BIOB 202406	Total/NA	Solid	D 2216	
320-113052-11	BIOA-23- 202406	Total/NA	Solid	D 2216	
320-113052-13	BIOA-22-202406	Total/NA	Solid	D 2216	
320-113052-14	BIOA-24-202406	Total/NA	Solid	D 2216	

Analysis Batch: 773120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-113052-7	EFF 202406	Total/NA	Water	SM 2540D	
320-113052-8	EFFG 202406	Total/NA	Water	SM 2540D	
MB 500-773120/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-773120/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: INF02 202406
Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			125.0 mL	10.0 mL	772168	06/14/24 12:05	KMG	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	772588	06/17/24 11:29	S1C	EET SAC
Total/NA	Analysis	SM 2540D		1	40 mL	500 mL	772875	06/17/24 14:16	SO	EET CHI
							Completed:	06/17/24 14:18 [1]		

Client Sample ID: INF07 202406
Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			125.0 mL	10.0 mL	772168	06/14/24 12:05	KMG	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	772588	06/17/24 11:41	S1C	EET SAC
Total/NA	Analysis	SM 2540D		1	40 mL	500 mL	772875	06/17/24 14:18	SO	EET CHI
							Completed:	06/17/24 14:20 [1]		

Client Sample ID: INF08 202406
Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			125.0 mL	10.0 mL	772168	06/14/24 12:05	KMG	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	772588	06/17/24 11:54	S1C	EET SAC
Total/NA	Analysis	SM 2540D		1	40 mL	500 mL	772875	06/17/24 14:20	SO	EET CHI
							Completed:	06/17/24 14:22 [1]		

Client Sample ID: INF11 202406
Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			125.0 mL	10.0 mL	772168	06/14/24 12:05	KMG	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	772588	06/17/24 12:06	S1C	EET SAC
Total/NA	Analysis	SM 2540D		1	40 mL	500 mL	772875	06/17/24 14:22	SO	EET CHI
							Completed:	06/17/24 14:24 [1]		

Client Sample ID: INF18 202406
Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			125.0 mL	10.0 mL	772168	06/14/24 12:05	KMG	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	772588	06/17/24 12:19	S1C	EET SAC
Total/NA	Analysis	SM 2540D		1	40 mL	500 mL	772875	06/17/24 14:24	SO	EET CHI
							Completed:	06/17/24 14:26 [1]		

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: INF COMP 202406
Lab Sample ID: 320-113052-6
Date Collected: 06/10/24 23:59
Matrix: Water
Date Received: 06/13/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			125.0 mL	10.0 mL	772168	06/14/24 12:05	KMG	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	772588	06/17/24 12:31	S1C	EET SAC
Total/NA	Analysis	SM 2540D		1	40 mL	500 mL	772875	06/17/24 14:26	SO	EET CHI
							Completed:	06/17/24 14:28 [1]		

Client Sample ID: EFF 202406
Lab Sample ID: 320-113052-7
Date Collected: 06/11/24 23:59
Matrix: Water
Date Received: 06/13/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			272.2 mL	10.0 mL	772168	06/14/24 12:05	KMG	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	772958	06/18/24 14:24	P1P	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	773120	06/18/24 17:31	SO	EET CHI
							Completed:	06/18/24 17:33 [1]		

Client Sample ID: EFFG 202406
Lab Sample ID: 320-113052-8
Date Collected: 06/11/24 09:48
Matrix: Water
Date Received: 06/13/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			258.5 mL	10.0 mL	772168	06/14/24 12:05	KMG	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	772588	06/17/24 13:21	S1C	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	773120	06/18/24 17:33	SO	EET CHI
							Completed:	06/18/24 17:35 [1]		

Client Sample ID: BIOB 202406
Lab Sample ID: 320-113052-9
Date Collected: 06/11/24 11:12
Matrix: Solid
Date Received: 06/13/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			772956	06/18/24 13:46	JCB	EET SAC

Client Sample ID: BIOB 202406
Lab Sample ID: 320-113052-9
Date Collected: 06/11/24 11:12
Matrix: Solid
Date Received: 06/13/24 09:30
Percent Solids: 5.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	RA2		5.29 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)	RA2	1	1 mL	1 mL	779725	07/15/24 18:48	S1M	EET SAC
Total/NA	Prep	SHAKE	RA		5.29 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)	RA	1	1 mL	1 mL	776990	07/06/24 09:02	P1P	EET SAC
Total/NA	Prep	SHAKE			5.29 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	776590	07/05/24 00:59	P1P	EET SAC

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: EB01 202406
Lab Sample ID: 320-113052-10
Date Collected: 06/11/24 11:40
Matrix: Water
Date Received: 06/13/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			282.4 mL	10.0 mL	772939	06/18/24 11:52	EWH	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	773311	06/19/24 23:32	S1C	EET SAC

Client Sample ID: BIOA-23- 202406
Lab Sample ID: 320-113052-11
Date Collected: 06/11/24 12:18
Matrix: Solid
Date Received: 06/13/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			772956	06/18/24 13:46	JCB	EET SAC

Client Sample ID: BIOA-23- 202406
Lab Sample ID: 320-113052-11
Date Collected: 06/11/24 12:18
Matrix: Solid
Date Received: 06/13/24 09:30
Percent Solids: 25.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	RA2		5.32 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)	RA2	1	1 mL	1 mL	779725	07/15/24 19:05	S1M	EET SAC
Total/NA	Prep	SHAKE	RA		5.32 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)	RA	1	1 mL	1 mL	776990	07/06/24 09:12	P1P	EET SAC
Total/NA	Prep	SHAKE			5.32 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	776590	07/05/24 01:11	P1P	EET SAC

Client Sample ID: EB02 202406
Lab Sample ID: 320-113052-12
Date Collected: 06/11/24 14:00
Matrix: Water
Date Received: 06/13/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			273.4 mL	10.0 mL	772939	06/18/24 11:52	EWH	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	773311	06/19/24 23:43	S1C	EET SAC

Client Sample ID: BIOA-22-202406
Lab Sample ID: 320-113052-13
Date Collected: 06/11/24 14:27
Matrix: Solid
Date Received: 06/13/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			772956	06/18/24 13:46	JCB	EET SAC

Client Sample ID: BIOA-22-202406
Lab Sample ID: 320-113052-13
Date Collected: 06/11/24 14:27
Matrix: Solid
Date Received: 06/13/24 09:30
Percent Solids: 26.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	RA2		5.15 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)	RA2	1	1 mL	1 mL	779725	07/15/24 19:21	S1M	EET SAC
Total/NA	Prep	SHAKE	RA		5.15 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)	RA	1	1 mL	1 mL	776990	07/06/24 09:22	P1P	EET SAC

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: BIOA-22-202406
Lab Sample ID: 320-113052-13

Date Collected: 06/11/24 14:27
Matrix: Solid
Date Received: 06/13/24 09:30
Percent Solids: 26.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.15 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	776590	07/05/24 01:24	P1P	EET SAC

Client Sample ID: BIOA-24-202406
Lab Sample ID: 320-113052-14

Date Collected: 06/11/24 14:42
Matrix: Solid
Date Received: 06/13/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			772956	06/18/24 13:46	JCB	EET SAC

Client Sample ID: BIOA-24-202406
Lab Sample ID: 320-113052-14

Date Collected: 06/11/24 14:42
Matrix: Solid
Date Received: 06/13/24 09:30
Percent Solids: 19.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	RA2		5.23 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)	RA2	1	1 mL	1 mL	779725	07/15/24 20:11	S1M	EET SAC
Total/NA	Prep	SHAKE	RA		5.23 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)	RA	1	1 mL	1 mL	776990	07/06/24 09:52	P1P	EET SAC
Total/NA	Prep	SHAKE			5.23 g	10.0 mL	776005	07/02/24 04:35	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	776590	07/05/24 02:02	P1P	EET SAC

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	07-16-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Wisconsin	State	998204680	08-31-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-24

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
D 2216	Percent Moisture	ASTM	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-113052-1	INF02 202406	Water	06/10/24 23:59	06/13/24 09:30
320-113052-2	INF07 202406	Water	06/10/24 23:59	06/13/24 09:30
320-113052-3	INF08 202406	Water	06/10/24 23:59	06/13/24 09:30
320-113052-4	INF11 202406	Water	06/10/24 23:59	06/13/24 09:30
320-113052-5	INF18 202406	Water	06/10/24 23:59	06/13/24 09:30
320-113052-6	INF COMP 202406	Water	06/10/24 23:59	06/13/24 09:30
320-113052-7	EFF 202406	Water	06/11/24 23:59	06/13/24 09:30
320-113052-8	EFFG 202406	Water	06/11/24 09:48	06/13/24 09:30
320-113052-9	BIOB 202406	Solid	06/11/24 11:12	06/13/24 09:30
320-113052-10	EB01 202406	Water	06/11/24 11:40	06/13/24 09:30
320-113052-11	BIOA-23- 202406	Solid	06/11/24 12:18	06/13/24 09:30
320-113052-12	EB02 202406	Water	06/11/24 14:00	06/13/24 09:30
320-113052-13	BIOA-22-202406	Solid	06/11/24 14:27	06/13/24 09:30
320-113052-14	BIOA-24-202406	Solid	06/11/24 14:42	06/13/24 09:30

Report to: mursin@trccompanies.com

Address TRC
999 Fourier Dr Suite 101
Madison, WI 53717

Chain of Custody Record 723228

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Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TAL-8210

Client Contact	Project Manager: Jessica McCammon	Site Contact Jessica McCammon	Date 6-12-24	COC No 723228
Company Name Madison Metro Sewerage Dist	Tel/Email jessicam@madsewer.org	Lab Contact: Jenny Faust	Carrier Fed Ex	1 of 2 COCs
Address 1610 Moorland Rd	Analysis Turnaround Time			Sampler
City/State/Zip Madison, WI 53713-2398	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone 608 222-1301	TAT if different from Below 20 business days			Walk-in Client.
Fax.	☐ 2 weeks			Lab Sampling
Project Name MMSD Phase 3 2x+	☐ 1 week			
Site MMSP	☐ 2 days			Job / SDG No
P O # 2400419	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	PFAS	TSS	TOP ASSAY	Sample Specific Notes
INFC2 202406	6/10/24	23.59	C	WW	3	N	N	X	X		
INFC7 202406	6/10/24	23.59	C	WW	3			X	X		
INFC8 202406	6/10/24	23.59	C	WW	3			X	X		
INFC11 202406	6/10/24	23.59	C	WW	3			X	X		
INFC18 202406	6/10/24	23.59	C	WW	3			X	X		
INFCOMP 202406	6/10/24	23.59	C	WW	3			X	X		
EFF 202406	6/11/24	23.59	C	WW	7			X	X	X	
EFFG 202406	6/11/24	9:48	G	WW	3			X	X		
~~EB~~											

320-113052 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
For Inf. samples follow EPA 19-a. (WI PFAS method expectations) sec V13 procedure for particulates in aqueous samples. Centrifuge as needed

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No | Cooler Temp (°C) Obs'd 2.7 Corr'd 2.7 | Therm ID No L-09

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Jennifer Faust	MMSD	6/12/24 10:00	[illegible]	EETSAC	6/13/24 930
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

Chain of Custody Record 723230

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Address TRC
999 Fourier Dr, Suite 101
Madison, WI 53717

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TAL-8210

Client Contact	Project Manager: Jessica McCammon	Site Contact: Jessica McCammon	Date: 6-12-24	COC No 723230
Company Name: Madison Metro Sewerage Dist	Tel/Email: jessicam@midsewer.org	Lab Contact: Jenny Faust	Carrier: Fed Ex	2 of 2 COCs
Address 1610 Moorland Rd	Analysis Turnaround Time			Sampler:
City/State/Zip Madison, WI 53713-2398	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only.
Phone 608 222-1201	TAT if different from Below 20 per contract			Walk-in Client:
Fax.	☐ 2 weeks			Lab Sampling
Project Name MMSD Phase 3 ext	☐ 1 week			
Site MMSD	☐ 2 days			Job / SDG No
PO# 2400419	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PFAS	TOP ASSAY	Sample Specific Notes
BIOB 202406	6/11/24	11:12	G	SL	2	N	N	X	X	
EB01 202406	6/11/24	11:40	G	W	2			X		
BIOA-23-202406	6/11/24	12:18	C	SL	2			X	X	
EB02 202406	6/11/24	14:00	G	W	2			X		
BIOA-22-202406	6/11/24	14:27	C	SL	2			X	X	
BIOA-24-202406	6/11/24	14:42	C	SL	2			X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification.
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☒ Yes ☐ No | Custody Seal No Seal S | Cooler Temp (°C) Obs'd 0.4 Corr'd 0.4 | Therm ID No L04

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Jennifer Faust	MMSD	6/12/24 10:15	[signature]	FECSOC	06/13/24 0930
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

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Sacramento Sample Receiving Notes (SSRN)

Loc 320
113052

Job:_____ _____

Tracking # 6570 6551 8877

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC

Therm. ID L-09 Corr. Factor (+ / -) _____°C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal. Seal

Cooler ID: _____

Temp Observed: 2.7 °C Corrected: 2.7 °C
From: Temp Blank ☑ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials. PSH Date 6/13/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☑	☐
Samples w/o discrepancies?	☐	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: PR Date 6/13/24

Notes:
Sample 7, container ID EFF-comp-202406, COC ID. EFF 202406. container date 6/10/24 COC date 6/10/24

(11) time 1214

(12) ID: EB-2-BIOA-202406

(13) ID: EB-1-BIOA-202406

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials PR Date 6/13/24

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Loc 320
113052

Sacramento Sample Receiving Notes (SSRN)

Tracking # 6570 6551 8866

Job _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC.

Therm. ID: L06 Corr. Factor: (+ / -) NA °C

Ice ✓ Wet ✓ Gel ____ Other ____

Cooler Custody Seal. Seals

Cooler ID: _____

Temp Observed: 0.4 °C Corrected: 0.4 °C
From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials DM Date 06/13/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☐	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 06/13/24

Notes: COC and sample IDs do not match. for soil samples (#1, #3, #5, and #6):
COC: B10A-22-202406 (#5)
B10B 202406 (#1)
B10A-23-202406 (#3)
(12:18) B10A-24-202406 (#6)
cont.: B10-A-22-202406 (#5)
B10-B-202406 (#1)
B10-A-23-202406 (#3)
(12:14) B10-A-24-202406 (#6)
→ SO 6/14/24

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s). _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 06/13/24

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-113052-1

Login Number: 113052
List Number: 1
Creator: Oropeza, Salvador

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	REFER TO SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-113052-1

Login Number: 113052
List Number: 2
Creator: Scott, Sherri L

List Source: Eurofins Chicago
List Creation: 06/15/24 07:17 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

July 2024

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ANALYTICAL REPORT

PREPARED FOR

Attn: Julie Maas
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

Generated 8/1/2024 2:51:27 PM

JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-114072-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization

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Authorized for release by
Micah Smith, Project Manager II
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(916)374-4302

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Qualifiers

LCMS

Qualifier	Qualifier Description
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-114072-1

Receipt
The samples were received on 7/25/2024 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.8º C.

LCMS
Method 537 (modified): The continuing calibration verification (CCV) (CCVIS 320-784922/6) associated with batch 320-784922 recovered above the upper control limit for Perfluorododecanesulfonic acid (PFDoS). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 537 (modified): The continuing calibration verifications (CCV) associated with batch 320-785328 recovered above the upper control limit for Perfluorododecanesulfonic acid (PFDoS). The samples associated with these CCVs were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: InfComp202407 (320-114072-1), EffG202407 (320-114072-2), Eff202407 (320-114072-3), (CCV 320-785328/1) and (CCV 320-785328/13).

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: InfComp202407 (320-114072-1).

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: InfComp202407 (320-114072-1), EffG202407 (320-114072-2) and Eff202407 (320-114072-3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

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

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

Organic Prep
Method 3535: The following samples in preparation batch 320-784783 were light brown in color, contained floating particulates, and were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: InfComp202407 (320-114072-1), EffG202407 (320-114072-2) and Eff202407 (320-114072-3).

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-784783.

Method 3535: During the solid phase extraction process, the following sample contain non-settable particulates which clogged the solid phase extraction column: InfComp202407 (320-114072-1). Percent volume that went through the cartridges prior to the clogging is as follow: 78.8%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent.

Method 3535: The following samples in preparation batch 320-784783 were light green in color following extraction: InfComp202407 (320-114072-1), EffG202407 (320-114072-2) and Eff202407 (320-114072-3).

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

Client Sample ID: InfComp202407 — Lab Sample ID: 320-114072-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	8.6		4.2	2.0	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	6.3		1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	9.3		1.7	0.49	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.4		1.7	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	6.1		1.7	0.71	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.4	J I	1.7	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.64	J	1.7	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.4		1.7	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.0	J	1.7	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.5		1.7	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	8.1		1.7	0.45	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	190		28	11	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EffG202407 — Lab Sample ID: 320-114072-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	11		4.2	2.0	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	14		1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	15		1.7	0.49	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.8		1.7	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	9.1		1.7	0.71	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.1	J	1.7	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.0	J	1.7	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.7		1.7	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.59	J	1.7	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.6		1.7	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.2		1.7	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.87	J	1.7	0.82	ng/L	1		537 (modified)	Total/NA
NMeFOSAA	1.0	J	4.2	1.0	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	5.4		5.0	1.9	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Eff202407 — Lab Sample ID: 320-114072-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	11		4.5	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	16		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	17		1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.4		1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	9.4		1.8	0.76	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.2	J	1.8	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.2	J	1.8	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.6		1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.59	J	1.8	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.8		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.3		1.8	0.48	ng/L	1		537 (modified)	Total/NA
NMeFOSAA	1.1	J	4.5	1.1	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	4.6	J	5.0	1.9	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

Client Sample ID: InfComp202407

Date Collected: 07/22/24 23:59
Date Received: 07/25/24 09:30

Lab Sample ID: 320-114072-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.6**		4.2	2.0	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluoropentanoic acid (PFPeA)	**6.3**		1.7	0.41	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorohexanoic acid (PFHxA)	**9.3**		1.7	0.49	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluoroheptanoic acid (PFHpA)	**2.4**		1.7	0.21	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorooctanoic acid (PFOA)	**6.1**		1.7	0.71	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorononanoic acid (PFNA)	**1.4**	**J I**	1.7	0.23	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorodecanoic acid (PFDA)	**0.64**	**J**	1.7	0.26	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorobutanesulfonic acid (PFBS)	**4.4**		1.7	0.17	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluoropentanesulfonic acid (PFPeS)	**1.0**	**J**	1.7	0.25	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorohexanesulfonic acid (PFHxS)	**8.5**		1.7	0.48	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorooctanesulfonic acid (PFOS)	**8.1**		1.7	0.45	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.31	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.81	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.82	ng/L		07/26/24 04:40	07/26/24 17:15	1
NEtFOSA	ND		1.7	0.73	ng/L		07/26/24 04:40	07/26/24 17:15	1
NMeFOSA	ND		1.7	0.36	ng/L		07/26/24 04:40	07/26/24 17:15	1
NMeFOSAA	ND		4.2	1.0	ng/L		07/26/24 04:40	07/26/24 17:15	1
NEtFOSAA	ND		4.2	1.1	ng/L		07/26/24 04:40	07/26/24 17:15	1
NMeFOSE	ND		3.3	1.2	ng/L		07/26/24 04:40	07/26/24 17:15	1
NEtFOSE	ND		1.7	0.71	ng/L		07/26/24 04:40	07/26/24 17:15	1
4:2 FTS	ND		1.7	0.20	ng/L		07/26/24 04:40	07/26/24 17:15	1
6:2 FTS	ND		4.2	2.1	ng/L		07/26/24 04:40	07/26/24 17:15	1
8:2 FTS	ND		1.7	0.38	ng/L		07/26/24 04:40	07/26/24 17:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.33	ng/L		07/26/24 04:40	07/26/24 17:15	1
HFPO-DA (GenX)	ND		3.3	1.3	ng/L		07/26/24 04:40	07/26/24 17:15	1
9Cl-PF3ONS	ND		1.7	0.20	ng/L		07/26/24 04:40	07/26/24 17:15	1
11Cl-PF3OUdS	ND		1.7	0.27	ng/L		07/26/24 04:40	07/26/24 17:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*59*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C5 PFPeA	*69*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C2 PFHxA	*62*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C4 PFHpA	*68*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C4 PFOA	*75*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C5 PFNA	*71*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C2 PFDA	*67*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C2 PFUnA	*51*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C2 PFDoA	*36*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C2 PFTeDA	*27*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*

Client Sample ID: InfComp202407

Lab Sample ID: 320-114072-1
Date Collected: 07/22/24 23:59
Matrix: Water
Date Received: 07/25/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*55*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
18O2 PFHxS	*55*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C4 PFOS	*52*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C8 FOSA	*50*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d3-NMeFOSAA	*37*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d5-NEtFOSAA	*41*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d-N-MeFOSA-M	*18*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d-N-EtFOSA-M	*42*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d7-N-MeFOSE-M	*26*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d9-N-EtFOSE-M	*36*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
M2-4:2 FTS	*109*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
M2-6:2 FTS	*203*	**5+*	*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
M2-8:2 FTS	*140*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C3 HFPO-DA	*74*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**190**		28	11	mg/L			07/29/24 02:13	1

Client Sample ID: EffG202407

Lab Sample ID: 320-114072-2
Date Collected: 07/23/24 09:58
Matrix: Water
Date Received: 07/25/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**11**		4.2	2.0	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluoropentanoic acid (PFPeA)	**14**		1.7	0.41	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorohexanoic acid (PFHxA)	**15**		1.7	0.49	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluoroheptanoic acid (PFHpA)	**2.8**		1.7	0.21	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorooctanoic acid (PFOA)	**9.1**		1.7	0.71	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorononanoic acid (PFNA)	**1.1**	**J**	1.7	0.23	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorodecanoic acid (PFDA)	**1.0**	**J**	1.7	0.26	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorobutanesulfonic acid (PFBS)	**5.7**		1.7	0.17	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluoropentanesulfonic acid (PFPeS)	**0.59**	**J**	1.7	0.25	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorohexanesulfonic acid (PFHxS)	**7.6**		1.7	0.48	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorooctanesulfonic acid (PFOS)	**7.2**		1.7	0.45	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.31	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.81	ng/L		07/26/24 04:40	07/26/24 17:25	1

Client Sample ID: EffG202407

Lab Sample ID: 320-114072-2

Date Collected: 07/23/24 09:58

Matrix: Water

Date Received: 07/25/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	**0.87**	**J**	1.7	0.82	ng/L		07/26/24 04:40	07/26/24 17:25	1
NEtFOSA	ND		1.7	0.73	ng/L		07/26/24 04:40	07/26/24 17:25	1
NMeFOSA	ND		1.7	0.36	ng/L		07/26/24 04:40	07/26/24 17:25	1
NMeFOSAA	**1.0**	**J**	4.2	1.0	ng/L		07/26/24 04:40	07/26/24 17:25	1
NEtFOSAA	ND		4.2	1.1	ng/L		07/26/24 04:40	07/26/24 17:25	1
NMeFOSE	ND		3.4	1.2	ng/L		07/26/24 04:40	07/26/24 17:25	1
NEtFOSE	ND		1.7	0.71	ng/L		07/26/24 04:40	07/26/24 17:25	1
4:2 FTS	ND		1.7	0.20	ng/L		07/26/24 04:40	07/26/24 17:25	1
6:2 FTS	ND		4.2	2.1	ng/L		07/26/24 04:40	07/26/24 17:25	1
8:2 FTS	ND		1.7	0.39	ng/L		07/26/24 04:40	07/26/24 17:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		07/26/24 04:40	07/26/24 17:25	1
HFPO-DA (GenX)	ND		3.4	1.3	ng/L		07/26/24 04:40	07/26/24 17:25	1
9Cl-PF3ONS	ND		1.7	0.20	ng/L		07/26/24 04:40	07/26/24 17:25	1
11Cl-PF3OUdS	ND		1.7	0.27	ng/L		07/26/24 04:40	07/26/24 17:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C5 PFPeA	*91*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C2 PFHxA	*88*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C4 PFHpA	*107*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C4 PFOA	*98*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C5 PFNA	*102*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C2 PFDA	*110*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C2 PFUnA	*116*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C2 PFDoA	*132*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C2 PFTeDA	*74*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C3 PFBS	*83*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
18O2 PFHxS	*88*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C4 PFOS	*87*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C8 FOSA	*116*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d3-NMeFOSAA	*91*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d5-NEtFOSAA	*109*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d-N-MeFOSA-M	*91*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d-N-EtFOSA-M	*97*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d7-N-MeFOSE-M	*93*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d9-N-EtFOSE-M	*91*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
M2-4:2 FTS	*171*	**5+*	*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
M2-6:2 FTS	*114*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
M2-8:2 FTS	*148*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C3 HFPO-DA	*110*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**5.4**		5.0	1.9	mg/L			07/30/24 15:57	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

Client Sample ID: Eff202407

Date Collected: 07/23/24 23:59
Date Received: 07/25/24 09:30

Lab Sample ID: 320-114072-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**11**		4.5	2.1	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluoropentanoic acid (PFPeA)	**16**		1.8	0.44	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorohexanoic acid (PFHxA)	**17**		1.8	0.52	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluoroheptanoic acid (PFHpA)	**3.4**		1.8	0.22	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorooctanoic acid (PFOA)	**9.4**		1.8	0.76	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorononanoic acid (PFNA)	**1.2**	**J**	1.8	0.24	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorodecanoic acid (PFDA)	**1.2**	**J**	1.8	0.28	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorobutanesulfonic acid (PFBS)	**5.6**		1.8	0.18	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluoropentanesulfonic acid (PFPeS)	**0.59**	**J**	1.8	0.27	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorohexanesulfonic acid (PFHxS)	**8.8**		1.8	0.51	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorooctanesulfonic acid (PFOS)	**7.3**		1.8	0.48	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.87	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.88	ng/L		07/26/24 04:40	07/26/24 17:36	1
NEtFOSA	ND		1.8	0.78	ng/L		07/26/24 04:40	07/26/24 17:36	1
NMeFOSA	ND		1.8	0.38	ng/L		07/26/24 04:40	07/26/24 17:36	1
NMeFOSAA	**1.1**	**J**	4.5	1.1	ng/L		07/26/24 04:40	07/26/24 17:36	1
NEtFOSAA	ND		4.5	1.2	ng/L		07/26/24 04:40	07/26/24 17:36	1
NMeFOSE	ND		3.6	1.3	ng/L		07/26/24 04:40	07/26/24 17:36	1
NEtFOSE	ND		1.8	0.76	ng/L		07/26/24 04:40	07/26/24 17:36	1
4:2 FTS	ND		1.8	0.21	ng/L		07/26/24 04:40	07/26/24 17:36	1
6:2 FTS	ND		4.5	2.2	ng/L		07/26/24 04:40	07/26/24 17:36	1
8:2 FTS	ND		1.8	0.41	ng/L		07/26/24 04:40	07/26/24 17:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		07/26/24 04:40	07/26/24 17:36	1
HFPO-DA (GenX)	ND		3.6	1.3	ng/L		07/26/24 04:40	07/26/24 17:36	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		07/26/24 04:40	07/26/24 17:36	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		07/26/24 04:40	07/26/24 17:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*75*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C5 PFPeA	*88*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C2 PFHxA	*84*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C4 PFHpA	*94*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C4 PFOA	*99*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C5 PFNA	*105*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C2 PFDA	*106*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C2 PFUnA	*117*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C2 PFDoA	*118*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C2 PFTeDA	*72*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

Client Sample ID: Eff202407

Date Collected: 07/23/24 23:59
Date Received: 07/25/24 09:30

Lab Sample ID: 320-114072-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	83		25 - 150	07/26/24 04:40	07/26/24 17:36	1
18O2 PFHxS	82		25 - 150	07/26/24 04:40	07/26/24 17:36	1
13C4 PFOS	88		25 - 150	07/26/24 04:40	07/26/24 17:36	1
13C8 FOSA	113		10 - 150	07/26/24 04:40	07/26/24 17:36	1
d3-NMeFOSAA	97		25 - 150	07/26/24 04:40	07/26/24 17:36	1
d5-NEtFOSAA	121		25 - 150	07/26/24 04:40	07/26/24 17:36	1
d-N-MeFOSA-M	88		10 - 150	07/26/24 04:40	07/26/24 17:36	1
d-N-EtFOSA-M	90		10 - 150	07/26/24 04:40	07/26/24 17:36	1
d7-N-MeFOSE-M	92		10 - 150	07/26/24 04:40	07/26/24 17:36	1
d9-N-EtFOSE-M	88		10 - 150	07/26/24 04:40	07/26/24 17:36	1
M2-4:2 FTS	159	*5+	25 - 150	07/26/24 04:40	07/26/24 17:36	1
M2-6:2 FTS	147		25 - 150	07/26/24 04:40	07/26/24 17:36	1
M2-8:2 FTS	161	*5+	25 - 150	07/26/24 04:40	07/26/24 17:36	1
13C3 HFPO-DA	98		25 - 150	07/26/24 04:40	07/26/24 17:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	4.6	J	5.0	1.9	mg/L			07/30/24 15:58	1

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-114072-1	InfComp202407	59	69	62	68	75	71	67	51
320-114072-2	EffG202407	77	91	88	107	98	102	110	116
320-114072-3	Eff202407	75	88	84	94	99	105	106	117
LLCS 320-784783/2-A	Lab Control Sample	91	103	88	99	106	110	111	122
LLCSD 320-784783/3-A	Lab Control Sample Dup	103	104	98	103	110	112	118	127
MB 320-784783/1-A	Method Blank	98	100	85	104	102	111	107	123

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-114072-1	InfComp202407	36	27	55	55	52	50	37	41
320-114072-2	EffG202407	132	74	83	88	87	116	91	109
320-114072-3	Eff202407	118	72	83	82	88	113	97	121
LLCS 320-784783/2-A	Lab Control Sample	134	122	89	84	96	120	84	97
LLCSD 320-784783/3-A	Lab Control Sample Dup	148	132	98	94	93	131	97	106
MB 320-784783/1-A	Method Blank	133	124	86	97	88	115	88	102

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-114072-1	InfComp202407	18	42	26	36	109	203 *5+	140	74
320-114072-2	EffG202407	91	97	93	91	171 *5+	114	148	110
320-114072-3	Eff202407	88	90	92	88	159 *5+	147	161 *5+	98
LLCS 320-784783/2-A	Lab Control Sample	86	102	114	117	90	91	137	110
LLCSD 320-784783/3-A	Lab Control Sample Dup	90	105	118	124	112	112	131	109
MB 320-784783/1-A	Method Blank	85	100	114	116	96	108	110	111

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-114072-1
Project/Site: PFAS Sampling

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-784783/1-A
Matrix: Water
Analysis Batch: 785328

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 784783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		07/26/24 04:40	07/26/24 16:44	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		07/26/24 04:40	07/26/24 16:44	1
NEtFOSA	ND		2.0	0.87	ng/L		07/26/24 04:40	07/26/24 16:44	1
NMeFOSA	ND		2.0	0.43	ng/L		07/26/24 04:40	07/26/24 16:44	1
NMeFOSAA	ND		5.0	1.2	ng/L		07/26/24 04:40	07/26/24 16:44	1
NEtFOSAA	ND		5.0	1.3	ng/L		07/26/24 04:40	07/26/24 16:44	1
NMeFOSE	ND		4.0	1.4	ng/L		07/26/24 04:40	07/26/24 16:44	1
NEtFOSE	ND		2.0	0.85	ng/L		07/26/24 04:40	07/26/24 16:44	1
4:2 FTS	ND		2.0	0.24	ng/L		07/26/24 04:40	07/26/24 16:44	1
6:2 FTS	ND		5.0	2.5	ng/L		07/26/24 04:40	07/26/24 16:44	1
8:2 FTS	ND		2.0	0.46	ng/L		07/26/24 04:40	07/26/24 16:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		07/26/24 04:40	07/26/24 16:44	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		07/26/24 04:40	07/26/24 16:44	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		07/26/24 04:40	07/26/24 16:44	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		07/26/24 04:40	07/26/24 16:44	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98*		*25 - 150*	*07/26/24 04:40*	*07/26/24 16:44*	*1*
13C5 PFPeA	*100*		*25 - 150*	*07/26/24 04:40*	*07/26/24 16:44*	*1*
13C2 PFHxA	*85*		*25 - 150*	*07/26/24 04:40*	*07/26/24 16:44*	*1*
13C4 PFHpA	*104*		*25 - 150*	*07/26/24 04:40*	*07/26/24 16:44*	*1*
13C4 PFOA	*102*		*25 - 150*	*07/26/24 04:40*	*07/26/24 16:44*	*1*
13C5 PFNA	*111*		*25 - 150*	*07/26/24 04:40*	*07/26/24 16:44*	*1*
13C2 PFDA	*107*		*25 - 150*	*07/26/24 04:40*	*07/26/24 16:44*	*1*
13C2 PFUnA	*123*		*25 - 150*	*07/26/24 04:40*	*07/26/24 16:44*	*1*
13C2 PFDoA	*133*		*25 - 150*	*07/26/24 04:40*	*07/26/24 16:44*	*1*
13C2 PFTeDA	*124*		*25 - 150*	*07/26/24 04:40*	*07/26/24 16:44*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-784783/1-A
Matrix: Water
Analysis Batch: 785328

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 784783

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	86		25 - 150	07/26/24 04:40	07/26/24 16:44	1
18O2 PFHxS	97		25 - 150	07/26/24 04:40	07/26/24 16:44	1
13C4 PFOS	88		25 - 150	07/26/24 04:40	07/26/24 16:44	1
13C8 FOSA	115		10 - 150	07/26/24 04:40	07/26/24 16:44	1
d3-NMeFOSAA	88		25 - 150	07/26/24 04:40	07/26/24 16:44	1
d5-NEtFOSAA	102		25 - 150	07/26/24 04:40	07/26/24 16:44	1
d-N-MeFOSA-M	85		10 - 150	07/26/24 04:40	07/26/24 16:44	1
d-N-EtFOSA-M	100		10 - 150	07/26/24 04:40	07/26/24 16:44	1
d7-N-MeFOSE-M	114		10 - 150	07/26/24 04:40	07/26/24 16:44	1
d9-N-EtFOSE-M	116		10 - 150	07/26/24 04:40	07/26/24 16:44	1
M2-4:2 FTS	96		25 - 150	07/26/24 04:40	07/26/24 16:44	1
M2-6:2 FTS	108		25 - 150	07/26/24 04:40	07/26/24 16:44	1
M2-8:2 FTS	110		25 - 150	07/26/24 04:40	07/26/24 16:44	1
13C3 HFPO-DA	111		25 - 150	07/26/24 04:40	07/26/24 16:44	1

Lab Sample ID: LLCS 320-784783/2-A
Matrix: Water
Analysis Batch: 785328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 784783

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	9.38		ng/L		117	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	9.13		ng/L		114	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	9.77		ng/L		122	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	9.69		ng/L		121	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	7.88		ng/L		98	50 - 150
Perfluorononanoic acid (PFNA)	8.00	8.61		ng/L		108	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	9.37		ng/L		117	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	9.12		ng/L		114	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	9.64		ng/L		120	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	7.44		ng/L		93	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	8.36		ng/L		105	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	8.31		ng/L		117	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	7.61		ng/L		101	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.80		ng/L		107	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	8.34		ng/L		109	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	8.72		ng/L		117	50 - 150
Perfluorononanesulfonic acid (PFNS)	7.70	9.34		ng/L		121	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	8.34		ng/L		108	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	10.4		ng/L		134	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-784783/2-A
Matrix: Water
Analysis Batch: 785328

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 784783

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	8.00	8.94		ng/L		112	50 - 150
NEtFOSA	8.00	7.90		ng/L		99	50 - 150
NMeFOSA	8.00	9.39		ng/L		117	50 - 150
NMeFOSAA	8.00	9.12		ng/L		114	50 - 150
NEtFOSAA	8.00	7.82		ng/L		98	50 - 150
NMeFOSE	8.00	8.73		ng/L		109	50 - 150
NEtFOSE	8.00	8.93		ng/L		112	50 - 150
4:2 FTS	7.50	8.76		ng/L		117	50 - 150
6:2 FTS	7.62	9.46		ng/L		124	50 - 150
8:2 FTS	7.68	8.39		ng/L		109	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	9.13		ng/L		121	50 - 150
HFPO-DA (GenX)	8.00	8.37		ng/L		105	50 - 150
9Cl-PF3ONS	7.47	8.63		ng/L		115	50 - 150
11Cl-PF3OUdS	7.55	9.54		ng/L		126	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*91*		*25 - 150*
13C5 PFPeA	*103*		*25 - 150*
13C2 PFHxA	*88*		*25 - 150*
13C4 PFHpA	*99*		*25 - 150*
13C4 PFOA	*106*		*25 - 150*
13C5 PFNA	*110*		*25 - 150*
13C2 PFDA	*111*		*25 - 150*
13C2 PFUnA	*122*		*25 - 150*
13C2 PFDoA	*134*		*25 - 150*
13C2 PFTeDA	*122*		*25 - 150*
13C3 PFBS	*89*		*25 - 150*
18O2 PFHxS	*84*		*25 - 150*
13C4 PFOS	*96*		*25 - 150*
13C8 FOSA	*120*		*10 - 150*
d3-NMeFOSAA	*84*		*25 - 150*
d5-NEtFOSAA	*97*		*25 - 150*
d-N-MeFOSA-M	*86*		*10 - 150*
d-N-EtFOSA-M	*102*		*10 - 150*
d7-N-MeFOSE-M	*114*		*10 - 150*
d9-N-EtFOSE-M	*117*		*10 - 150*
M2-4:2 FTS	*90*		*25 - 150*
M2-6:2 FTS	*91*		*25 - 150*
M2-8:2 FTS	*137*		*25 - 150*
13C3 HFPO-DA	*110*		*25 - 150*

Lab Sample ID: LLCSD 320-784783/3-A
Matrix: Water
Analysis Batch: 785328

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 784783

Analyte	Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	8.00	9.02		ng/L		113	50 - 150	4	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCSD 320-784783/3-A
Matrix: Water
Analysis Batch: 785328

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 784783

Analyte			Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			8.00	8.99		ng/L		112	50 - 150	2	30
Perfluorohexanoic acid (PFHxA)			8.00	9.66		ng/L		121	50 - 150	1	30
Perfluoroheptanoic acid (PFHpA)			8.00	9.84		ng/L		123	50 - 150	2	30
Perfluorooctanoic acid (PFOA)			8.00	8.32		ng/L		104	50 - 150	5	30
Perfluorononanoic acid (PFNA)			8.00	8.50		ng/L		106	50 - 150	1	30
Perfluorodecanoic acid (PFDA)			8.00	9.34		ng/L		117	50 - 150	0.3	30
Perfluoroundecanoic acid (PFUnA)			8.00	9.85		ng/L		123	50 - 150	8	30
Perfluorododecanoic acid (PFDoA)			8.00	9.72		ng/L		122	50 - 150	0.9	30
Perfluorotridecanoic acid (PFTrDA)			8.00	7.31		ng/L		91	50 - 150	2	30
Perfluorotetradecanoic acid (PFTeA)			8.00	8.48		ng/L		106	50 - 150	1	30
Perfluorobutanesulfonic acid (PFBS)			7.10	7.95		ng/L		112	50 - 150	4	30
Perfluoropentanesulfonic acid (PFPeS)			7.52	7.68		ng/L		102	50 - 150	0.9	30
Perfluorohexanesulfonic acid (PFHxS)			7.30	8.04		ng/L		110	50 - 150	3	30
Perfluoroheptanesulfonic acid (PFHpS)			7.63	8.99		ng/L		118	50 - 150	8	30
Perfluorooctanesulfonic acid (PFOS)			7.44	8.81		ng/L		118	50 - 150	1	30
Perfluorononanesulfonic acid (PFNS)			7.70	10.3		ng/L		134	50 - 150	10	30
Perfluorodecanesulfonic acid (PFDS)			7.71	9.14		ng/L		119	50 - 150	9	30
Perfluorododecanesulfonic acid (PFDoS)			7.76	10.2		ng/L		132	50 - 150	2	30
Perfluorooctanesulfonamide (FOSA)			8.00	8.99		ng/L		112	50 - 150	0.6	30
NEtFOSA			8.00	8.33		ng/L		104	50 - 150	5	30
NMeFOSA			8.00	9.24		ng/L		116	50 - 150	2	30
NMeFOSAA			8.00	8.84		ng/L		111	50 - 150	3	30
NEtFOSAA			8.00	8.40		ng/L		105	50 - 150	7	30
NMeFOSE			8.00	8.97		ng/L		112	50 - 150	3	30
NEtFOSE			8.00	8.81		ng/L		110	50 - 150	1	30
4:2 FTS			7.50	7.39		ng/L		98	50 - 150	17	30
6:2 FTS			7.62	7.91		ng/L		104	50 - 150	18	30
8:2 FTS			7.68	8.77		ng/L		114	50 - 150	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			7.57	9.71		ng/L		128	50 - 150	6	30
HFPO-DA (GenX)			8.00	8.32		ng/L		104	50 - 150	0.6	30
9Cl-PF3ONS			7.47	10.2		ng/L		136	50 - 150	16	30
11Cl-PF3OUdS			7.55	10.5		ng/L		140	50 - 150	10	30

Isotope Dilution	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
13C4 PFBA	*103*		*25 - 150*
13C5 PFPeA	*104*		*25 - 150*
13C2 PFHxA	*98*		*25 - 150*
13C4 PFHpA	*103*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCSD 320-784783/3-A
Matrix: Water
Analysis Batch: 785328

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 784783

Isotope Dilution	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
13C4 PFOA	*110*		*25 - 150*
13C5 PFNA	*112*		*25 - 150*
13C2 PFDA	*118*		*25 - 150*
13C2 PFUnA	*127*		*25 - 150*
13C2 PFDoA	*148*		*25 - 150*
13C2 PFTeDA	*132*		*25 - 150*
13C3 PFBS	*98*		*25 - 150*
18O2 PFHxS	*94*		*25 - 150*
13C4 PFOS	*93*		*25 - 150*
13C8 FOSA	*131*		*10 - 150*
d3-NMeFOSAA	*97*		*25 - 150*
d5-NEtFOSAA	*106*		*25 - 150*
d-N-MeFOSA-M	*90*		*10 - 150*
d-N-EtFOSA-M	*105*		*10 - 150*
d7-N-MeFOSE-M	*118*		*10 - 150*
d9-N-EtFOSE-M	*124*		*10 - 150*
M2-4:2 FTS	*112*		*25 - 150*
M2-6:2 FTS	*112*		*25 - 150*
M2-8:2 FTS	*131*		*25 - 150*
13C3 HFPO-DA	*109*		*25 - 150*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-778715/1
Matrix: Water
Analysis Batch: 778715

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			07/29/24 02:07	1

Lab Sample ID: LCS 500-778715/2
Matrix: Water
Analysis Batch: 778715

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	176		mg/L		88	80 - 120

Lab Sample ID: MB 500-779077/1
Matrix: Water
Analysis Batch: 779077

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			07/30/24 15:38	1

Lab Sample ID: LCS 500-779077/2
Matrix: Water
Analysis Batch: 779077

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	188		mg/L		94	80 - 120

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

LCMS

Prep Batch: 784783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-114072-1	InfComp202407	Total/NA	Water	3535	
320-114072-2	EffG202407	Total/NA	Water	3535	
320-114072-3	Eff202407	Total/NA	Water	3535	
MB 320-784783/1-A	Method Blank	Total/NA	Water	3535	
LLCS 320-784783/2-A	Lab Control Sample	Total/NA	Water	3535	
LLCSD 320-784783/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 785328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-114072-1	InfComp202407	Total/NA	Water	537 (modified)	784783
320-114072-2	EffG202407	Total/NA	Water	537 (modified)	784783
320-114072-3	Eff202407	Total/NA	Water	537 (modified)	784783
MB 320-784783/1-A	Method Blank	Total/NA	Water	537 (modified)	784783
LLCS 320-784783/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	784783
LLCSD 320-784783/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	784783

General Chemistry

Analysis Batch: 778715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-114072-1	InfComp202407	Total/NA	Water	SM 2540D	
MB 500-778715/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-778715/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 779077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-114072-2	EffG202407	Total/NA	Water	SM 2540D	
320-114072-3	Eff202407	Total/NA	Water	SM 2540D	
MB 500-779077/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-779077/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

Client Sample ID: InfComp202407

Lab Sample ID: 320-114072-1
Date Collected: 07/22/24 23:59
Matrix: Water
Date Received: 07/25/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			298.9 mL	10.0 mL	784783	07/26/24 04:40	GAT	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	785328	07/26/24 17:15	AP1	EET SAC
Total/NA	Analysis	SM 2540D		1	90 mL	500 mL	778715	07/29/24 02:13	CLB	EET CHI
							Completed:	07/29/24 02:16 [1]		

Client Sample ID: EffG202407

Lab Sample ID: 320-114072-2
Date Collected: 07/23/24 09:58
Matrix: Water
Date Received: 07/25/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			298.5 mL	10.0 mL	784783	07/26/24 04:40	GAT	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	785328	07/26/24 17:25	AP1	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	779077	07/30/24 15:57	SO	EET CHI
							Completed:	07/30/24 15:58 [1]		

Client Sample ID: Eff202407

Lab Sample ID: 320-114072-3
Date Collected: 07/23/24 23:59
Matrix: Water
Date Received: 07/25/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			279.9 mL	10.0 mL	784783	07/26/24 04:40	GAT	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	785328	07/26/24 17:36	AP1	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	779077	07/30/24 15:58	SO	EET CHI
							Completed:	07/30/24 15:59 [1]		

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-114072-1
Project/Site: PFAS Sampling

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25
Wisconsin	State	998204680	08-31-25

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-24

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-114072-1	InfComp202407	Water	07/22/24 23:59	07/25/24 09:30
320-114072-2	EffG202407	Water	07/23/24 09:58	07/25/24 09:30
320-114072-3	Eff202407	Water	07/23/24 23:59	07/25/24 09:30

Reports to: Mike Ursin mursin@trccompanies.com

Address: TRC
999 Fourier Dr Suite 101
Madison, WI 53717

Chain of Custody Record 721905

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Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☒ Other:

TAL-8210

Client Contact	Project Manager: Mary Powers	Site Contact: Mary Powers	Date: 7/25/24	COC No: 721905
Company Name: Madison Metro Sewerage Dist	Tel/Email: marypo@madsewer.org	Lab Contact: Jenny Faust	Carrier: Fed Ex	1 of 1 COCs
Address: 1610 Moorland	Analysis Turnaround Time			Sampler:
City/State/Zip: Madison, WI 53713-2398	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone: 608 222-1301	TAT if different from Below 20 business days			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name:	☐ 1 week			
Site: MMSD	☐ 2 days			Job / SDG No.:
PO# 2400419	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TSS	PFAS	Sample Specific Notes:
Inf Comp 202407	7/23/24	23:54	C	WW	3			X	X	
Eff G 202407	7/23/24	9:58	G	WW	3			X	X	
Eff 202407	7/23/24	23:59	C	WW	3			X	X	

320-114072 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
For Influent sample follow EPA 19.001 (WI PFAS expectations) see V13 procedure for particulates in aqueous samples. Centrifuge as needed.

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 0.9 Corr'd: 0.8 | Therm ID No.: I-09

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Jenny Faust	MMSD	7/24/24 07:00	[illegible]	ECTSAC	7/25/24 9:30
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

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Sacramento Sample Receiving Notes (SSRN)

Loc: 320
114072

Tracking #: 7407 9449 5783

Job: _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: L-09 Corr. Factor: (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 24856022, 24856023

Cooler ID: _____

Temp Observed: 0.8 °C Corrected: 0.8 °C

From: Temp Blank ☑ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: FSH Date: 7/25/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☑	☐	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: FSH Date: 7/25/24

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: FSH Date: 7/25/24

Sub-chicago/ WR3-10D

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916-373-5600 Fax 916-372-1059

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Smith, Micah	Carrier Tracking No(s)	COC No: 320-344844 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Micah Smith@et eurofinsus com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): NELAP Oregon, State - Wisconsin		Job #: 320 114072-1
Address: 2417 Bond Street, ,	Due Date Requested: 8/7/2024			
City: University Park	TAT Requested (days):			
State, Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #:			
Email:	WO #:			
Project Name: PFAS Sampling	Project #: 32021779			
Site:	SSOW#:			

320-114072 COC

Analysis Requested

Preservation Codes

Other

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
InfComp202407 (320-114072-1)	7/22/24	23 59 Central		Water			X	1	
EffG202407 (320-114072-2)	7/23/24	09 58 Central		Water			X	1	
Eff202407 (320 114072-3)	7/23/24	23.59 Central		Water			X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northern California, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northern California, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northern California, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northern California, LLC

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment.

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	07/25/24 1630	EETSAC	[signature]	7/26/24 0950	[signature]
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.

Cooler Temperature(s) °C and Other Remarks 1.3-7.2

Ver: 04/02/2024

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-114072-1

Login Number: 114072
List Number: 1
Creator: Soto-Hernandez, Flor N

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	REFER TO SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-114072-1

Login Number: 114072
List Number: 2
Creator: Scott, Sherri L

List Source: Eurofins Chicago
List Creation: 07/26/24 01:56 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

August 2024

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Julie Maas
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

Generated 8/26/2024 1:44:06 PM

JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-114573-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization

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Qualifiers

LCMS

Qualifier	Qualifier Description
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-114573-1

Receipt
The samples were received on 8/15/2024 9:25 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.0º C.

LCMS
Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: Eff-202408 (320-114573-3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The sample was re-analyzed with concurring results, therefore, the data have been reported.

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

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

Organic Prep
Method 3535: The following samples in preparation batch 320-791717 were yellow in color prior to extraction: Inf-Comp-202408 (320-114573-1), Eff-G-202408 (320-114573-2) and Eff-202408 (320-114573-3).

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-791717.

Method 3535: The following sample in preparation batch 320-791717 was observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: Inf-Comp-202408 (320-114573-1).

Method 3535: During the solid phase extraction process, the following sample contain non-settable particulates which clogged the solid phase extraction column: Inf-Comp-202408 (320-114573-1). Percent volume that went through the cartridges prior to the clogging is as follow: 46%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent.

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114573-1

Client Sample ID: Inf-Comp-202408 — Lab Sample ID: 320-114573-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.6		5.4	2.6	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.2		2.2	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	6.0		2.2	0.62	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.6	J	2.2	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.9		2.2	0.92	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.3		2.2	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - RA	7.9		2.2	0.61	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	240		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Eff-G-202408 — Lab Sample ID: 320-114573-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.2		5.0	2.4	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	11		2.0	0.49	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	11		2.0	0.59	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.4		2.0	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.3		2.0	0.86	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.84	J	2.0	0.31	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.0		2.0	0.20	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.58	J	2.0	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.9		2.0	0.58	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.9		2.0	0.55	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	7.0		5.0	1.9	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Eff-202408 — Lab Sample ID: 320-114573-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.5		5.2	2.5	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	13		2.1	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14		2.1	0.60	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.4		2.1	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.3		2.1	0.88	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.89	J	2.1	0.32	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.9		2.1	0.21	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.70	J	2.1	0.31	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.6		2.1	0.59	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.1		2.1	0.56	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	4.4	J	5.0	1.9	mg/L	1		SM 2540D	Total/NA

Client Sample ID: HPLC GRADE WATER-202408 — Lab Sample ID: 320-114573-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114573-1

Client Sample ID: Inf-Comp-202408

Date Collected: 08/12/24 23:59
Date Received: 08/15/24 09:25

Lab Sample ID: 320-114573-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.6**		5.4	2.6	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluoropentanoic acid (PFPeA)	**3.2**		2.2	0.53	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorohexanoic acid (PFHxA)	**6.0**		2.2	0.62	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	2.2	0.27	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorooctanoic acid (PFOA)	**4.9**		2.2	0.92	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorononanoic acid (PFNA)	ND		2.2	0.29	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorodecanoic acid (PFDA)	ND		2.2	0.33	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluoroundecanoic acid (PFUnA)	ND		2.2	1.2	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorododecanoic acid (PFDoA)	ND		2.2	0.59	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.2	1.4	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.2	0.79	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorobutanesulfonic acid (PFBS)	**3.3**		2.2	0.22	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.2	0.32	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.2	0.20	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.2	0.58	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorononanesulfonic acid (PFNS)	ND		2.2	0.40	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.2	0.34	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.2	1.0	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorooctanesulfonamide (FOSA)	ND		2.2	1.1	ng/L		08/16/24 08:07	08/17/24 08:13	1
NEtFOSA	ND		2.2	0.94	ng/L		08/16/24 08:07	08/17/24 08:13	1
NMeFOSA	ND		2.2	0.46	ng/L		08/16/24 08:07	08/17/24 08:13	1
NEtFOSAA	ND		5.4	1.4	ng/L		08/16/24 08:07	08/17/24 08:13	1
NMeFOSE	ND		4.3	1.5	ng/L		08/16/24 08:07	08/17/24 08:13	1
NEtFOSE	ND		2.2	0.92	ng/L		08/16/24 08:07	08/17/24 08:13	1
4:2 FTS	ND		2.2	0.26	ng/L		08/16/24 08:07	08/17/24 08:13	1
6:2 FTS	ND		5.4	2.7	ng/L		08/16/24 08:07	08/17/24 08:13	1
8:2 FTS	ND		2.2	0.50	ng/L		08/16/24 08:07	08/17/24 08:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.2	0.43	ng/L		08/16/24 08:07	08/17/24 08:13	1
HFPO-DA (GenX)	ND		4.3	1.6	ng/L		08/16/24 08:07	08/17/24 08:13	1
9Cl-PF3ONS	ND		2.2	0.26	ng/L		08/16/24 08:07	08/17/24 08:13	1
11Cl-PF3OUdS	ND		2.2	0.34	ng/L		08/16/24 08:07	08/17/24 08:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*41*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C5 PFPeA	*48*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C2 PFHxA	*55*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C4 PFHpA	*50*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C4 PFOA	*54*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C5 PFNA	*49*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C2 PFDA	*51*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C2 PFUnA	*41*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C2 PFDoA	*34*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C2 PFTeDA	*26*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C3 PFBS	*43*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C4 PFOS	*43*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C8 FOSA	*36*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*

Client Sample ID: Inf-Comp-202408

Lab Sample ID: 320-114573-1

Date Collected: 08/12/24 23:59
Matrix: Water
Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*33*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
d-N-MeFOSA-M	*31*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
d-N-EtFOSA-M	*25*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
d7-N-MeFOSE-M	*25*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
d9-N-EtFOSE-M	*33*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
M2-4:2 FTS	*90*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
M2-6:2 FTS	*137*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
M2-8:2 FTS	*137*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C3 HFPO-DA	*47*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**7.9**		2.2	0.61	ng/L		08/16/24 08:07	08/19/24 20:53	1
NMeFOSAA	ND		5.4	1.3	ng/L		08/16/24 08:07	08/19/24 20:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*47*		*25 - 150*	*08/16/24 08:07*	*08/19/24 20:53*	*1*
d3-NMeFOSAA	*37*		*25 - 150*	*08/16/24 08:07*	*08/19/24 20:53*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**240**		50	19	mg/L			08/16/24 16:49	1

Client Sample ID: Eff-G-202408

Lab Sample ID: 320-114573-2

Date Collected: 08/13/24 08:02
Matrix: Water
Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.2**		5.0	2.4	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluoropentanoic acid (PFPeA)	**11**		2.0	0.49	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorohexanoic acid (PFHxA)	**11**		2.0	0.59	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluoroheptanoic acid (PFHpA)	**2.4**		2.0	0.25	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorooctanoic acid (PFOA)	**8.3**		2.0	0.86	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorodecanoic acid (PFDA)	**0.84**	**J**	2.0	0.31	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.56	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.74	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorobutanesulfonic acid (PFBS)	**4.0**		2.0	0.20	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluoropentanesulfonic acid (PFPeS)	**0.58**	**J**	2.0	0.30	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorohexanesulfonic acid (PFHxS)	**7.9**		2.0	0.58	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorooctanesulfonic acid (PFOS)	**5.9**		2.0	0.55	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		08/16/24 08:07	08/17/24 08:26	1

Client Sample ID: Eff-G-202408

Lab Sample ID: 320-114573-2

Date Collected: 08/13/24 08:02
Date Received: 08/15/24 09:25

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.98	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.99	ng/L		08/16/24 08:07	08/17/24 08:26	1
NEtFOSA	ND		2.0	0.88	ng/L		08/16/24 08:07	08/17/24 08:26	1
NMeFOSA	ND		2.0	0.43	ng/L		08/16/24 08:07	08/17/24 08:26	1
NMeFOSAA	ND		5.0	1.2	ng/L		08/16/24 08:07	08/17/24 08:26	1
NEtFOSAA	ND		5.0	1.3	ng/L		08/16/24 08:07	08/17/24 08:26	1
NMeFOSE	ND		4.0	1.4	ng/L		08/16/24 08:07	08/17/24 08:26	1
NEtFOSE	ND		2.0	0.86	ng/L		08/16/24 08:07	08/17/24 08:26	1
6:2 FTS	ND		5.0	2.5	ng/L		08/16/24 08:07	08/17/24 08:26	1
8:2 FTS	ND		2.0	0.46	ng/L		08/16/24 08:07	08/17/24 08:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		08/16/24 08:07	08/17/24 08:26	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		08/16/24 08:07	08/17/24 08:26	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		08/16/24 08:07	08/17/24 08:26	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		08/16/24 08:07	08/17/24 08:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C5 PFPeA	*103*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C2 PFHxA	*108*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C4 PFHpA	*96*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C4 PFOA	*104*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C5 PFNA	*101*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C2 PFDA	*97*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C2 PFUnA	*86*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C2 PFDoA	*77*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C2 PFTeDA	*56*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C3 PFBS	*86*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
18O2 PFHxS	*104*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C4 PFOS	*85*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C8 FOSA	*91*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d3-NMeFOSAA	*86*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d5-NEtFOSAA	*87*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d-N-MeFOSA-M	*80*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d-N-EtFOSA-M	*76*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d7-N-MeFOSE-M	*75*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d9-N-EtFOSE-M	*82*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
M2-6:2 FTS	*141*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
M2-8:2 FTS	*117*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C3 HFPO-DA	*98*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 FTS	ND		2.0	0.24	ng/L		08/16/24 08:07	08/19/24 21:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*137*		*25 - 150*	*08/16/24 08:07*	*08/19/24 21:07*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114573-1

Client Sample ID: Eff-G-202408

Lab Sample ID: 320-114573-2
Date Collected: 08/13/24 08:02
Matrix: Water
Date Received: 08/15/24 09:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	7.0		5.0	1.9	mg/L			08/20/24 16:34	1

Client Sample ID: Eff-202408

Lab Sample ID: 320-114573-3
Date Collected: 08/13/24 23:59
Matrix: Water
Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	9.5		5.2	2.5	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluoropentanoic acid (PFPeA)	13		2.1	0.51	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorohexanoic acid (PFHxA)	14		2.1	0.60	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluoroheptanoic acid (PFHpA)	2.4		2.1	0.26	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorooctanoic acid (PFOA)	8.3		2.1	0.88	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorononanoic acid (PFNA)	ND		2.1	0.28	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorodecanoic acid (PFDA)	0.89	J	2.1	0.32	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluoroundecanoic acid (PFUnA)	ND		2.1	1.1	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorododecanoic acid (PFDoA)	ND		2.1	0.57	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.1	1.3	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.1	0.75	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorobutanesulfonic acid (PFBS)	4.9		2.1	0.21	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluoropentanesulfonic acid (PFPeS)	0.70	J	2.1	0.31	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorohexanesulfonic acid (PFHxS)	8.6		2.1	0.59	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.1	0.20	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorooctanesulfonic acid (PFOS)	6.1		2.1	0.56	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorononanesulfonic acid (PFNS)	ND		2.1	0.38	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.1	0.33	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.1	1.0	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorooctanesulfonamide (FOSA)	ND		2.1	1.0	ng/L		08/16/24 08:07	08/17/24 08:39	1
NEtFOSA	ND		2.1	0.90	ng/L		08/16/24 08:07	08/17/24 08:39	1
NMeFOSA	ND		2.1	0.44	ng/L		08/16/24 08:07	08/17/24 08:39	1
NMeFOSAA	ND		5.2	1.2	ng/L		08/16/24 08:07	08/17/24 08:39	1
NEtFOSAA	ND		5.2	1.3	ng/L		08/16/24 08:07	08/17/24 08:39	1
NMeFOSE	ND		4.1	1.4	ng/L		08/16/24 08:07	08/17/24 08:39	1
NEtFOSE	ND		2.1	0.88	ng/L		08/16/24 08:07	08/17/24 08:39	1
6:2 FTS	ND		5.2	2.6	ng/L		08/16/24 08:07	08/17/24 08:39	1
8:2 FTS	ND		2.1	0.47	ng/L		08/16/24 08:07	08/17/24 08:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.1	0.41	ng/L		08/16/24 08:07	08/17/24 08:39	1
HFPO-DA (GenX)	ND		4.1	1.5	ng/L		08/16/24 08:07	08/17/24 08:39	1
9Cl-PF3ONS	ND		2.1	0.25	ng/L		08/16/24 08:07	08/17/24 08:39	1
11Cl-PF3OUdS	ND		2.1	0.33	ng/L		08/16/24 08:07	08/17/24 08:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*75*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C5 PFPeA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C2 PFHxA	*109*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*

Client Sample ID: Eff-202408

Lab Sample ID: 320-114573-3

Date Collected: 08/13/24 23:59
Matrix: Water
Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*98*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C4 PFOA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C5 PFNA	*95*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C2 PFDA	*98*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C2 PFUnA	*83*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C2 PFDoA	*79*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C2 PFTeDA	*53*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C3 PFBS	*88*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
18O2 PFHxS	*97*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C4 PFOS	*93*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C8 FOSA	*93*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d-N-MeFOSA-M	*80*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d-N-EtFOSA-M	*78*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d7-N-MeFOSE-M	*75*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d9-N-EtFOSE-M	*81*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
M2-6:2 FTS	*142*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
M2-8:2 FTS	*111*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C3 HFPO-DA	*99*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 FTS	ND		2.1	0.25	ng/L		08/16/24 08:07	08/19/24 21:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*152*	**5+*	*25 - 150*	*08/16/24 08:07*	*08/19/24 21:21*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**4.4**	**J**	5.0	1.9	mg/L			08/20/24 16:37	1

Client Sample ID: HPLC GRADE WATER-202408

Lab Sample ID: 320-114573-4

Date Collected: 08/13/24 08:15
Matrix: Water
Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		08/16/24 08:07	08/17/24 08:51	1

Client Sample ID: HPLC GRADE WATER-202408

Lab Sample ID: 320-114573-4

Date Collected: 08/13/24 08:15

Matrix: Water

Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		08/16/24 08:07	08/17/24 08:51	1
NEtFOSA	ND		2.0	0.87	ng/L		08/16/24 08:07	08/17/24 08:51	1
NMeFOSA	ND		2.0	0.43	ng/L		08/16/24 08:07	08/17/24 08:51	1
NMeFOSAA	ND		5.0	1.2	ng/L		08/16/24 08:07	08/17/24 08:51	1
NEtFOSAA	ND		5.0	1.3	ng/L		08/16/24 08:07	08/17/24 08:51	1
NMeFOSE	ND		4.0	1.4	ng/L		08/16/24 08:07	08/17/24 08:51	1
NEtFOSE	ND		2.0	0.85	ng/L		08/16/24 08:07	08/17/24 08:51	1
4:2 FTS	ND		2.0	0.24	ng/L		08/16/24 08:07	08/17/24 08:51	1
6:2 FTS	ND		5.0	2.5	ng/L		08/16/24 08:07	08/17/24 08:51	1
8:2 FTS	ND		2.0	0.46	ng/L		08/16/24 08:07	08/17/24 08:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		08/16/24 08:07	08/17/24 08:51	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		08/16/24 08:07	08/17/24 08:51	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		08/16/24 08:07	08/17/24 08:51	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		08/16/24 08:07	08/17/24 08:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C5 PFPeA	*103*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C2 PFHxA	*98*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C4 PFHpA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C4 PFOA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C5 PFNA	*101*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C2 PFDA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C2 PFUnA	*89*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C2 PFDoA	*97*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C2 PFTeDA	*94*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C3 PFBS	*86*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
18O2 PFHxS	*105*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C4 PFOS	*94*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C8 FOSA	*98*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d3-NMeFOSAA	*86*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d-N-MeFOSA-M	*90*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d-N-EtFOSA-M	*80*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d7-N-MeFOSE-M	*99*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d9-N-EtFOSE-M	*103*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
M2-4:2 FTS	*97*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
M2-6:2 FTS	*106*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
M2-8:2 FTS	*94*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C3 HFPO-DA	*97*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114573-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA	PFUnA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-114573-1	Inf-Comp-202408	41	48	55	50	54	49	51	41
320-114573-2 - RA	Eff-G-202408								
320-114573-3 - RA	Eff-202408								

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	PFOS	PFOSA	d5NEFOS	dMeFOSA	dEtFOSA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(10-150)	(25-150)	(10-150)	(10-150)
320-114573-1	Inf-Comp-202408	34	26	43	43	36	33	31	25
320-114573-2 - RA	Eff-G-202408								
320-114573-3 - RA	Eff-202408								

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		NMFM	NEFM	M242FTS	M262FTS	M282FTS	HFPODA		
Lab Sample ID	Client Sample ID	(10-150)	(10-150)	(25-150)	(25-150)	(25-150)	(25-150)		
320-114573-1	Inf-Comp-202408	25	33	90	137	137	47		
320-114573-2 - RA	Eff-G-202408			137					
320-114573-3 - RA	Eff-202408			152 *5+					

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)	
		PFHxS	d3NMFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)
320-114573-1 - RA	Inf-Comp-202408	47	37

Surrogate Legend

PFHxS = 18O2 PFHxS

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-114573-1
Project/Site: PFAS Sampling

d3NMFOS = d3-NMeFOSAA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-114573-2	Eff-G-202408	77	103	108	96	104	101	97	86
320-114573-3	Eff-202408	75	100	109	98	100	95	98	83
320-114573-4	HPLC GRADE WATER-202408	99	103	98	100	100	101	100	89
LLCS 320-791717/2-A	Lab Control Sample	99	102	104	103	102	99	102	94
LLCSD 320-791717/3-A	Lab Control Sample Dup	90	94	95	94	95	95	91	89
MB 320-791717/1-A	Method Blank	98	100	100	98	106	99	96	89

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-114573-2	Eff-G-202408	77	56	86	104	85	91	86	87
320-114573-3	Eff-202408	79	53	88	97	93	93	82	84
320-114573-4	HPLC GRADE WATER-202408	97	94	86	105	94	98	86	84
LLCS 320-791717/2-A	Lab Control Sample	95	95	89	106	99	102	83	86
LLCSD 320-791717/3-A	Lab Control Sample Dup	86	85	78	93	90	89	80	81
MB 320-791717/1-A	Method Blank	89	92	88	104	98	103	84	90

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-114573-2	Eff-G-202408	80	76	75	82		141	117	98
320-114573-3	Eff-202408	80	78	75	81		142	111	99
320-114573-4	HPLC GRADE WATER-202408	90	80	99	103	97	106	94	97
LLCS 320-791717/2-A	Lab Control Sample	85	90	99	110	100	108	101	103
LLCSD 320-791717/3-A	Lab Control Sample Dup	77	76	90	96	94	97	95	96
MB 320-791717/1-A	Method Blank	85	84	100	104	103	108	100	97

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-114573-1
Project/Site: PFAS Sampling

M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-791717/1-A
Matrix: Water
Analysis Batch: 792055

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 791717

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		08/16/24 08:07	08/17/24 07:36	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		08/16/24 08:07	08/17/24 07:36	1
NEtFOSA	ND		2.0	0.87	ng/L		08/16/24 08:07	08/17/24 07:36	1
NMeFOSA	ND		2.0	0.43	ng/L		08/16/24 08:07	08/17/24 07:36	1
NMeFOSAA	ND		5.0	1.2	ng/L		08/16/24 08:07	08/17/24 07:36	1
NEtFOSAA	ND		5.0	1.3	ng/L		08/16/24 08:07	08/17/24 07:36	1
NMeFOSE	ND		4.0	1.4	ng/L		08/16/24 08:07	08/17/24 07:36	1
NEtFOSE	ND		2.0	0.85	ng/L		08/16/24 08:07	08/17/24 07:36	1
4:2 FTS	ND		2.0	0.24	ng/L		08/16/24 08:07	08/17/24 07:36	1
6:2 FTS	ND		5.0	2.5	ng/L		08/16/24 08:07	08/17/24 07:36	1
8:2 FTS	ND		2.0	0.46	ng/L		08/16/24 08:07	08/17/24 07:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		08/16/24 08:07	08/17/24 07:36	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		08/16/24 08:07	08/17/24 07:36	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		08/16/24 08:07	08/17/24 07:36	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		08/16/24 08:07	08/17/24 07:36	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98*		*25 - 150*	*08/16/24 08:07*	*08/17/24 07:36*	*1*
13C5 PFPeA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 07:36*	*1*
13C2 PFHxA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 07:36*	*1*
13C4 PFHpA	*98*		*25 - 150*	*08/16/24 08:07*	*08/17/24 07:36*	*1*
13C4 PFOA	*106*		*25 - 150*	*08/16/24 08:07*	*08/17/24 07:36*	*1*
13C5 PFNA	*99*		*25 - 150*	*08/16/24 08:07*	*08/17/24 07:36*	*1*
13C2 PFDA	*96*		*25 - 150*	*08/16/24 08:07*	*08/17/24 07:36*	*1*
13C2 PFUnA	*89*		*25 - 150*	*08/16/24 08:07*	*08/17/24 07:36*	*1*
13C2 PFDoA	*89*		*25 - 150*	*08/16/24 08:07*	*08/17/24 07:36*	*1*
13C2 PFTeDA	*92*		*25 - 150*	*08/16/24 08:07*	*08/17/24 07:36*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-791717/1-A
Matrix: Water
Analysis Batch: 792055

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 791717

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	88		25 - 150	08/16/24 08:07	08/17/24 07:36	1
18O2 PFHxS	104		25 - 150	08/16/24 08:07	08/17/24 07:36	1
13C4 PFOS	98		25 - 150	08/16/24 08:07	08/17/24 07:36	1
13C8 FOSA	103		10 - 150	08/16/24 08:07	08/17/24 07:36	1
d3-NMeFOSAA	84		25 - 150	08/16/24 08:07	08/17/24 07:36	1
d5-NEtFOSAA	90		25 - 150	08/16/24 08:07	08/17/24 07:36	1
d-N-MeFOSA-M	85		10 - 150	08/16/24 08:07	08/17/24 07:36	1
d-N-EtFOSA-M	84		10 - 150	08/16/24 08:07	08/17/24 07:36	1
d7-N-MeFOSE-M	100		10 - 150	08/16/24 08:07	08/17/24 07:36	1
d9-N-EtFOSE-M	104		10 - 150	08/16/24 08:07	08/17/24 07:36	1
M2-4:2 FTS	103		25 - 150	08/16/24 08:07	08/17/24 07:36	1
M2-6:2 FTS	108		25 - 150	08/16/24 08:07	08/17/24 07:36	1
M2-8:2 FTS	100		25 - 150	08/16/24 08:07	08/17/24 07:36	1
13C3 HFPO-DA	97		25 - 150	08/16/24 08:07	08/17/24 07:36	1

Lab Sample ID: LLCS 320-791717/2-A
Matrix: Water
Analysis Batch: 792055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 791717

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	8.17		ng/L		102	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	7.99		ng/L		100	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	8.46		ng/L		106	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	8.59		ng/L		107	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	8.59		ng/L		107	50 - 150
Perfluorononanoic acid (PFNA)	8.00	8.54		ng/L		107	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	8.64		ng/L		108	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	9.26		ng/L		116	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	9.51		ng/L		119	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	8.96		ng/L		112	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	8.73		ng/L		109	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	8.05		ng/L		113	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	9.13		ng/L		121	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.73		ng/L		106	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	8.62		ng/L		113	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	8.24		ng/L		111	50 - 150
Perfluorononanesulfonic acid (PFNS)	7.70	7.82		ng/L		102	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	9.49		ng/L		123	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	7.94		ng/L		102	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-791717/2-A
Matrix: Water
Analysis Batch: 792055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 791717

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	8.00	8.82		ng/L		110	50 - 150
NEtFOSA	8.00	8.28		ng/L		103	50 - 150
NMeFOSA	8.00	8.42		ng/L		105	50 - 150
NMeFOSAA	8.00	9.15		ng/L		114	50 - 150
NEtFOSAA	8.00	8.36		ng/L		105	50 - 150
NMeFOSE	8.00	8.52		ng/L		106	50 - 150
NEtFOSE	8.00	7.69		ng/L		96	50 - 150
4:2 FTS	7.50	8.70		ng/L		116	50 - 150
6:2 FTS	7.62	7.88		ng/L		103	50 - 150
8:2 FTS	7.68	9.01		ng/L		117	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	8.98		ng/L		119	50 - 150
HFPO-DA (GenX)	8.00	8.66		ng/L		108	50 - 150
9Cl-PF3ONS	7.47	8.80		ng/L		118	50 - 150
11Cl-PF3OUdS	7.55	8.44		ng/L		112	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*99*		*25 - 150*
13C5 PFPeA	*102*		*25 - 150*
13C2 PFHxA	*104*		*25 - 150*
13C4 PFHpA	*103*		*25 - 150*
13C4 PFOA	*102*		*25 - 150*
13C5 PFNA	*99*		*25 - 150*
13C2 PFDA	*102*		*25 - 150*
13C2 PFUnA	*94*		*25 - 150*
13C2 PFDoA	*95*		*25 - 150*
13C2 PFTeDA	*95*		*25 - 150*
13C3 PFBS	*89*		*25 - 150*
18O2 PFHxS	*106*		*25 - 150*
13C4 PFOS	*99*		*25 - 150*
13C8 FOSA	*102*		*10 - 150*
d3-NMeFOSAA	*83*		*25 - 150*
d5-NEtFOSAA	*86*		*25 - 150*
d-N-MeFOSA-M	*85*		*10 - 150*
d-N-EtFOSA-M	*90*		*10 - 150*
d7-N-MeFOSE-M	*99*		*10 - 150*
d9-N-EtFOSE-M	*110*		*10 - 150*
M2-4:2 FTS	*100*		*25 - 150*
M2-6:2 FTS	*108*		*25 - 150*
M2-8:2 FTS	*101*		*25 - 150*
13C3 HFPO-DA	*103*		*25 - 150*

Lab Sample ID: LLCSD 320-791717/3-A
Matrix: Water
Analysis Batch: 792055

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 791717

Analyte	Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	8.00	8.29		ng/L		104	50 - 150	1	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCSD 320-791717/3-A
Matrix: Water
Analysis Batch: 792055

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 791717

Analyte			Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			8.00	8.37		ng/L		105	50 - 150	5	30
Perfluorohexanoic acid (PFHxA)			8.00	8.27		ng/L		103	50 - 150	2	30
Perfluoroheptanoic acid (PFHpA)			8.00	9.02		ng/L		113	50 - 150	5	30
Perfluorooctanoic acid (PFOA)			8.00	8.48		ng/L		106	50 - 150	1	30
Perfluorononanoic acid (PFNA)			8.00	8.56		ng/L		107	50 - 150	0.2	30
Perfluorodecanoic acid (PFDA)			8.00	8.59		ng/L		107	50 - 150	0.7	30
Perfluoroundecanoic acid (PFUnA)			8.00	8.92		ng/L		111	50 - 150	4	30
Perfluorododecanoic acid (PFDoA)			8.00	9.23		ng/L		115	50 - 150	3	30
Perfluorotridecanoic acid (PFTrDA)			8.00	9.56		ng/L		120	50 - 150	7	30
Perfluorotetradecanoic acid (PFTeA)			8.00	8.23		ng/L		103	50 - 150	6	30
Perfluorobutanesulfonic acid (PFBS)			7.10	8.55		ng/L		120	50 - 150	6	30
Perfluoropentanesulfonic acid (PFPeS)			7.52	8.86		ng/L		118	50 - 150	3	30
Perfluorohexanesulfonic acid (PFHxS)			7.30	7.96		ng/L		109	50 - 150	3	30
Perfluoroheptanesulfonic acid (PFHpS)			7.63	8.10		ng/L		106	50 - 150	6	30
Perfluorooctanesulfonic acid (PFOS)			7.44	7.82		ng/L		105	50 - 150	5	30
Perfluorononanesulfonic acid (PFNS)			7.70	7.65		ng/L		99	50 - 150	2	30
Perfluorodecanesulfonic acid (PFDS)			7.71	7.96		ng/L		103	50 - 150	18	30
Perfluorododecanesulfonic acid (PFDoS)			7.76	7.72		ng/L		99	50 - 150	3	30
Perfluorooctanesulfonamide (FOSA)			8.00	8.85		ng/L		111	50 - 150	0.3	30
NEtFOSA			8.00	8.31		ng/L		104	50 - 150	0.4	30
NMeFOSA			8.00	9.15		ng/L		114	50 - 150	8	30
NMeFOSAA			8.00	8.43		ng/L		105	50 - 150	8	30
NEtFOSAA			8.00	7.33		ng/L		92	50 - 150	13	30
NMeFOSE			8.00	8.55		ng/L		107	50 - 150	0.3	30
NEtFOSE			8.00	7.98		ng/L		100	50 - 150	4	30
4:2 FTS			7.50	8.81		ng/L		117	50 - 150	1	30
6:2 FTS			7.62	8.42		ng/L		111	50 - 150	7	30
8:2 FTS			7.68	8.06		ng/L		105	50 - 150	11	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			7.57	8.79		ng/L		116	50 - 150	2	30
HFPO-DA (GenX)			8.00	9.25		ng/L		116	50 - 150	7	30
9Cl-PF3ONS			7.47	9.13		ng/L		122	50 - 150	4	30
11Cl-PF3OUdS			7.55	8.60		ng/L		114	50 - 150	2	30

Isotope Dilution	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
13C4 PFBA	*90*		*25 - 150*
13C5 PFPeA	*94*		*25 - 150*
13C2 PFHxA	*95*		*25 - 150*
13C4 PFHpA	*94*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCSD 320-791717/3-A
Matrix: Water
Analysis Batch: 792055

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 791717

Isotope Dilution	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
13C4 PFOA	*95*		*25 - 150*
13C5 PFNA	*95*		*25 - 150*
13C2 PFDA	*91*		*25 - 150*
13C2 PFUnA	*89*		*25 - 150*
13C2 PFDoA	*86*		*25 - 150*
13C2 PFTeDA	*85*		*25 - 150*
13C3 PFBS	*78*		*25 - 150*
18O2 PFHxS	*93*		*25 - 150*
13C4 PFOS	*90*		*25 - 150*
13C8 FOSA	*89*		*10 - 150*
d3-NMeFOSAA	*80*		*25 - 150*
d5-NEtFOSAA	*81*		*25 - 150*
d-N-MeFOSA-M	*77*		*10 - 150*
d-N-EtFOSA-M	*76*		*10 - 150*
d7-N-MeFOSE-M	*90*		*10 - 150*
d9-N-EtFOSE-M	*96*		*10 - 150*
M2-4:2 FTS	*94*		*25 - 150*
M2-6:2 FTS	*97*		*25 - 150*
M2-8:2 FTS	*95*		*25 - 150*
13C3 HFPO-DA	*96*		*25 - 150*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-781940/1
Matrix: Water
Analysis Batch: 781940

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			08/16/24 16:34	1

Lab Sample ID: LCS 500-781940/2
Matrix: Water
Analysis Batch: 781940

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	190		mg/L		95	80 - 120

Lab Sample ID: MB 500-782509/1
Matrix: Water
Analysis Batch: 782509

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			08/20/24 15:25	1

Lab Sample ID: LCS 500-782509/2
Matrix: Water
Analysis Batch: 782509

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	170		mg/L		85	80 - 120

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114573-1

LCMS

Prep Batch: 791717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-114573-1 - RA	Inf-Comp-202408	Total/NA	Water	3535	
320-114573-1	Inf-Comp-202408	Total/NA	Water	3535	
320-114573-2 - RA	Eff-G-202408	Total/NA	Water	3535	
320-114573-2	Eff-G-202408	Total/NA	Water	3535	
320-114573-3 - RA	Eff-202408	Total/NA	Water	3535	
320-114573-3	Eff-202408	Total/NA	Water	3535	
320-114573-4	HPLC GRADE WATER-202408	Total/NA	Water	3535	
MB 320-791717/1-A	Method Blank	Total/NA	Water	3535	
LLCS 320-791717/2-A	Lab Control Sample	Total/NA	Water	3535	
LLCSD 320-791717/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 792055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-114573-1	Inf-Comp-202408	Total/NA	Water	537 (modified)	791717
320-114573-2	Eff-G-202408	Total/NA	Water	537 (modified)	791717
320-114573-3	Eff-202408	Total/NA	Water	537 (modified)	791717
320-114573-4	HPLC GRADE WATER-202408	Total/NA	Water	537 (modified)	791717
MB 320-791717/1-A	Method Blank	Total/NA	Water	537 (modified)	791717
LLCS 320-791717/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	791717
LLCSD 320-791717/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	791717

Analysis Batch: 792472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-114573-1 - RA	Inf-Comp-202408	Total/NA	Water	537 (modified)	791717
320-114573-2 - RA	Eff-G-202408	Total/NA	Water	537 (modified)	791717
320-114573-3 - RA	Eff-202408	Total/NA	Water	537 (modified)	791717

General Chemistry

Analysis Batch: 781940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-114573-1	Inf-Comp-202408	Total/NA	Water	SM 2540D	
MB 500-781940/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-781940/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 782509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-114573-2	Eff-G-202408	Total/NA	Water	SM 2540D	
320-114573-3	Eff-202408	Total/NA	Water	SM 2540D	
MB 500-782509/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-782509/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114573-1

Client Sample ID: Inf-Comp-202408
Lab Sample ID: 320-114573-1

Date Collected: 08/12/24 23:59
Date Received: 08/15/24 09:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	RA		232.1 mL	10.0 mL	791717	08/16/24 08:07	M1G	EET SAC
Total/NA	Analysis	537 (modified)	RA	1	1 mL	1 mL	792472	08/19/24 20:53	P1R	EET SAC
Total/NA	Prep	3535			232.1 mL	10.0 mL	791717	08/16/24 08:07	M1G	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	792055	08/17/24 08:13	P1P	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	781940	08/16/24 16:49	SO	EET CHI
							Completed:	08/16/24 16:51 [1]		

Client Sample ID: Eff-G-202408
Lab Sample ID: 320-114573-2

Date Collected: 08/13/24 08:02
Date Received: 08/15/24 09:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	RA		247.7 mL	10.0 mL	791717	08/16/24 08:07	M1G	EET SAC
Total/NA	Analysis	537 (modified)	RA	1	1 mL	1 mL	792472	08/19/24 21:07	P1R	EET SAC
Total/NA	Prep	3535			247.7 mL	10.0 mL	791717	08/16/24 08:07	M1G	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	792055	08/17/24 08:26	P1P	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	782509	08/20/24 16:34	SO	EET CHI
							Completed:	08/20/24 16:37 [1]		

Client Sample ID: Eff-202408
Lab Sample ID: 320-114573-3

Date Collected: 08/13/24 23:59
Date Received: 08/15/24 09:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	RA		242.2 mL	10.0 mL	791717	08/16/24 08:07	M1G	EET SAC
Total/NA	Analysis	537 (modified)	RA	1	1 mL	1 mL	792472	08/19/24 21:21	P1R	EET SAC
Total/NA	Prep	3535			242.2 mL	10.0 mL	791717	08/16/24 08:07	M1G	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	792055	08/17/24 08:39	P1P	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	782509	08/20/24 16:37	SO	EET CHI
							Completed:	08/20/24 16:40 [1]		

Client Sample ID: HPLC GRADE WATER-202408
Lab Sample ID: 320-114573-4

Date Collected: 08/13/24 08:15
Date Received: 08/15/24 09:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			251.1 mL	10.0 mL	791717	08/16/24 08:07	M1G	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	792055	08/17/24 08:51	P1P	EET SAC

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114573-1

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25
Wisconsin	State	998204680	08-31-25

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-24

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114573-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114573-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-114573-1	Inf-Comp-202408	Water	08/12/24 23:59	08/15/24 09:25
320-114573-2	Eff-G-202408	Water	08/13/24 08:02	08/15/24 09:25
320-114573-3	Eff-202408	Water	08/13/24 23:59	08/15/24 09:25
320-114573-4	HPLC GRADE WATER-202408	Water	08/13/24 08:15	08/15/24 09:25

Reports to Mike Ursin mursin@trccompanies.com

Chain of Custody Record 722381

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Address TRC
999 Fourier Dr Suite 101
Madison, WI 53717

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☒ Other

TAL-8210

Client Contact		Project Manager: Mary Powers	Site Contact: Mary Powers	Date: 8-14-24	COC No 722381
Company Name	Madison Met. Sewerage Dist	Tel/Email: mary@madsewer.org	Lab Contact Jenny Faust	Carrier: Fed Ex	1 of 1 COCs
Address	1610 Moorland Rd	Analysis Turnaround Time			Sampler:
City/State/Zip	Madison, WI 53713-2898	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only
Phone	608 222-1301	TAT if different from Below 20			Walk-in Client:
Fax		☐ 2 weeks as per contract			Lab Sampling
Project Name		☐ 1 week			
Site	MMSD	☐ 2 days			Job / SDG No
P O #	2400419	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PFAS	TSS	Sample Specific Notes
Inf-Comp-202408	8/12/24	2359	C	WW	3	N	N	X	X	
Eff-6-202408	8/13/24	08 02	G	WW	3	↓	↓	X	X	
Eff-202408	8/13/24	2359	C	WW	3	↓	↓	X	X	
HPLC GRADE WATER-202408	8/13/24	08-15	G	W	2	↓	↓	X		

320-114573 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification.
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
For Influent Sample follow EPA 19.001 (WI PFAS expectations) see V13 procedure for particulates in aqueous samples. Centrifuge as needed.

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No 2582342 / 2582343 | Cooler Temp (°C) Obs'd 4.0 Corr'd 4.0 | Therm ID No

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Jennifer Faust	MMSD	8/14/24 07:00	[signature]	OTSOC	8/15/24 0925
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

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Sacramento Sample Receiving Notes (SSRN)

Loc. 320
114573

Job _____ _____

Tracking # 7407 9450 1348

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm. ID: W2 Corr. Factor (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 25022342/25022343

Cooler ID _____

Temp Observed: 4.0 °C Corrected: 4.0 °C
From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: MM Date: 8/15/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☑ MM	☑	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials MM Date 8/15/24

Notes: _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials MM Date 8/15/24

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916-373-5600 Fax 916-372-1059

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Smith, Micah	Carrier Tracking No(s):	COC No: 320-346672 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Micah Smith@et eurofinsus com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): NELAP Oregon, State Wisconsin		Job #: 320-114573-1
Address: 2417 Bond Street, ,	Due Date Requested: 8/28/2024			
City: University Park	TAT Requested (days):			
State, Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #			
Email:	WO #			
Project Name: PFAS Sampling	Project #: 32021779			
Site:	SSOW#			

320-114573 COC

Analysis Requested

Preservation Codes

Other

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
Inf Comp-202408 (320-114573-1)	8/12/24	23.59 Central		Water			X	1	
Eff-G 202408 (320 114573-2)	8/13/24	08 02 Central		Water			X	1	
Eff-202408 (320 114573-3)	8/13/24	23 59 Central		Water			X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northern California, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northern California, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northern California, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northern California LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment.

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
DSM	08/15/24 1630	EETSAC	[illegible]	8/16/24 0950	EETSAC
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No .	Cooler Temperature(s) °C and Other Remarks. 1.1 → 1.0

Ver 04/02/2024

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-114573-1

Login Number: 114573
List Number: 1
Creator: Morazzini, Dominic S

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	REFER TO SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-114573-1

Login Number: 114573
List Number: 2
Creator: Scott, Sherri L

List Source: Eurofins Chicago
List Creation: 08/16/24 03:58 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

September 2024

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ANALYTICAL REPORT

PREPARED FOR

Attn: Julie Maas
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

Generated 10/17/2024 12:50:07 PM Revision 1

JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-115509-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization

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Revision 1

Authorized for release by
Micah Smith, Project Manager II
Micah.Smith@et.eurofinsus.com
(916)374-4302

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Qualifiers

LCMS

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-115509-1

Revision
The report being provided is a revision of the original report sent on 10/11/2024. The report (revision 1) is being revised to include the missing method blank for prep batch 320-801201 and analytical batch 320-801884.

Receipt
The samples were received on 9/19/2024 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.2º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): EFF-202409 (320-115509-7). Sample container lists and ID of EFF-COMP-202409. Sample was logged in based on the ID listed on the COC.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: BIO-A-22-202409 (320-115509-9), BIO-B-202409 (320-115509-10), BIO-A-23-202409 (320-115509-11) and BIO-A-24-202409 (320-115509-13).

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: INF-02-202409 (320-115509-1).

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: INF-02-202409 (320-115509-1), INF-07-202409 (320-115509-2), INF-08-202409 (320-115509-3), INF-11-202409 (320-115509-4), INF-18-202409 (320-115509-5) and INF-COMP-202409 (320-115509-6). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples.The samples were re-analyzed with concurring results; therefore the original data have been reported.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: INF-02-202409 (320-115509-1), INF-08-202409 (320-115509-3) and INF-COMP-202409 (320-115509-6). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The samples were re-analyzed with concurring results; therefore, the original data have been reported.

Method 537 (modified): The labeled analyte M2-4:2 FTS is employed in this analysis as a "Reverse Surrogate". It is used to monitor the oxidation efficiency of the TOP assay. This analyte is fortified into all sample fractions prior to any processing. The recovery of this analyte should be 0% in Post-Treatment fractions, indicating complete oxidation of the sample: BIO-A-22-202409 (320-115509-9), BIO-B-202409 (320-115509-10), BIO-A-23-202409 (320-115509-11), BIO-A-24-202409 (320-115509-13), (LCS 320-801578/2-A), (LCS 320-801580/2-A), (LCSD 320-801578/3-A), (LCSD 320-801580/3-A), (MB 320-801578/1-A) and (MB 320-801580/1-A).

Method 537 (modified): Zero to ten percent recovery (0 - 10%) of precursor analytes (such as 4:2 FTS, 6:2 FTS, 8:2 FTS, FOSA, NMeFOSAA, NEtFOSAA, etc.) and enhanced recoveries of PFCA is observed in the Post-Treatment Laboratory Control Sample (LCS) and Post-Treatment Laboratory Control Sample Duplicate (LCSD) associated with these samples, consistent with the expected oxidation of precursor analytes. the following samples are associated with this narration: BIO-A-22-202409 (320-115509-9), BIO-B-202409 (320-115509-10), BIO-A-23-202409 (320-115509-11), BIO-A-24-202409 (320-115509-13), (LCS 320-801580/2-A) and (LCSD 320-801580/3-A).

Method 537 (modified): The labeled analyte M2-4:2 FTS is converted to Perfluorobutanoic acid (PFBA) during the oxidation step of the TOP assay. The PFBA result in the Post-Treatment Method Blank (MB) indicates how much of a field sample's Post-Treatment Perfluorobutanoic acid (PFBA) result is contributed by the Reverse Surrogate, when adjusted for dilution factors. (MB 320-801580/1-A)

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: BIO-B-202409 (320-115509-10), BIO-A-23-202409 (320-115509-11) and BIO-A-24-202409 (320-115509-13).

Method 537 (modified): The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-801580 and analytical batch 320-802527 recovered outside control limits for several analytes due to small but acceptable positive results for analytes that are oxidized during the POST sample extraction method.

Method 537 (modified): The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-801580 and analytical batch 320-802527 recovered outside control limits for several analytes. The control limits are in the process of being updated to reflect the method performance. BIO-A-22-202409 (320-115509-9), BIO-B-202409 (320-115509-10), BIO-A-23-202409 (320-115509-11), BIO-A-24-202409 (320-115509-13), (LCS 320-801580/2-A) and (LCSD 320-801580/3-A)

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: BIO-B-202409 (320-115509-10), BIO-A-23-202409 (320-115509-11) and BIO-A-24-202409 (320-115509-13). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: BIO-A-22-202409 (320-115509-9), BIO-B-202409 (320-115509-10), BIO-A-23-202409 (320-115509-11) and BIO-A-24-202409 (320-115509-13). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The labeled analyte M2-4:2 FTS is employed in this analysis as a "Reverse Surrogate". It is used to monitor the oxidation efficiency of the TOP assay. This analyte is fortified into all sample fractions prior to any processing. The recovery of this analyte should be 0% in Post-Treatment fractions, indicating complete oxidation of the sample: EFF-202409 (320-115509-7), (LCS 320-801201/2-A), (LCS 320-801202/2-A), (LCSD 320-801201/3-A), (LCSD 320-801202/3-A) and (MB 320-801201/1-A).

Method 537 (modified): Zero to ten percent recovery (0 - 10%) of precursor analytes (such as 4:2 FTS, 6:2 FTS, 8:2 FTS, FOSA, NMeFOSAA, NEtFOSAA, etc.) and enhanced recoveries of PFCA is observed in the Post-Treatment Laboratory Control Sample (LCS) and Post-Treatment Laboratory Control Sample Duplicate (LCSD) associated with these samples, consistent with the expected oxidation of precursor analytes.
EFF-202409 (320-115509-7), (LCS 320-801202/2-A) and (LCSD 320-801202/3-A)

Method 537 (modified): The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-801201 and analytical batch 320-801884 recovered outside control limits for: NEtFOSA and NMeFOSA. Re-analysis confirms the recoveries outside control limits. The LCS control limits are in the process of being updated to more accurately reflect the method performance. EFF-202409 (320-115509-7), (LCS 320-801201/2-A) and (LCSD 320-801201/3-A)

Method 537 (modified): Perfluoropentanoic acid (PFPeA) was detected above the reporting limit (RL) in the method blank associated with preparation batch 320-801202 and analytical batch 320-802518 as well as in the following samples: EFF-202409 (320-115509-7) and (MB 320-801202/1-A). The method blank was re-analyzed with concurring results. The data have been reported.

Method 537 (modified): The laboratory control sample (LCS) for preparation batch 320-801202 and analytical batch 320-801884 recovered outside control limits for: Perfluorodecanoic acid (PFDA) and Perfluorotridecanoic acid (PFTrDA). Re-analysis confirms the recoveries outside control limits. The LCS control limits are in the process of being updated to more accurately reflect the method performance. EFF-202409 (320-115509-7) and (LCS 320-801202/2-A).

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: EFF-202409 (320-115509-7).

Method 537 (modified): The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-801202 and analytical batch 320-801884 recovered outside control limits for NEtFOSAA due to small but acceptable positive results for analytes that are oxidized during the "POST" sample extraction method.

Method 537 (modified): The labeled analyte M2-4:2FTS is converted to PFBA during the oxidation step of the TOP assay. The PFBA result in the Post-Treatment Method Blank (MB) indicates how much of a field sample's Post-Treatment PFBA result is contributed by the Reverse Surrogate, when adjusted for dilution factors. (MB 320-801202/1-A)

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

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

Organic Prep
Method TOP Pre - Prep: The following sample in preparation batch 320-801201 was yellow in color and particulates present in the bottle prior to extraction: EFF-202409 (320-115509-7).

Job ID: 320-115509-1 (Continued)

Method TOP Post Prep: The following sample in preparation batch 320-801202 was yellow in color and particulates present in the bottle prior to extraction: EFF-202409 (320-115509-7).

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-802668.

Method 3535: The following samples were yellow in color and contained particulates in the bottle prior to extraction: INF-02-202409 (320-115509-1), INF-07-202409 (320-115509-2), INF-08-202409 (320-115509-3), INF-11-202409 (320-115509-4), INF-18-202409 (320-115509-5), INF-COMP-202409 (320-115509-6) and EFF-202409 (320-115509-7).

Method 3535: The following samples were yellow in color after extraction/final volume: INF-02-202409 (320-115509-1), INF-07-202409 (320-115509-2), INF-08-202409 (320-115509-3), INF-11-202409 (320-115509-4), INF-18-202409 (320-115509-5), INF-COMP-202409 (320-115509-6) and EFF-202409 (320-115509-7).

Method 3535: The following sample in preparation batch 320-802668 was observed to have floating particulates present in the sample bottle prior to extraction: EB02-202409 (320-115509-12).

Method 3535: During the solid phase extraction process, the following samples 320-115509-1, 320-115509-2, 320-115509-3, 320-115509-4, 320-115509-5 and 320-115509-6 in preparation batch 320-802668 contained particulates which clogged the solid phase extraction column. The volumes of the samples that were extracted via SPE prior to the clogging of the SPE cartridge are as follows: 74%, 61%, 76%, 55%, 57%, and 72%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent.

Method SHAKE: Due to the matrix, the initial volumes used for the following samples deviated from the standard procedure: BIO-A-22-202409 (320-115509-9), BIO-B-202409 (320-115509-10), BIO-A-23-202409 (320-115509-11) and BIO-A-24-202409 (320-115509-13). The reporting limits (RLs) have been adjusted proportionately.

Method SHAKE: The following samples in preparation batch 320-801958 were light yellow in color following concentration: BIO-A-22-202409 (320-115509-9), BIO-B-202409 (320-115509-10), BIO-A-23-202409 (320-115509-11) and BIO-A-24-202409 (320-115509-13).

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

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: INF-02-202409 — Lab Sample ID: 320-115509-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	5.0		4.4	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.2		1.8	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.5	I	1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.97	J	1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.0		1.8	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.84	J	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.2		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	270		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: INF-07-202409 — Lab Sample ID: 320-115509-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	14		4.3	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	6.2		1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14		1.7	0.50	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.1		1.7	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.8		1.7	0.73	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.9		1.7	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.3		1.7	0.49	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.9		1.7	0.46	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	190		36	14	mg/L	1		SM 2540D	Total/NA

Client Sample ID: INF-08-202409 — Lab Sample ID: 320-115509-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	5.2		4.3	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	5.6		1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	5.6		1.7	0.50	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.80	J	1.7	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.5	J	1.7	0.73	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.6	J	1.7	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.9		1.7	0.49	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	260		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: INF-11-202409 — Lab Sample ID: 320-115509-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.1	J	4.3	2.0	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.3		1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.5		1.7	0.50	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.45	J	1.7	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.2	J	1.7	0.73	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.82	J	1.7	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.0		1.7	0.49	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	260		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: INF-18-202409 — Lab Sample ID: 320-115509-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.7		4.5	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.6		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	7.4		1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.9		1.8	0.22	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: INF-18-202409 (Continued) — Lab Sample ID: 320-115509-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	7.9		1.8	0.76	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.5		1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.2	J	1.8	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.1		1.8	0.49	ng/L	1		537 (modified)	Total/NA
6:2 FTS	6.4		4.5	2.2	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	220		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: INF-COMP-202409 — Lab Sample ID: 320-115509-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.7		4.4	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.8		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	7.4		1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.3	J	1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.0		1.8	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.2		1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.6		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.8		1.8	0.48	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	240		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EFF-202409 — Lab Sample ID: 320-115509-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.1		4.4	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	20		1.8	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	15		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.8		1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	6.6		1.8	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.3		1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.38	J	1.8	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.0		1.8	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		1.8	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	13		13	6.0	ng/L	1		537 (modified)	Pre-Treatment
Perfluoropentanoic acid (PFPeA)	16		5.0	1.2	ng/L	1		537 (modified)	Pre-Treatment
Perfluorohexanoic acid (PFHxA)	14		5.0	1.4	ng/L	1		537 (modified)	Pre-Treatment
Perfluoroheptanoic acid (PFHpA)	2.1	J	5.0	0.63	ng/L	1		537 (modified)	Pre-Treatment
Perfluorooctanoic acid (PFOA)	8.7		5.0	2.1	ng/L	1		537 (modified)	Pre-Treatment
Perfluorodecanoic acid (PFDA)	0.91	J	5.0	0.78	ng/L	1		537 (modified)	Pre-Treatment
Perfluorobutanesulfonic acid (PFBS)	4.8	J	5.0	0.50	ng/L	1		537 (modified)	Pre-Treatment
Perfluorohexanesulfonic acid (PFHxS)	7.7		5.0	0.43	ng/L	1		537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	4.5	J	5.0	0.80	ng/L	1		537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	36	B	13	6.0	ng/L	1		537 (modified)	Post-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: EFF-202409 (Continued) — Lab Sample ID: 320-115509-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	36	B	5.0	1.2	ng/L	1		537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	29	B	5.0	1.4	ng/L	1		537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	12	B	5.0	0.63	ng/L	1		537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	15	B	5.0	2.1	ng/L	1		537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	3.2	J I	5.0	0.68	ng/L	1		537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	1.8	J *-	5.0	0.78	ng/L	1		537 (modified)	Post-Treatment
Perfluorobutanesulfonic acid (PFBS)	3.7	J	5.0	0.50	ng/L	1		537 (modified)	Post-Treatment
Perfluorohexanesulfonic acid (PFHxS)	7.6		5.0	0.43	ng/L	1		537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	4.4	J	5.0	0.80	ng/L	1		537 (modified)	Post-Treatment
Total Suspended Solids	8.4		5.0	1.9	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EB01-202409 — Lab Sample ID: 320-115509-8

No Detections.

Client Sample ID: BIO-A-22-202409 — Lab Sample ID: 320-115509-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	10		3.2	0.73	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	22		3.2	0.65	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	40		3.2	0.49	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.1		3.2	0.61	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	33		3.2	0.85	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	2.0	J	3.2	0.35	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	15		3.2	0.77	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.8	J	3.2	0.67	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	4.8		3.2	0.48	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.57	J	3.2	0.33	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	1.3	J	3.2	0.59	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.4		3.2	0.61	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.8	J I	3.2	0.46	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	18	I	3.2	0.69	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	2.2	J	3.2	0.83	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	1.1	J	3.2	0.53	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	36		3.2	0.37	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	12		3.2	0.77	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	9.3		3.2	0.75	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	3.1	J	3.2	0.45	ug/Kg	1	☼	537 (modified)	Total/NA
6:2 FTS	2.2	J	3.2	0.43	ug/Kg	1	☼	537 (modified)	Total/NA
8:2 FTS	1.3	J	3.2	0.56	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	8.1		3.7	0.85	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoropentanoic acid (PFPeA)	18		3.7	0.76	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanoic acid (PFHxA)	26		3.7	0.57	ug/Kg	1	☼	537 (modified)	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-A-22-202409 (Continued)

Lab Sample ID: 320-115509-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	3.2	J	3.7	0.70	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanoic acid (PFOA)	21		3.7	0.98	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorononanoic acid (PFNA)	1.5	J	3.7	0.41	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanoic acid (PFDA)	8.9		3.7	0.89	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroundecanoic acid (PFUnA)	1.0	J	3.7	0.78	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorododecanoic acid (PFDoA)	1.8	J	3.7	0.56	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanesulfonic acid (PFBS)	4.6		3.7	0.70	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanesulfonic acid (PFHxS)	2.0	J	3.7	0.54	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	11		3.7	0.80	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSAA	10		3.7	0.43	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSAA	2.8	J	3.7	0.89	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSE	2.7	J	3.7	0.87	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSE	2.2	J	3.7	0.52	ug/Kg	1	☼	537 (modified)	Pre-Treatment
6:2 FTS	1.1	J	3.7	0.50	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	110	B	3.7	0.85	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	59		3.7	0.76	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	55	*-	3.7	0.57	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	21	*-	3.7	0.70	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	52		3.7	0.98	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	9.1		3.7	0.41	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	13		3.7	0.89	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroundecanoic acid (PFUnA)	3.5	J	3.7	0.78	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorododecanoic acid (PFDoA)	3.3	J	3.7	0.56	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotridecanoic acid (PFTrDA)	1.2	J	3.7	0.39	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotetradecanoic acid (PFTeA)	1.4	J	3.7	0.68	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorobutanesulfonic acid (PFBS)	10		3.7	0.70	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanesulfonic acid (PFHxS)	1.9	J	3.7	0.54	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	11		3.7	0.80	ug/Kg	1	☼	537 (modified)	Post-Treatment

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: BIO-B-202409 — Lab Sample ID: 320-115509-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorododecanoic acid (PFDoA)	1.9	J	11	1.7	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.9	J I	11	1.6	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	12		11	1.3	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	4.9	J	11	2.7	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	7.2	J	11	2.7	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	1.9	J	11	1.6	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - RA	17		11	2.4	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.5	J	16	2.5	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanesulfonic acid (PFHxS)	5.9	J I	16	2.3	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	18	I	16	3.4	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSAA	9.2	J	16	1.8	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSAA	5.3	J	16	3.8	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSE	6.5	J	16	3.8	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSE	3.5	J	16	2.2	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	130	B	16	3.8	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	61		16	3.4	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	28	*-	16	2.5	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	20	*-	16	3.1	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	35		16	4.4	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	13	J I	16	1.8	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	7.8	J	16	3.9	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroundecanoic acid (PFUnA)	5.3	J	16	3.4	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorododecanoic acid (PFDoA)	3.9	J	16	2.5	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotridecanoic acid (PFTrDA)	1.7	J	16	1.7	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	11	J	16	3.5	ug/Kg	1	☼	537 (modified)	Post-Treatment

Client Sample ID: BIO-A-23-202409 — Lab Sample ID: 320-115509-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.9		2.5	0.58	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	12		2.5	0.52	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	18		2.5	0.39	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.6	J	2.5	0.48	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	14		2.5	0.67	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.7	J	2.5	0.28	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	11		2.5	0.61	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	2.0	J	2.5	0.53	ug/Kg	1	☼	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-A-23-202409 (Continued)
Lab Sample ID: 320-115509-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorododecanoic acid (PFDoA)	4.5		2.5	0.38	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.52	J	2.5	0.27	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	1.5	J	2.5	0.47	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.1	J	2.5	0.48	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.0	J I	2.5	0.37	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17	I	2.5	0.55	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	1.0	J I	2.5	0.66	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	1.3	J	2.5	0.42	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSA	1.2	J	2.5	0.60	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	27		2.5	0.29	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	11		2.5	0.61	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	14		2.5	0.60	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	3.4		2.5	0.36	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	4.1		3.6	0.82	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoropentanoic acid (PFPeA)	12		3.6	0.73	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanoic acid (PFHxA)	15		3.6	0.55	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroheptanoic acid (PFHpA)	1.6	J	3.6	0.68	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanoic acid (PFOA)	13		3.6	0.95	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorononanoic acid (PFNA)	1.4	J I	3.6	0.39	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanoic acid (PFDA)	8.2		3.6	0.85	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroundecanoic acid (PFUnA)	1.4	J I	3.6	0.75	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorododecanoic acid (PFDoA)	2.9	J	3.6	0.53	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorotetradecanoic acid (PFTeA)	0.72	J	3.6	0.66	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanesulfonic acid (PFBS)	3.1	J	3.6	0.68	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanesulfonic acid (PFHxS)	1.5	J	3.6	0.52	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	13		3.6	0.77	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanesulfonic acid (PFDS)	1.1	J	3.6	0.93	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonamide (FOSA)	0.88	J	3.6	0.59	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSAA	14		3.6	0.41	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSAA	6.1		3.6	0.85	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSE	8.3		3.6	0.84	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSE	3.6		3.6	0.50	ug/Kg	1	☼	537 (modified)	Pre-Treatment
6:2 FTS	1.2	J	3.6	0.48	ug/Kg	1	☼	537 (modified)	Pre-Treatment
8:2 FTS	1.2	J	3.6	0.62	ug/Kg	1	☼	537 (modified)	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-A-23-202409 (Continued) — Lab Sample ID: 320-115509-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	160	B	3.7	0.84	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	72		3.7	0.76	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	50	*-	3.7	0.57	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	25	*-	3.7	0.70	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	50		3.7	0.98	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	15		3.7	0.40	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	17		3.7	0.88	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroundecanoic acid (PFUnA)	5.7		3.7	0.77	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorododecanoic acid (PFDoA)	6.2		3.7	0.55	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotridecanoic acid (PFTrDA)	1.6	J	3.7	0.38	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotetradecanoic acid (PFTeA)	2.1	J	3.7	0.68	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorobutanesulfonic acid (PFBS)	21		3.7	0.70	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanesulfonic acid (PFHxS)	1.5	J	3.7	0.53	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	14		3.7	0.79	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanesulfonic acid (PFDS)	1.2	J	3.7	0.95	ug/Kg	1	☼	537 (modified)	Post-Treatment

Client Sample ID: EB02-202409 — Lab Sample ID: 320-115509-12

No Detections.

Client Sample ID: BIO-A-24-202409 — Lab Sample ID: 320-115509-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.7		3.4	0.78	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	9.4		3.4	0.70	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	9.3		3.4	0.53	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	6.0		3.4	0.90	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.1	J	3.4	0.37	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	5.7		3.4	0.82	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.5	J	3.4	0.71	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	3.0	J	3.4	0.51	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.39	J I	3.4	0.36	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.74	J	3.4	0.63	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.3	J I	3.4	0.49	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	14	I	3.4	0.73	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	1.2	J I	3.4	0.88	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.73	J	3.4	0.56	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	20		3.4	0.39	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	8.0		3.4	0.82	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	9.3		3.4	0.80	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	2.3	J	3.4	0.48	ug/Kg	1	☼	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-A-24-202409 (Continued)
Lab Sample ID: 320-115509-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 FTS	0.58	J	3.4	0.46	ug/Kg	1	☼	537 (modified)	Total/NA
8:2 FTS	0.63	J	3.4	0.59	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	2.8	J	4.7	1.1	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoropentanoic acid (PFPeA)	10		4.7	0.97	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanoic acid (PFHxA)	8.1		4.7	0.73	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanoic acid (PFOA)	5.9		4.7	1.3	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorononanoic acid (PFNA)	1.1	J I	4.7	0.52	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanoic acid (PFDA)	4.2	J	4.7	1.1	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroundecanoic acid (PFUnA)	1.1	J	4.7	0.99	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorododecanoic acid (PFDoA)	2.3	J	4.7	0.70	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanesulfonic acid (PFBS)	1.2	J	4.7	0.89	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanesulfonic acid (PFHxS)	1.7	J	4.7	0.68	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	11		4.7	1.0	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanesulfonic acid (PFDS)	1.2	J	4.7	1.2	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSAA	14		4.7	0.54	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSAA	4.9		4.7	1.1	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSE	6.7		4.7	1.1	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSE	2.8	J	4.7	0.66	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	70	B	4.6	1.1	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	34		4.6	0.95	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	21	*-	4.6	0.71	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	13	*-	4.6	0.88	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	25		4.6	1.2	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	6.9		4.6	0.51	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	6.2		4.6	1.1	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroundecanoic acid (PFUnA)	2.7	J	4.6	0.97	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorododecanoic acid (PFDoA)	3.0	J	4.6	0.69	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotridecanoic acid (PFTrDA)	0.95	J	4.6	0.48	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotetradecanoic acid (PFTeA)	1.2	J	4.6	0.85	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorobutanesulfonic acid (PFBS)	4.0	J	4.6	0.88	ug/Kg	1	☼	537 (modified)	Post-Treatment

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: BIO-A-24-202409 (Continued)

Lab Sample ID: 320-115509-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	1.0	J	4.6	0.67	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	8.0		4.6	1.0	ug/Kg	1	☼	537 (modified)	Post-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: INF-02-202409

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.0**		4.4	2.1	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluoropentanoic acid (PFPeA)	**3.2**		1.8	0.43	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorohexanoic acid (PFHxA)	**4.5**	**I**	1.8	0.51	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluoroheptanoic acid (PFHpA)	**0.97**	**J**	1.8	0.22	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorooctanoic acid (PFOA)	**2.0**		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorobutanesulfonic acid (PFBS)	**0.84**	**J**	1.8	0.18	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorohexanesulfonic acid (PFHxS)	**3.2**		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.86	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.87	ng/L		09/27/24 05:24	09/27/24 17:36	1
NEtFOSA	ND		1.8	0.77	ng/L		09/27/24 05:24	09/27/24 17:36	1
NMeFOSA	ND		1.8	0.38	ng/L		09/27/24 05:24	09/27/24 17:36	1
NMeFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 17:36	1
NEtFOSAA	ND		4.4	1.2	ng/L		09/27/24 05:24	09/27/24 17:36	1
NMeFOSE	ND		3.5	1.2	ng/L		09/27/24 05:24	09/27/24 17:36	1
NEtFOSE	ND		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 17:36	1
4:2 FTS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 17:36	1
6:2 FTS	ND		4.4	2.2	ng/L		09/27/24 05:24	09/27/24 17:36	1
8:2 FTS	ND		1.8	0.41	ng/L		09/27/24 05:24	09/27/24 17:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		09/27/24 05:24	09/27/24 17:36	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		09/27/24 05:24	09/27/24 17:36	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 17:36	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 17:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C5 PFPeA	*77*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C2 PFHxA	*85*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C4 PFHpA	*91*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C4 PFOA	*91*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C5 PFNA	*85*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C2 PFDA	*79*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C2 PFUnA	*64*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C2 PFDoA	*50*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C2 PFTeDA	*18*	**5-*	*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C3 PFBS	*72*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*

Client Sample ID: INF-02-202409

Lab Sample ID: 320-115509-1

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*78*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C4 PFOS	*73*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C8 FOSA	*61*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d3-NMeFOSAA	*54*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d5-NEtFOSAA	*67*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d-N-MeFOSA-M	*53*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d-N-EtFOSA-M	*40*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d7-N-MeFOSE-M	*46*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d9-N-EtFOSE-M	*38*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
M2-4:2 FTS	*108*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
M2-6:2 FTS	*167*	**5+*	*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
M2-8:2 FTS	*129*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C3 HFPO-DA	*83*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**270**		50	19	mg/L			09/23/24 15:45	1

Client Sample ID: INF-07-202409

Lab Sample ID: 320-115509-2

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14**		4.3	2.1	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluoropentanoic acid (PFPeA)	**6.2**		1.7	0.42	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorohexanoic acid (PFHxA)	**14**		1.7	0.50	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluoroheptanoic acid (PFHpA)	**2.1**		1.7	0.21	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorooctanoic acid (PFOA)	**3.8**		1.7	0.73	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.63	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorobutanesulfonic acid (PFBS)	**5.9**		1.7	0.17	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.26	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorohexanesulfonic acid (PFHxS)	**4.3**		1.7	0.49	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorooctanesulfonic acid (PFOS)	**2.9**		1.7	0.46	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.32	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.83	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.84	ng/L		09/27/24 05:24	09/27/24 17:50	1
NEtFOSA	ND		1.7	0.75	ng/L		09/27/24 05:24	09/27/24 17:50	1

Client Sample ID: INF-07-202409

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		1.7	0.37	ng/L		09/27/24 05:24	09/27/24 17:50	1
NMeFOSAA	ND		4.3	1.0	ng/L		09/27/24 05:24	09/27/24 17:50	1
NEtFOSAA	ND		4.3	1.1	ng/L		09/27/24 05:24	09/27/24 17:50	1
NMeFOSE	ND		3.4	1.2	ng/L		09/27/24 05:24	09/27/24 17:50	1
NEtFOSE	ND		1.7	0.73	ng/L		09/27/24 05:24	09/27/24 17:50	1
4:2 FTS	ND		1.7	0.21	ng/L		09/27/24 05:24	09/27/24 17:50	1
6:2 FTS	ND		4.3	2.1	ng/L		09/27/24 05:24	09/27/24 17:50	1
8:2 FTS	ND		1.7	0.39	ng/L		09/27/24 05:24	09/27/24 17:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		09/27/24 05:24	09/27/24 17:50	1
HFPO-DA (GenX)	ND		3.4	1.3	ng/L		09/27/24 05:24	09/27/24 17:50	1
9Cl-PF3ONS	ND		1.7	0.21	ng/L		09/27/24 05:24	09/27/24 17:50	1
11Cl-PF3OUdS	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 17:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*60*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C5 PFPeA	*71*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C2 PFHxA	*79*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C4 PFHpA	*80*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C4 PFOA	*83*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C5 PFNA	*80*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C2 PFDA	*71*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C2 PFUnA	*65*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C2 PFDoA	*53*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C2 PFTeDA	*24*	**5-*	*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C3 PFBS	*69*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
18O2 PFHxS	*75*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C4 PFOS	*70*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C8 FOSA	*60*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d3-NMeFOSAA	*53*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d5-NEtFOSAA	*68*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d-N-MeFOSA-M	*54*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d-N-EtFOSA-M	*45*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d7-N-MeFOSE-M	*48*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d9-N-EtFOSE-M	*44*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
M2-4:2 FTS	*124*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
M2-6:2 FTS	*129*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
M2-8:2 FTS	*118*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C3 HFPO-DA	*73*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**190**		36	14	mg/L			09/23/24 15:47	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: INF-08-202409

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.2**		4.3	2.1	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluoropentanoic acid (PFPeA)	**5.6**		1.7	0.42	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorohexanoic acid (PFHxA)	**5.6**		1.7	0.50	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluoroheptanoic acid (PFHpA)	**0.80**	**J**	1.7	0.22	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorooctanoic acid (PFOA)	**1.5**	**J**	1.7	0.73	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.95	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.63	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorobutanesulfonic acid (PFBS)	**1.6**	**J**	1.7	0.17	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.26	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorohexanesulfonic acid (PFHxS)	**1.9**		1.7	0.49	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.46	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.32	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.28	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.83	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.84	ng/L		09/27/24 05:24	09/27/24 18:04	1
NEtFOSA	ND		1.7	0.75	ng/L		09/27/24 05:24	09/27/24 18:04	1
NMeFOSA	ND		1.7	0.37	ng/L		09/27/24 05:24	09/27/24 18:04	1
NMeFOSAA	ND		4.3	1.0	ng/L		09/27/24 05:24	09/27/24 18:04	1
NEtFOSAA	ND		4.3	1.1	ng/L		09/27/24 05:24	09/27/24 18:04	1
NMeFOSE	ND		3.4	1.2	ng/L		09/27/24 05:24	09/27/24 18:04	1
NEtFOSE	ND		1.7	0.73	ng/L		09/27/24 05:24	09/27/24 18:04	1
4:2 FTS	ND		1.7	0.21	ng/L		09/27/24 05:24	09/27/24 18:04	1
6:2 FTS	ND		4.3	2.2	ng/L		09/27/24 05:24	09/27/24 18:04	1
8:2 FTS	ND		1.7	0.40	ng/L		09/27/24 05:24	09/27/24 18:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		09/27/24 05:24	09/27/24 18:04	1
HFPO-DA (GenX)	ND		3.4	1.3	ng/L		09/27/24 05:24	09/27/24 18:04	1
9Cl-PF3ONS	ND		1.7	0.21	ng/L		09/27/24 05:24	09/27/24 18:04	1
11Cl-PF3OUdS	ND		1.7	0.28	ng/L		09/27/24 05:24	09/27/24 18:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C5 PFPeA	*67*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C2 PFHxA	*82*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C4 PFHpA	*83*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C4 PFOA	*88*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C5 PFNA	*86*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C2 PFDA	*77*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C2 PFUnA	*65*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C2 PFDoA	*49*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C2 PFTeDA	*17*	**5-*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C3 PFBS	*73*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*

Client Sample ID: INF-08-202409

Lab Sample ID: 320-115509-3

Date Collected: 09/16/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*81*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C4 PFOS	*74*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C8 FOSA	*61*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d3-NMeFOSAA	*51*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d5-NEtFOSAA	*68*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d-N-MeFOSA-M	*50*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d-N-EtFOSA-M	*40*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d7-N-MeFOSE-M	*44*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d9-N-EtFOSE-M	*39*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
M2-4:2 FTS	*102*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
M2-6:2 FTS	*156*	**5+*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
M2-8:2 FTS	*126*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C3 HFPO-DA	*78*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		50	19	mg/L			09/23/24 15:49	1

Client Sample ID: INF-11-202409

Lab Sample ID: 320-115509-4

Date Collected: 09/16/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.1**	**J**	4.3	2.0	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluoropentanoic acid (PFPeA)	**2.3**		1.7	0.42	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorohexanoic acid (PFHxA)	**2.5**		1.7	0.50	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluoroheptanoic acid (PFHpA)	**0.45**	**J**	1.7	0.21	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorooctanoic acid (PFOA)	**1.2**	**J**	1.7	0.73	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.26	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.62	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorobutanesulfonic acid (PFBS)	**0.82**	**J**	1.7	0.17	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.26	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorohexanesulfonic acid (PFHxS)	**2.0**		1.7	0.49	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.46	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.32	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.83	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.84	ng/L		09/27/24 05:24	09/27/24 18:18	1
NEtFOSA	ND		1.7	0.74	ng/L		09/27/24 05:24	09/27/24 18:18	1
NMeFOSA	ND		1.7	0.37	ng/L		09/27/24 05:24	09/27/24 18:18	1

Client Sample ID: INF-11-202409

Lab Sample ID: 320-115509-4

Date Collected: 09/16/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSAA	ND		4.3	1.0	ng/L		09/27/24 05:24	09/27/24 18:18	1
NEtFOSAA	ND		4.3	1.1	ng/L		09/27/24 05:24	09/27/24 18:18	1
NMeFOSE	ND		3.4	1.2	ng/L		09/27/24 05:24	09/27/24 18:18	1
NEtFOSE	ND		1.7	0.73	ng/L		09/27/24 05:24	09/27/24 18:18	1
4:2 FTS	ND		1.7	0.20	ng/L		09/27/24 05:24	09/27/24 18:18	1
6:2 FTS	ND		4.3	2.1	ng/L		09/27/24 05:24	09/27/24 18:18	1
8:2 FTS	ND		1.7	0.39	ng/L		09/27/24 05:24	09/27/24 18:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		09/27/24 05:24	09/27/24 18:18	1
HFPO-DA (GenX)	ND		3.4	1.3	ng/L		09/27/24 05:24	09/27/24 18:18	1
9Cl-PF3ONS	ND		1.7	0.20	ng/L		09/27/24 05:24	09/27/24 18:18	1
11Cl-PF3OUdS	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 18:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C5 PFPeA	*63*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C2 PFHxA	*64*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C4 PFHpA	*69*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C4 PFOA	*66*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C5 PFNA	*67*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C2 PFDA	*60*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C2 PFUnA	*54*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C2 PFDoA	*45*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C2 PFTeDA	*16*	**5-*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C3 PFBS	*58*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
18O2 PFHxS	*61*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C4 PFOS	*57*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C8 FOSA	*45*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d3-NMeFOSAA	*42*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d5-NEtFOSAA	*53*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d-N-MeFOSA-M	*44*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d-N-EtFOSA-M	*32*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d7-N-MeFOSE-M	*39*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d9-N-EtFOSE-M	*36*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
M2-4:2 FTS	*90*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
M2-6:2 FTS	*124*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
M2-8:2 FTS	*98*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C3 HFPO-DA	*61*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		50	19	mg/L			09/23/24 15:51	1

Client Sample ID: INF-18-202409

Lab Sample ID: 320-115509-5

Date Collected: 09/16/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.7**		4.5	2.2	ng/L		09/27/24 05:24	09/27/24 18:32	1

Client Sample ID: INF-18-202409

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-5

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**4.6**		1.8	0.44	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorohexanoic acid (PFHxA)	**7.4**		1.8	0.52	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluoroheptanoic acid (PFHpA)	**1.9**		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorooctanoic acid (PFOA)	**7.9**		1.8	0.76	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.99	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorobutanesulfonic acid (PFBS)	**3.5**		1.8	0.18	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluoropentanesulfonic acid (PFPeS)	**1.2**	**J**	1.8	0.27	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorohexanesulfonic acid (PFHxS)	**15**		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorooctanesulfonic acid (PFOS)	**7.1**		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.87	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.88	ng/L		09/27/24 05:24	09/27/24 18:32	1
NEtFOSA	ND		1.8	0.78	ng/L		09/27/24 05:24	09/27/24 18:32	1
NMeFOSA	ND		1.8	0.39	ng/L		09/27/24 05:24	09/27/24 18:32	1
NMeFOSAA	ND		4.5	1.1	ng/L		09/27/24 05:24	09/27/24 18:32	1
NEtFOSAA	ND		4.5	1.2	ng/L		09/27/24 05:24	09/27/24 18:32	1
NMeFOSE	ND		3.6	1.3	ng/L		09/27/24 05:24	09/27/24 18:32	1
NEtFOSE	ND		1.8	0.76	ng/L		09/27/24 05:24	09/27/24 18:32	1
4:2 FTS	ND		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 18:32	1
6:2 FTS	**6.4**		4.5	2.2	ng/L		09/27/24 05:24	09/27/24 18:32	1
8:2 FTS	ND		1.8	0.41	ng/L		09/27/24 05:24	09/27/24 18:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		09/27/24 05:24	09/27/24 18:32	1
HFPO-DA (GenX)	ND		3.6	1.3	ng/L		09/27/24 05:24	09/27/24 18:32	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 18:32	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		09/27/24 05:24	09/27/24 18:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C5 PFPeA	*62*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C2 PFHxA	*65*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C4 PFHpA	*67*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C4 PFOA	*64*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C5 PFNA	*67*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C2 PFDA	*60*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C2 PFUnA	*53*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C2 PFDoA	*47*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C2 PFTeDA	*17*	**5-*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C3 PFBS	*54*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*

Client Sample ID: INF-18-202409

Lab Sample ID: 320-115509-5

Date Collected: 09/16/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	59		25 - 150	09/27/24 05:24	09/27/24 18:32	1
13C4 PFOS	53		25 - 150	09/27/24 05:24	09/27/24 18:32	1
13C8 FOSA	47		10 - 150	09/27/24 05:24	09/27/24 18:32	1
d3-NMeFOSAA	41		25 - 150	09/27/24 05:24	09/27/24 18:32	1
d5-NEtFOSAA	56		25 - 150	09/27/24 05:24	09/27/24 18:32	1
d-N-MeFOSA-M	44		10 - 150	09/27/24 05:24	09/27/24 18:32	1
d-N-EtFOSA-M	37		10 - 150	09/27/24 05:24	09/27/24 18:32	1
d7-N-MeFOSE-M	42		10 - 150	09/27/24 05:24	09/27/24 18:32	1
d9-N-EtFOSE-M	40		10 - 150	09/27/24 05:24	09/27/24 18:32	1
M2-4:2 FTS	81		25 - 150	09/27/24 05:24	09/27/24 18:32	1
M2-6:2 FTS	117		25 - 150	09/27/24 05:24	09/27/24 18:32	1
M2-8:2 FTS	90		25 - 150	09/27/24 05:24	09/27/24 18:32	1
13C3 HFPO-DA	63		25 - 150	09/27/24 05:24	09/27/24 18:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	220		50	19	mg/L			09/23/24 15:53	1

Client Sample ID: INF-COMP-202409

Lab Sample ID: 320-115509-6

Date Collected: 09/16/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	7.7		4.4	2.1	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluoropentanoic acid (PFPeA)	3.8		1.8	0.44	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorohexanoic acid (PFHxA)	7.4		1.8	0.52	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluoroheptanoic acid (PFHpA)	1.3	J	1.8	0.22	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorooctanoic acid (PFOA)	4.0		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorobutanesulfonic acid (PFBS)	2.2		1.8	0.18	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorohexanesulfonic acid (PFHxS)	6.6		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorooctanesulfonic acid (PFOS)	3.8		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.86	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.87	ng/L		09/27/24 05:24	09/27/24 18:46	1
NEtFOSA	ND		1.8	0.77	ng/L		09/27/24 05:24	09/27/24 18:46	1

Client Sample ID: INF-COMP-202409

Lab Sample ID: 320-115509-6

Date Collected: 09/16/24 23:59

Matrix: Water

Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		1.8	0.38	ng/L		09/27/24 05:24	09/27/24 18:46	1
NMeFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 18:46	1
NEtFOSAA	ND		4.4	1.2	ng/L		09/27/24 05:24	09/27/24 18:46	1
NMeFOSE	ND		3.6	1.2	ng/L		09/27/24 05:24	09/27/24 18:46	1
NEtFOSE	ND		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 18:46	1
4:2 FTS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 18:46	1
6:2 FTS	ND		4.4	2.2	ng/L		09/27/24 05:24	09/27/24 18:46	1
8:2 FTS	ND		1.8	0.41	ng/L		09/27/24 05:24	09/27/24 18:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		09/27/24 05:24	09/27/24 18:46	1
HFPO-DA (GenX)	ND		3.6	1.3	ng/L		09/27/24 05:24	09/27/24 18:46	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 18:46	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 18:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*62*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C5 PFPeA	*81*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C2 PFHxA	*82*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C4 PFHpA	*86*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C4 PFOA	*84*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C5 PFNA	*84*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C2 PFDA	*78*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C2 PFUnA	*65*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C2 PFDoA	*52*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C2 PFTeDA	*19*	**5-*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C3 PFBS	*73*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
18O2 PFHxS	*75*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C4 PFOS	*69*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C8 FOSA	*57*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d3-NMeFOSAA	*50*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d5-NEtFOSAA	*65*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d-N-MeFOSA-M	*51*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d-N-EtFOSA-M	*40*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d7-N-MeFOSE-M	*48*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d9-N-EtFOSE-M	*39*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
M2-4:2 FTS	*102*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
M2-6:2 FTS	*153*	**5+*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
M2-8:2 FTS	*113*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C3 HFPO-DA	*83*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**240**		50	19	mg/L			09/23/24 15:55	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: EFF-202409

Date Collected: 09/17/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.1**		4.4	2.1	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluoropentanoic acid (PFPeA)	**20**		1.8	0.43	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorohexanoic acid (PFHxA)	**15**		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluoroheptanoic acid (PFHpA)	**1.8**		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorooctanoic acid (PFOA)	**6.6**		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.1	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.64	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorobutanesulfonic acid (PFBS)	**4.3**		1.8	0.18	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluoropentanesulfonic acid (PFPeS)	**0.38**	**J**	1.8	0.26	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorohexanesulfonic acid (PFHxS)	**7.0**		1.8	0.50	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorooctanesulfonic acid (PFOS)	**3.6**		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.85	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.86	ng/L		09/27/24 05:24	09/27/24 19:28	1
NEtFOSA	ND		1.8	0.77	ng/L		09/27/24 05:24	09/27/24 19:28	1
NMeFOSA	ND		1.8	0.38	ng/L		09/27/24 05:24	09/27/24 19:28	1
NMeFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 19:28	1
NEtFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 19:28	1
NMeFOSE	ND		3.5	1.2	ng/L		09/27/24 05:24	09/27/24 19:28	1
NEtFOSE	ND		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 19:28	1
4:2 FTS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:28	1
6:2 FTS	ND		4.4	2.2	ng/L		09/27/24 05:24	09/27/24 19:28	1
8:2 FTS	ND		1.8	0.40	ng/L		09/27/24 05:24	09/27/24 19:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		09/27/24 05:24	09/27/24 19:28	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		09/27/24 05:24	09/27/24 19:28	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:28	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 19:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C5 PFPeA	*96*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C2 PFHxA	*105*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C4 PFHpA	*104*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C4 PFOA	*100*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C5 PFNA	*101*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C2 PFDA	*100*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C2 PFUnA	*94*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C2 PFDoA	*78*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C2 PFTeDA	*47*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*

Client Sample ID: EFF-202409

Lab Sample ID: 320-115509-7

Date Collected: 09/17/24 23:59

Matrix: Water

Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*94*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
18O2 PFHxS	*97*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C4 PFOS	*92*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C8 FOSA	*102*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d3-NMeFOSAA	*117*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d5-NEtFOSAA	*119*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d-N-MeFOSA-M	*97*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d-N-EtFOSA-M	*87*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d7-N-MeFOSE-M	*87*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d9-N-EtFOSE-M	*80*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
M2-4:2 FTS	*113*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
M2-6:2 FTS	*81*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
M2-8:2 FTS	*77*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C3 HFPO-DA	*100*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**13**		13	6.0	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluoropentanoic acid (PFPeA)	**16**		5.0	1.2	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorohexanoic acid (PFHxA)	**14**		5.0	1.4	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluoroheptanoic acid (PFHpA)	**2.1**	**J**	5.0	0.63	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorooctanoic acid (PFOA)	**8.7**		5.0	2.1	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorononanoic acid (PFNA)	ND		5.0	0.68	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorodecanoic acid (PFDA)	**0.91**	**J**	5.0	0.78	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	3.2	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	0.73	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorobutanesulfonic acid (PFBS)	**4.8**	**J**	5.0	0.50	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorohexanesulfonic acid (PFHxS)	**7.7**		5.0	0.43	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorooctanesulfonic acid (PFOS)	**4.5**	**J**	5.0	0.80	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	0.88	ng/L		09/23/24 07:15	09/26/24 13:31	1
NMeFOSAA	ND		13	3.0	ng/L		09/23/24 07:15	09/26/24 13:31	1
NEtFOSAA	ND		13	3.3	ng/L		09/23/24 07:15	09/26/24 13:31	1
4:2 FTS	ND		5.0	0.60	ng/L		09/23/24 07:15	09/26/24 13:31	1
6:2 FTS	ND		13	6.3	ng/L		09/23/24 07:15	09/26/24 13:31	1
8:2 FTS	ND		5.0	1.2	ng/L		09/23/24 07:15	09/26/24 13:31	1
NEtFOSA	ND	*-	5.0	2.2	ng/L		09/23/24 07:15	09/26/24 13:31	1
NMeFOSA	ND	*-	5.0	1.1	ng/L		09/23/24 07:15	09/26/24 13:31	1
NMeFOSE	ND		10	3.5	ng/L		09/23/24 07:15	09/26/24 13:31	1

Client Sample ID: EFF-202409

Lab Sample ID: 320-115509-7

Date Collected: 09/17/24 23:59

Matrix: Water

Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSE	ND		5.0	2.2	ng/L		09/23/24 07:15	09/26/24 13:31	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		09/23/24 07:15	09/26/24 13:31	1
9Cl-PF3ONS	ND		5.0	0.60	ng/L		09/23/24 07:15	09/26/24 13:31	1
11Cl-PF3OUdS	ND		5.0	0.80	ng/L		09/23/24 07:15	09/26/24 13:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		09/23/24 07:15	09/26/24 13:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*84*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C4 PFBA	*85*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C5 PFPeA	*92*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C2 PFHxA	*97*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C4 PFHpA	*97*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C4 PFOA	*91*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C5 PFNA	*90*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C2 PFDA	*91*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C2 PFUnA	*83*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C2 PFDoA	*76*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C2 PFTeDA	*66*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C3 PFBS	*87*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
18O2 PFHxS	*89*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C4 PFOS	*84*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d3-NMeFOSAA	*73*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d5-NEtFOSAA	*81*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
M2-4:2 FTS	*115*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
M2-6:2 FTS	*94*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
M2-8:2 FTS	*98*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d-N-MeFOSA-M	*76*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d-N-EtFOSA-M	*70*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d7-N-MeFOSE-M	*69*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d9-N-EtFOSE-M	*68*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C3 HFPO-DA	*89*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**36**	**B**	13	6.0	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluoropentanoic acid (PFPeA)	**36**	**B**	5.0	1.2	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorohexanoic acid (PFHxA)	**29**	**B**	5.0	1.4	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluoroheptanoic acid (PFHpA)	**12**	**B**	5.0	0.63	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorooctanoic acid (PFOA)	**15**	**B**	5.0	2.1	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorononanoic acid (PFNA)	**3.2**	**J I**	5.0	0.68	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorodecanoic acid (PFDA)	**1.8**	**J *-**	5.0	0.78	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorotridecanoic acid (PFTrDA)	ND	*-	5.0	3.2	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	0.73	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorobutanesulfonic acid (PFBS)	**3.7**	**J**	5.0	0.50	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		09/23/24 07:21	09/26/24 16:06	1

Client Sample ID: EFF-202409

Lab Sample ID: 320-115509-7

Date Collected: 09/17/24 23:59

Matrix: Water

Date Received: 09/19/24 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**7.6**		5.0	0.43	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorooctanesulfonic acid (PFOS)	**4.4**	**J**	5.0	0.80	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	0.88	ng/L		09/23/24 07:21	09/26/24 16:06	1
NMeFOSAA	ND		13	3.0	ng/L		09/23/24 07:21	09/26/24 16:06	1
NEtFOSAA	ND	*1	13	3.3	ng/L		09/23/24 07:21	09/26/24 16:06	1
4:2 FTS	ND		5.0	0.60	ng/L		09/23/24 07:21	09/26/24 16:06	1
6:2 FTS	ND		13	6.3	ng/L		09/23/24 07:21	09/26/24 16:06	1
8:2 FTS	ND		5.0	1.2	ng/L		09/23/24 07:21	09/26/24 16:06	1
NEtFOSA	ND		5.0	2.2	ng/L		09/23/24 07:21	09/26/24 16:06	1
NMeFOSA	ND		5.0	1.1	ng/L		09/23/24 07:21	09/26/24 16:06	1
NMeFOSE	ND		10	3.5	ng/L		09/23/24 07:21	09/26/24 16:06	1
NEtFOSE	ND		5.0	2.2	ng/L		09/23/24 07:21	09/26/24 16:06	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		09/23/24 07:21	09/26/24 16:06	1
9Cl-PF3ONS	ND		5.0	0.60	ng/L		09/23/24 07:21	09/26/24 16:06	1
11Cl-PF3OUdS	ND		5.0	0.80	ng/L		09/23/24 07:21	09/26/24 16:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		09/23/24 07:21	09/26/24 16:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*80*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C4 PFBA	*91*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C5 PFPeA	*92*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C2 PFHxA	*94*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C4 PFHpA	*99*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C4 PFOA	*94*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C5 PFNA	*94*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C2 PFDA	*96*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C2 PFUnA	*85*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C2 PFDoA	*81*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C2 PFTeDA	*77*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C3 PFBS	*88*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
18O2 PFHxS	*95*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C4 PFOS	*92*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d3-NMeFOSAA	*79*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d5-NEtFOSAA	*81*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
M2-6:2 FTS	*75*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
M2-8:2 FTS	*95*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d-N-MeFOSA-M	*65*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d-N-EtFOSA-M	*61*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d7-N-MeFOSE-M	*73*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d9-N-EtFOSE-M	*74*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C3 HFPO-DA	*90*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: EFF-202409

Lab Sample ID: 320-115509-7

Date Collected: 09/17/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	8.4		5.0	1.9	mg/L			09/24/24 16:52	1

Client Sample ID: EB01-202409

Lab Sample ID: 320-115509-8

Date Collected: 09/17/24 07:10
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.5	2.1	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.44	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.52	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.76	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.87	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.88	ng/L		09/27/24 05:24	09/27/24 19:42	1
NEtFOSA	ND		1.8	0.78	ng/L		09/27/24 05:24	09/27/24 19:42	1
NMeFOSA	ND		1.8	0.38	ng/L		09/27/24 05:24	09/27/24 19:42	1
NMeFOSAA	ND		4.5	1.1	ng/L		09/27/24 05:24	09/27/24 19:42	1
NEtFOSAA	ND		4.5	1.2	ng/L		09/27/24 05:24	09/27/24 19:42	1
NMeFOSE	ND		3.6	1.3	ng/L		09/27/24 05:24	09/27/24 19:42	1
NEtFOSE	ND		1.8	0.76	ng/L		09/27/24 05:24	09/27/24 19:42	1
4:2 FTS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:42	1
6:2 FTS	ND		4.5	2.2	ng/L		09/27/24 05:24	09/27/24 19:42	1
8:2 FTS	ND		1.8	0.41	ng/L		09/27/24 05:24	09/27/24 19:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		09/27/24 05:24	09/27/24 19:42	1
HFPO-DA (GenX)	ND		3.6	1.3	ng/L		09/27/24 05:24	09/27/24 19:42	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:42	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		09/27/24 05:24	09/27/24 19:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C5 PFPeA	*101*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C2 PFHxA	*105*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C4 PFHpA	*103*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*

Client Sample ID: EB01-202409

Lab Sample ID: 320-115509-8

Date Collected: 09/17/24 07:10
Date Received: 09/19/24 09:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	101		25 - 150	09/27/24 05:24	09/27/24 19:42	1
13C5 PFNA	103		25 - 150	09/27/24 05:24	09/27/24 19:42	1
13C2 PFDA	103		25 - 150	09/27/24 05:24	09/27/24 19:42	1
13C2 PFUnA	100		25 - 150	09/27/24 05:24	09/27/24 19:42	1
13C2 PFDoA	94		25 - 150	09/27/24 05:24	09/27/24 19:42	1
13C2 PFTeDA	85		25 - 150	09/27/24 05:24	09/27/24 19:42	1
13C3 PFBS	95		25 - 150	09/27/24 05:24	09/27/24 19:42	1
18O2 PFHxS	98		25 - 150	09/27/24 05:24	09/27/24 19:42	1
13C4 PFOS	96		25 - 150	09/27/24 05:24	09/27/24 19:42	1
13C8 FOSA	106		10 - 150	09/27/24 05:24	09/27/24 19:42	1
d3-NMeFOSAA	127		25 - 150	09/27/24 05:24	09/27/24 19:42	1
d5-NEtFOSAA	120		25 - 150	09/27/24 05:24	09/27/24 19:42	1
d-N-MeFOSA-M	98		10 - 150	09/27/24 05:24	09/27/24 19:42	1
d-N-EtFOSA-M	95		10 - 150	09/27/24 05:24	09/27/24 19:42	1
d7-N-MeFOSE-M	101		10 - 150	09/27/24 05:24	09/27/24 19:42	1
d9-N-EtFOSE-M	100		10 - 150	09/27/24 05:24	09/27/24 19:42	1
M2-4:2 FTS	81		25 - 150	09/27/24 05:24	09/27/24 19:42	1
M2-6:2 FTS	72		25 - 150	09/27/24 05:24	09/27/24 19:42	1
M2-8:2 FTS	74		25 - 150	09/27/24 05:24	09/27/24 19:42	1
13C3 HFPO-DA	107		25 - 150	09/27/24 05:24	09/27/24 19:42	1

Client Sample ID: BIO-A-22-202409

Lab Sample ID: 320-115509-9

Date Collected: 09/17/24 07:37
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**10**		3.2	0.73	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluoropentanoic acid (PFPeA)	**22**		3.2	0.65	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorohexanoic acid (PFHxA)	**40**		3.2	0.49	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluoroheptanoic acid (PFHpA)	**4.1**		3.2	0.61	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorooctanoic acid (PFOA)	**33**		3.2	0.85	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorononanoic acid (PFNA)	**2.0**	**J**	3.2	0.35	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorodecanoic acid (PFDA)	**15**		3.2	0.77	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluoroundecanoic acid (PFUnA)	**1.8**	**J**	3.2	0.67	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorododecanoic acid (PFDoA)	**4.8**		3.2	0.48	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorotridecanoic acid (PFTrDA)	**0.57**	**J**	3.2	0.33	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorotetradecanoic acid (PFTeA)	**1.3**	**J**	3.2	0.59	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorobutanesulfonic acid (PFBS)	**3.4**		3.2	0.61	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.2	0.59	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorohexanesulfonic acid (PFHxS)	**1.8**	**J I**	3.2	0.46	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.2	0.78	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorooctanesulfonic acid (PFOS)	**18**	**I**	3.2	0.69	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1

Client Sample ID: BIO-A-22-202409

Date Collected: 09/17/24 07:37
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-9

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanesulfonic acid (PFNS)	ND		3.2	0.46	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorodecanesulfonic acid (PFDS)	**2.2**	**J**	3.2	0.83	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.2	0.75	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorooctanesulfonamide (FOSA)	**1.1**	**J**	3.2	0.53	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NEtFOSA	ND		3.2	0.75	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NMeFOSA	ND		3.2	0.78	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NMeFOSAA	**36**		3.2	0.37	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NEtFOSAA	**12**		3.2	0.77	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NMeFOSE	**9.3**		3.2	0.75	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NEtFOSE	**3.1**	**J**	3.2	0.45	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
4:2 FTS	ND		3.2	0.81	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
6:2 FTS	**2.2**	**J**	3.2	0.43	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
8:2 FTS	**1.3**	**J**	3.2	0.56	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.2	0.62	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
HFPO-DA (GenX)	ND		3.2	0.65	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
9Cl-PF3ONS	ND		3.2	0.56	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
11Cl-PF3OUdS	ND		3.2	0.49	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C5 PFPeA	*80*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C2 PFHxA	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C4 PFHpA	*83*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C4 PFOA	*83*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C5 PFNA	*79*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C2 PFDA	*59*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C2 PFUnA	*89*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C2 PFDoA	*71*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C2 PFTeDA	*56*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C3 PFBS	*76*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
18O2 PFHxS	*81*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C4 PFOS	*67*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C8 FOSA	*59*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d3-NMeFOSAA	*72*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d5-NEtFOSAA	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d-N-MeFOSA-M	*55*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d-N-EtFOSA-M	*58*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d7-N-MeFOSE-M	*52*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d9-N-EtFOSE-M	*66*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
M2-4:2 FTS	*153*	**5+*	*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
M2-6:2 FTS	*159*	**5+*	*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
M2-8:2 FTS	*70*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C3 HFPO-DA	*77*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.1**		3.7	0.85	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1

Client Sample ID: BIO-A-22-202409

Date Collected: 09/17/24 07:37
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-9

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**18**		3.7	0.76	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorohexanoic acid (PFHxA)	**26**		3.7	0.57	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluoroheptanoic acid (PFHpA)	**3.2**	**J**	3.7	0.70	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorooctanoic acid (PFOA)	**21**		3.7	0.98	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorononanoic acid (PFNA)	**1.5**	**J**	3.7	0.41	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorodecanoic acid (PFDA)	**8.9**		3.7	0.89	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluoroundecanoic acid (PFUnA)	**1.0**	**J**	3.7	0.78	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorododecanoic acid (PFDoA)	**1.8**	**J**	3.7	0.56	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.7	0.39	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		3.7	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorobutanesulfonic acid (PFBS)	**4.6**		3.7	0.70	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.7	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorohexanesulfonic acid (PFHxS)	**2.0**	**J**	3.7	0.54	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.7	0.91	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorooctanesulfonic acid (PFOS)	**11**		3.7	0.80	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorononanesulfonic acid (PFNS)	ND		3.7	0.54	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.7	0.96	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorooctanesulfonamide (FOSA)	ND		3.7	0.61	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NMeFOSA	ND		3.7	0.91	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NEtFOSA	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NMeFOSAA	**10**		3.7	0.43	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NEtFOSAA	**2.8**	**J**	3.7	0.89	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NMeFOSE	**2.7**	**J**	3.7	0.87	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NEtFOSE	**2.2**	**J**	3.7	0.52	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
4:2 FTS	ND		3.7	0.95	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
6:2 FTS	**1.1**	**J**	3.7	0.50	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
8:2 FTS	ND		3.7	0.65	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
HFPO-DA (GenX)	ND		3.7	0.76	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
9Cl-PF3ONS	ND		3.7	0.65	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
11Cl-PF3OUdS	ND		3.7	0.57	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.7	0.72	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C5 PFPeA	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C2 PFHxA	*97*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C4 PFHpA	*97*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C4 PFOA	*94*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C5 PFNA	*99*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C2 PFDA	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C2 PFUnA	*96*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C2 PFDoA	*90*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*

Client Sample ID: BIO-A-22-202409

Date Collected: 09/17/24 07:37
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-9

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*77*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C3 PFBS	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
18O2 PFHxS	*91*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C4 PFOS	*83*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C8 FOSA	*76*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
M2-4:2 FTS	*94*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
M2-6:2 FTS	*132*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
M2-8:2 FTS	*109*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C3 HFPO-DA	*86*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d3-NMeFOSAA	*91*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d5-NEtFOSAA	*101*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d-N-MeFOSA-M	*70*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d-N-EtFOSA-M	*78*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d7-N-MeFOSE-M	*70*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d9-N-EtFOSE-M	*79*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**110**	**B**	3.7	0.85	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluoropentanoic acid (PFPeA)	**59**		3.7	0.76	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorohexanoic acid (PFHxA)	**55**	***-**	3.7	0.57	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluoroheptanoic acid (PFHpA)	**21**	***-**	3.7	0.70	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorooctanoic acid (PFOA)	**52**		3.7	0.98	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorononanoic acid (PFNA)	**9.1**		3.7	0.41	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorodecanoic acid (PFDA)	**13**		3.7	0.89	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluoroundecanoic acid (PFUnA)	**3.5**	**J**	3.7	0.78	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorododecanoic acid (PFDoA)	**3.3**	**J**	3.7	0.56	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorotridecanoic acid (PFTrDA)	**1.2**	**J**	3.7	0.39	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorotetradecanoic acid (PFTeA)	**1.4**	**J**	3.7	0.68	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorobutanesulfonic acid (PFBS)	**10**		3.7	0.70	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.7	0.68	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorohexanesulfonic acid (PFHxS)	**1.9**	**J**	3.7	0.54	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.7	0.91	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorooctanesulfonic acid (PFOS)	**11**		3.7	0.80	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorononanesulfonic acid (PFNS)	ND		3.7	0.54	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.7	0.96	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorooctanesulfonamide (FOSA)	ND	*1	3.7	0.61	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NMeFOSAA	ND		3.7	0.43	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NEtFOSAA	ND		3.7	0.89	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
4:2 FTS	ND		3.7	0.95	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
6:2 FTS	ND		3.7	0.50	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1

Client Sample ID: BIO-A-22-202409

Lab Sample ID: 320-115509-9

Date Collected: 09/17/24 07:37
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 27.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	ND	*1	3.7	0.65	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NEtFOSA	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NMeFOSA	ND		3.7	0.91	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NMeFOSE	ND	*1	3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NEtFOSE	ND		3.7	0.52	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
HFPO-DA (GenX)	ND		3.7	0.76	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
9Cl-PF3ONS	ND		3.7	0.65	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
11Cl-PF3OUdS	ND		3.7	0.57	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.7	0.72	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C4 PFBA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C5 PFPeA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C2 PFHxA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C4 PFHpA	*99*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C4 PFOA	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C5 PFNA	*98*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C2 PFDA	*99*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C2 PFUnA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C2 PFDoA	*88*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C2 PFTeDA	*83*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C3 PFBS	*86*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
18O2 PFHxS	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C4 PFOS	*89*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d3-NMeFOSAA	*89*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d5-NEtFOSAA	*89*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
M2-6:2 FTS	*76*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
M2-8:2 FTS	*86*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d-N-MeFOSA-M	*79*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d-N-EtFOSA-M	*75*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d7-N-MeFOSE-M	*84*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d9-N-EtFOSE-M	*82*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C3 HFPO-DA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**73.0**		0.1	0.1	%			09/25/24 10:47	1
Percent Solids (ASTM D 2216)	**27.0**		0.1	0.1	%			09/25/24 10:47	1

Client Sample ID: BIO-B-202409

Lab Sample ID: 320-115509-10

Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 6.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		11	2.6	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluoropentanoic acid (PFPeA)	ND		11	2.3	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorohexanoic acid (PFHxA)	ND		11	1.8	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1

Client Sample ID: BIO-B-202409

Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-10

Matrix: Solid
Percent Solids: 6.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		11	2.1	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorooctanoic acid (PFOA)	ND		11	3.0	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorononanoic acid (PFNA)	ND		11	1.2	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorodecanoic acid (PFDA)	ND		11	2.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluoroundecanoic acid (PFUnA)	ND		11	2.4	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorododecanoic acid (PFDoA)	**1.9**	**J**	11	1.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		11	1.2	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorotetradecanoic acid (PFTeA)	ND		11	2.1	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		11	2.1	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		11	2.1	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorohexanesulfonic acid (PFHxS)	**2.9**	**J I**	11	1.6	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		11	2.8	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorononanesulfonic acid (PFNS)	ND		11	1.6	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		11	2.9	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		11	2.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorooctanesulfonamide (FOSA)	ND		11	1.9	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NEtFOSA	ND		11	2.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NMeFOSA	ND		11	2.8	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NMeFOSAA	**12**		11	1.3	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NEtFOSAA	**4.9**	**J**	11	2.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NMeFOSE	**7.2**	**J**	11	2.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NEtFOSE	**1.9**	**J**	11	1.6	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
4:2 FTS	ND		11	2.9	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
6:2 FTS	ND		11	1.5	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
8:2 FTS	ND		11	2.0	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		11	2.2	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
HFPO-DA (GenX)	ND		11	2.3	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
9Cl-PF3ONS	ND		11	2.0	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
11Cl-PF3OUdS	ND		11	1.8	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C5 PFPeA	*78*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C2 PFHxA	*87*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C4 PFHpA	*91*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C4 PFOA	*97*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C5 PFNA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C2 PFDA	*75*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C2 PFUnA	*92*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C2 PFDoA	*77*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C2 PFTeDA	*42*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C3 PFBS	*82*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
18O2 PFHxS	*87*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C4 PFOS	*79*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C8 FOSA	*71*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
d3-NMeFOSAA	*78*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*

Client Sample ID: BIO-B-202409

Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-10

Matrix: Solid
Percent Solids: 6.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	85		25 - 150	09/25/24 04:42	09/26/24 02:59	1
d-N-MeFOSA-M	55		10 - 150	09/25/24 04:42	09/26/24 02:59	1
d-N-EtFOSA-M	63		10 - 150	09/25/24 04:42	09/26/24 02:59	1
d7-N-MeFOSE-M	49		10 - 150	09/25/24 04:42	09/26/24 02:59	1
d9-N-EtFOSE-M	69		10 - 150	09/25/24 04:42	09/26/24 02:59	1
M2-4:2 FTS	191	*5+	25 - 150	09/25/24 04:42	09/26/24 02:59	1
M2-6:2 FTS	213	*5+	25 - 150	09/25/24 04:42	09/26/24 02:59	1
M2-8:2 FTS	95		25 - 150	09/25/24 04:42	09/26/24 02:59	1
13C3 HFPO-DA	79		25 - 150	09/25/24 04:42	09/26/24 02:59	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**17**		11	2.4	ug/Kg	☼	09/25/24 04:42	10/02/24 21:49	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	92		25 - 150	09/25/24 04:42	10/02/24 21:49	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		16	3.7	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluoropentanoic acid (PFPeA)	ND		16	3.3	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorohexanoic acid (PFHxA)	**2.5**	**J**	16	2.5	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluoroheptanoic acid (PFHpA)	ND		16	3.0	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorooctanoic acid (PFOA)	ND		16	4.2	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorononanoic acid (PFNA)	ND		16	1.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorodecanoic acid (PFDA)	ND		16	3.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluoroundecanoic acid (PFUnA)	ND		16	3.3	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorododecanoic acid (PFDoA)	ND		16	2.4	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		16	1.7	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		16	2.9	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		16	3.0	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		16	2.9	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorohexanesulfonic acid (PFHxS)	**5.9**	**J I**	16	2.3	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		16	3.9	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorooctanesulfonic acid (PFOS)	**18**	**I**	16	3.4	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorononanesulfonic acid (PFNS)	ND		16	2.3	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		16	4.1	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		16	3.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorooctanesulfonamide (FOSA)	ND		16	2.6	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NMeFOSA	ND		16	3.9	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NEtFOSA	ND		16	3.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NMeFOSAA	**9.2**	**J**	16	1.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NEtFOSAA	**5.3**	**J**	16	3.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NMeFOSE	**6.5**	**J**	16	3.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NEtFOSE	**3.5**	**J**	16	2.2	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
4:2 FTS	ND		16	4.1	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1

Client Sample ID: BIO-B-202409

Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-10

Matrix: Solid
Percent Solids: 6.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
6:2 FTS	ND		16	2.2	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
8:2 FTS	ND		16	2.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
HFPO-DA (GenX)	ND		16	3.3	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
9Cl-PF3ONS	ND		16	2.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
11Cl-PF3OUdS	ND		16	2.5	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		16	3.1	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C5 PFPeA	*84*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C2 PFHxA	*92*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C4 PFHpA	*95*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C4 PFOA	*97*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C5 PFNA	*101*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C2 PFDA	*105*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C2 PFUnA	*99*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C2 PFDoA	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C2 PFTeDA	*29*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C3 PFBS	*85*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
18O2 PFHxS	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C4 PFOS	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C8 FOSA	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
M2-4:2 FTS	*156*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
M2-6:2 FTS	*191*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
M2-8:2 FTS	*160*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C3 HFPO-DA	*86*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d3-NMeFOSAA	*85*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d5-NEtFOSAA	*96*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d-N-MeFOSA-M	*67*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d-N-EtFOSA-M	*69*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d7-N-MeFOSE-M	*58*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d9-N-EtFOSE-M	*69*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**130**	**B**	16	3.8	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluoropentanoic acid (PFPeA)	**61**		16	3.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorohexanoic acid (PFHxA)	**28**	***-**	16	2.5	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluoroheptanoic acid (PFHpA)	**20**	***-**	16	3.1	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorooctanoic acid (PFOA)	**35**		16	4.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorononanoic acid (PFNA)	**13**	**J I**	16	1.8	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorodecanoic acid (PFDA)	**7.8**	**J**	16	3.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluoroundecanoic acid (PFUnA)	**5.3**	**J**	16	3.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorododecanoic acid (PFDoA)	**3.9**	**J**	16	2.5	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorotridecanoic acid (PFTrDA)	**1.7**	**J**	16	1.7	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorotetradecanoic acid (PFTeA)	ND		16	3.0	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		16	3.1	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1

Client Sample ID: BIO-B-202409

Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-10

Matrix: Solid
Percent Solids: 6.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		16	3.0	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		16	2.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		16	4.0	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorooctanesulfonic acid (PFOS)	**11**	**J**	16	3.5	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorononanesulfonic acid (PFNS)	ND		16	2.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		16	4.3	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		16	3.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorooctanesulfonamide (FOSA)	ND	*1	16	2.7	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NMeFOSAA	ND		16	1.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NEtFOSAA	ND		16	3.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
4:2 FTS	ND		16	4.2	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
6:2 FTS	ND		16	2.2	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
8:2 FTS	ND	*1	16	2.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NEtFOSA	ND		16	3.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NMeFOSA	ND		16	4.0	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NMeFOSE	ND	*1	16	3.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NEtFOSE	ND		16	2.3	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
HFPO-DA (GenX)	ND		16	3.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
9Cl-PF3ONS	ND		16	2.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
11Cl-PF3OUdS	ND		16	2.5	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		16	3.2	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*89*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C4 PFBA	*93*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C5 PFPeA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C2 PFHxA	*97*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C4 PFHpA	*100*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C4 PFOA	*93*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C5 PFNA	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C2 PFDA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C2 PFUnA	*89*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C2 PFDoA	*85*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C2 PFTeDA	*73*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C3 PFBS	*88*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
18O2 PFHxS	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C4 PFOS	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d3-NMeFOSAA	*81*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d5-NEtFOSAA	*80*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
M2-6:2 FTS	*73*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
M2-8:2 FTS	*86*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d-N-MeFOSA-M	*79*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d-N-EtFOSA-M	*73*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d7-N-MeFOSE-M	*83*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d9-N-EtFOSE-M	*82*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*

Client Sample ID: BIO-B-202409

Lab Sample ID: 320-115509-10

Date Collected: 09/17/24 08:02
Matrix: Solid
Date Received: 09/19/24 09:00
Percent Solids: 6.0

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**94.0**		0.1	0.1	%			09/25/24 10:47	1
Percent Solids (ASTM D 2216)	**6.0**		0.1	0.1	%			09/25/24 10:47	1

Client Sample ID: BIO-A-23-202409

Lab Sample ID: 320-115509-11

Date Collected: 09/17/24 08:40
Matrix: Solid
Date Received: 09/19/24 09:00
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.9**		2.5	0.58	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluoropentanoic acid (PFPeA)	**12**		2.5	0.52	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorohexanoic acid (PFHxA)	**18**		2.5	0.39	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	2.5	0.48	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorooctanoic acid (PFOA)	**14**		2.5	0.67	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorononanoic acid (PFNA)	**1.7**	**J**	2.5	0.28	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorodecanoic acid (PFDA)	**11**		2.5	0.61	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluoroundecanoic acid (PFUnA)	**2.0**	**J**	2.5	0.53	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorododecanoic acid (PFDoA)	**4.5**		2.5	0.38	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorotridecanoic acid (PFTrDA)	**0.52**	**J**	2.5	0.27	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorotetradecanoic acid (PFTeA)	**1.5**	**J**	2.5	0.47	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorobutanesulfonic acid (PFBS)	**1.1**	**J**	2.5	0.48	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.5	0.47	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**	**J I**	2.5	0.37	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.5	0.62	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorooctanesulfonic acid (PFOS)	**17**	**I**	2.5	0.55	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorononanesulfonic acid (PFNS)	ND		2.5	0.37	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorodecanesulfonic acid (PFDS)	**1.0**	**J I**	2.5	0.66	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.5	0.60	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorooctanesulfonamide (FOSA)	**1.3**	**J**	2.5	0.42	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NEtFOSA	**1.2**	**J**	2.5	0.60	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NMeFOSA	ND		2.5	0.62	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NMeFOSAA	**27**		2.5	0.29	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NEtFOSAA	**11**		2.5	0.61	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NMeFOSE	**14**		2.5	0.60	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NEtFOSE	**3.4**		2.5	0.36	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
4:2 FTS	ND		2.5	0.65	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1

Client Sample ID: BIO-A-23-202409

Date Collected: 09/17/24 08:40
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-11

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.5	0.49	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
HFPO-DA (GenX)	ND		2.5	0.52	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
9Cl-PF3ONS	ND		2.5	0.44	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
11Cl-PF3OUdS	ND		2.5	0.39	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C5 PFPeA	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C2 PFHxA	*98*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C4 PFHpA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C4 PFOA	*99*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C5 PFNA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C2 PFDA	*91*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C2 PFUnA	*92*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C2 PFDoA	*65*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C2 PFTeDA	*39*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C3 PFBS	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
18O2 PFHxS	*92*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C4 PFOS	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C8 FOSA	*74*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d3-NMeFOSAA	*52*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d5-NEtFOSAA	*88*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d-N-MeFOSA-M	*47*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d-N-EtFOSA-M	*19*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d7-N-MeFOSE-M	*42*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d9-N-EtFOSE-M	*22*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
M2-4:2 FTS	*207*	**5+*	*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C3 HFPO-DA	*84*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
6:2 FTS	ND		25	3.4	ug/Kg	☼	09/25/24 04:42	10/01/24 13:05	10
8:2 FTS	ND		25	4.4	ug/Kg	☼	09/25/24 04:42	10/01/24 13:05	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*116*		*25 - 150*	*09/25/24 04:42*	*10/01/24 13:05*	*10*
M2-8:2 FTS	*162*	**5+*	*25 - 150*	*09/25/24 04:42*	*10/01/24 13:05*	*10*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.1**		3.6	0.82	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluoropentanoic acid (PFPeA)	**12**		3.6	0.73	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorohexanoic acid (PFHxA)	**15**		3.6	0.55	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	3.6	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorooctanoic acid (PFOA)	**13**		3.6	0.95	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorononanoic acid (PFNA)	**1.4**	**J I**	3.6	0.39	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorodecanoic acid (PFDA)	**8.2**		3.6	0.85	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluoroundecanoic acid (PFUnA)	**1.4**	**J I**	3.6	0.75	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorododecanoic acid (PFDoA)	**2.9**	**J**	3.6	0.53	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1

Client Sample ID: BIO-A-23-202409

Date Collected: 09/17/24 08:40
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-11

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		3.6	0.37	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorotetradecanoic acid (PFTeA)	**0.72**	**J**	3.6	0.66	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorobutanesulfonic acid (PFBS)	**3.1**	**J**	3.6	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.66	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorohexanesulfonic acid (PFHxS)	**1.5**	**J**	3.6	0.52	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.6	0.88	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorooctanesulfonic acid (PFOS)	**13**		3.6	0.77	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.52	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorodecanesulfonic acid (PFDS)	**1.1**	**J**	3.6	0.93	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.6	0.84	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorooctanesulfonamide (FOSA)	**0.88**	**J**	3.6	0.59	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NMeFOSA	ND		3.6	0.88	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NEtFOSA	ND		3.6	0.84	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NMeFOSAA	**14**		3.6	0.41	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NEtFOSAA	**6.1**		3.6	0.85	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NMeFOSE	**8.3**		3.6	0.84	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NEtFOSE	**3.6**		3.6	0.50	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
4:2 FTS	ND		3.6	0.91	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
6:2 FTS	**1.2**	**J**	3.6	0.48	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
8:2 FTS	**1.2**	**J**	3.6	0.62	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
HFPO-DA (GenX)	ND		3.6	0.73	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
9Cl-PF3ONS	ND		3.6	0.62	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
11Cl-PF3OUdS	ND		3.6	0.55	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.6	0.69	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C5 PFPeA	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C2 PFHxA	*98*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C4 PFHpA	*95*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C4 PFOA	*93*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C5 PFNA	*98*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C2 PFDA	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C2 PFUnA	*96*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C2 PFDoA	*82*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C2 PFTeDA	*43*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C3 PFBS	*85*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
18O2 PFHxS	*91*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C4 PFOS	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C8 FOSA	*82*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
M2-4:2 FTS	*158*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
M2-6:2 FTS	*181*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
M2-8:2 FTS	*155*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*

Client Sample ID: BIO-A-23-202409

Lab Sample ID: 320-115509-11

Date Collected: 09/17/24 08:40
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	85		25 - 150	09/24/24 03:38	09/27/24 01:56	1
d3-NMeFOSAA	69		25 - 150	09/24/24 03:38	09/27/24 01:56	1
d5-NEtFOSAA	94		25 - 150	09/24/24 03:38	09/27/24 01:56	1
d-N-MeFOSA-M	55		25 - 150	09/24/24 03:38	09/27/24 01:56	1
d-N-EtFOSA-M	51		25 - 150	09/24/24 03:38	09/27/24 01:56	1
d7-N-MeFOSE-M	46		25 - 150	09/24/24 03:38	09/27/24 01:56	1
d9-N-EtFOSE-M	60		25 - 150	09/24/24 03:38	09/27/24 01:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**160**	**B**	3.7	0.84	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluoropentanoic acid (PFPeA)	**72**		3.7	0.76	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorohexanoic acid (PFHxA)	**50**	***-**	3.7	0.57	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluoroheptanoic acid (PFHpA)	**25**	***-**	3.7	0.70	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorooctanoic acid (PFOA)	**50**		3.7	0.98	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorononanoic acid (PFNA)	**15**		3.7	0.40	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorodecanoic acid (PFDA)	**17**		3.7	0.88	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluoroundecanoic acid (PFUnA)	**5.7**		3.7	0.77	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorododecanoic acid (PFDoA)	**6.2**		3.7	0.55	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorotridecanoic acid (PFTrDA)	**1.6**	**J**	3.7	0.38	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorotetradecanoic acid (PFTeA)	**2.1**	**J**	3.7	0.68	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorobutanesulfonic acid (PFBS)	**21**		3.7	0.70	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.7	0.68	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorohexanesulfonic acid (PFHxS)	**1.5**	**J**	3.7	0.53	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.7	0.90	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorooctanesulfonic acid (PFOS)	**14**		3.7	0.79	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorononanesulfonic acid (PFNS)	ND		3.7	0.53	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorodecanesulfonic acid (PFDS)	**1.2**	**J**	3.7	0.95	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorooctanesulfonamide (FOSA)	ND	*1	3.7	0.60	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NMeFOSAA	ND		3.7	0.42	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NEtFOSAA	ND		3.7	0.88	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
4:2 FTS	ND		3.7	0.94	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
6:2 FTS	ND		3.7	0.49	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
8:2 FTS	ND	*1	3.7	0.64	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NEtFOSA	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NMeFOSA	ND		3.7	0.90	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NMeFOSE	ND	*1	3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NEtFOSE	ND		3.7	0.51	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
HFPO-DA (GenX)	ND		3.7	0.76	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
9Cl-PF3ONS	ND		3.7	0.64	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1

Client Sample ID: BIO-A-23-202409

Lab Sample ID: 320-115509-11

Date Collected: 09/17/24 08:40
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 27.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	ND		3.7	0.57	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.7	0.71	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*98*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C4 PFBA	*93*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C5 PFPeA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C2 PFHxA	*99*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C4 PFHpA	*100*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C4 PFOA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C5 PFNA	*98*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C2 PFDA	*96*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C2 PFUnA	*93*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C2 PFDoA	*87*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C2 PFTeDA	*84*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C3 PFBS	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
18O2 PFHxS	*101*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C4 PFOS	*93*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d3-NMeFOSAA	*88*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d5-NEtFOSAA	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
M2-6:2 FTS	*82*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
M2-8:2 FTS	*100*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d-N-MeFOSA-M	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d-N-EtFOSA-M	*88*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d7-N-MeFOSE-M	*83*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d9-N-EtFOSE-M	*81*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C3 HFPO-DA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**73.0**		0.1	0.1	%			09/25/24 10:47	1
Percent Solids (ASTM D 2216)	**27.0**		0.1	0.1	%			09/25/24 10:47	1

Client Sample ID: EB02-202409

Lab Sample ID: 320-115509-12

Date Collected: 09/17/24 09:10
Date Received: 09/19/24 09:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.4	2.1	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.43	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.1	ng/L		09/27/24 05:24	09/27/24 19:56	1

Client Sample ID: EB02-202409

Lab Sample ID: 320-115509-12

Date Collected: 09/17/24 09:10

Matrix: Water

Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.50	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.86	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.87	ng/L		09/27/24 05:24	09/27/24 19:56	1
NEtFOSA	ND		1.8	0.77	ng/L		09/27/24 05:24	09/27/24 19:56	1
NMeFOSA	ND		1.8	0.38	ng/L		09/27/24 05:24	09/27/24 19:56	1
NMeFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 19:56	1
NEtFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 19:56	1
NMeFOSE	ND		3.5	1.2	ng/L		09/27/24 05:24	09/27/24 19:56	1
NEtFOSE	ND		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 19:56	1
4:2 FTS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:56	1
6:2 FTS	ND		4.4	2.2	ng/L		09/27/24 05:24	09/27/24 19:56	1
8:2 FTS	ND		1.8	0.41	ng/L		09/27/24 05:24	09/27/24 19:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		09/27/24 05:24	09/27/24 19:56	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		09/27/24 05:24	09/27/24 19:56	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:56	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 19:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C5 PFPeA	*98*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C2 PFHxA	*104*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C4 PFHpA	*98*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C4 PFOA	*98*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C5 PFNA	*97*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C2 PFDA	*99*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C2 PFUnA	*99*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C2 PFDoA	*96*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C2 PFTeDA	*86*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C3 PFBS	*96*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
18O2 PFHxS	*98*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C4 PFOS	*95*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C8 FOSA	*106*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d3-NMeFOSAA	*128*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d5-NEtFOSAA	*120*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d-N-MeFOSA-M	*93*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d-N-EtFOSA-M	*90*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d7-N-MeFOSE-M	*93*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d9-N-EtFOSE-M	*94*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
M2-4:2 FTS	*82*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
M2-6:2 FTS	*73*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*

Client Sample ID: EB02-202409

Lab Sample ID: 320-115509-12

Date Collected: 09/17/24 09:10
Date Received: 09/19/24 09:00
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	76		25 - 150	09/27/24 05:24	09/27/24 19:56	1
13C3 HFPO-DA	97		25 - 150	09/27/24 05:24	09/27/24 19:56	1

Client Sample ID: BIO-A-24-202409

Lab Sample ID: 320-115509-13

Date Collected: 09/17/24 09:53
Date Received: 09/19/24 09:00
Matrix: Solid
Percent Solids: 20.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.7**		3.4	0.78	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluoropentanoic acid (PFPeA)	**9.4**		3.4	0.70	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorohexanoic acid (PFHxA)	**9.3**		3.4	0.53	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluoroheptanoic acid (PFHpA)	ND		3.4	0.65	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorooctanoic acid (PFOA)	**6.0**		3.4	0.90	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorononanoic acid (PFNA)	**1.1**	**J**	3.4	0.37	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorodecanoic acid (PFDA)	**5.7**		3.4	0.82	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluoroundecanoic acid (PFUnA)	**1.5**	**J**	3.4	0.71	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorododecanoic acid (PFDoA)	**3.0**	**J**	3.4	0.51	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorotridecanoic acid (PFTrDA)	**0.39**	**J I**	3.4	0.36	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorotetradecanoic acid (PFTeA)	**0.74**	**J**	3.4	0.63	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorobutanesulfonic acid (PFBS)	ND		3.4	0.65	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.4	0.63	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorohexanesulfonic acid (PFHxS)	**1.3**	**J I**	3.4	0.49	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.4	0.83	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorooctanesulfonic acid (PFOS)	**14**	**I**	3.4	0.73	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorononanesulfonic acid (PFNS)	ND		3.4	0.49	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorodecanesulfonic acid (PFDS)	**1.2**	**J I**	3.4	0.88	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.4	0.80	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorooctanesulfonamide (FOSA)	**0.73**	**J**	3.4	0.56	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NEtFOSA	ND		3.4	0.80	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NMeFOSA	ND		3.4	0.83	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NMeFOSAA	**20**		3.4	0.39	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NEtFOSAA	**8.0**		3.4	0.82	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NMeFOSE	**9.3**		3.4	0.80	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NEtFOSE	**2.3**	**J**	3.4	0.48	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
4:2 FTS	ND		3.4	0.87	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
6:2 FTS	**0.58**	**J**	3.4	0.46	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
8:2 FTS	**0.63**	**J**	3.4	0.59	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.4	0.66	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
HFPO-DA (GenX)	ND		3.4	0.70	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
9Cl-PF3ONS	ND		3.4	0.59	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1

Client Sample ID: BIO-A-24-202409

Date Collected: 09/17/24 09:53
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-13

Matrix: Solid
Percent Solids: 20.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	ND		3.4	0.53	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C5 PFPeA	*89*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C2 PFHxA	*95*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C4 PFHpA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C4 PFOA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C5 PFNA	*95*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C2 PFDA	*59*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C2 PFUnA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C2 PFDoA	*71*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C2 PFTeDA	*41*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C3 PFBS	*83*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
18O2 PFHxS	*92*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C4 PFOS	*80*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C8 FOSA	*62*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d3-NMeFOSAA	*58*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d5-NEtFOSAA	*92*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d-N-MeFOSA-M	*49*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d-N-EtFOSA-M	*38*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d7-N-MeFOSE-M	*43*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d9-N-EtFOSE-M	*50*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
M2-4:2 FTS	*225*	**5+*	*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
M2-6:2 FTS	*187*	**5+*	*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
M2-8:2 FTS	*114*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C3 HFPO-DA	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.8**	**J**	4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluoropentanoic acid (PFPeA)	**10**		4.7	0.97	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorohexanoic acid (PFHxA)	**8.1**		4.7	0.73	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluoroheptanoic acid (PFHpA)	ND		4.7	0.89	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorooctanoic acid (PFOA)	**5.9**		4.7	1.3	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorononanoic acid (PFNA)	**1.1**	**J I**	4.7	0.52	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorodecanoic acid (PFDA)	**4.2**	**J**	4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluoroundecanoic acid (PFUnA)	**1.1**	**J**	4.7	0.99	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorododecanoic acid (PFDoA)	**2.3**	**J**	4.7	0.70	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.7	0.49	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.7	0.87	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J**	4.7	0.89	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.7	0.87	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorohexanesulfonic acid (PFHxS)	**1.7**	**J**	4.7	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.7	1.2	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1

Client Sample ID: BIO-A-24-202409

Date Collected: 09/17/24 09:53
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-13

Matrix: Solid
Percent Solids: 20.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**11**		4.7	1.0	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorononanesulfonic acid (PFNS)	ND		4.7	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorodecanesulfonic acid (PFDS)	**1.2**	**J**	4.7	1.2	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorooctanesulfonamide (FOSA)	ND		4.7	0.78	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NMeFOSA	ND		4.7	1.2	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NEtFOSA	ND		4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NMeFOSAA	**14**		4.7	0.54	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NEtFOSAA	**4.9**		4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NMeFOSE	**6.7**		4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NEtFOSE	**2.8**	**J**	4.7	0.66	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
4:2 FTS	ND		4.7	1.2	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
6:2 FTS	ND		4.7	0.63	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
8:2 FTS	ND		4.7	0.82	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
HFPO-DA (GenX)	ND		4.7	0.97	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
9Cl-PF3ONS	ND		4.7	0.82	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
11Cl-PF3OUdS	ND		4.7	0.73	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.7	0.92	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C5 PFPeA	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C2 PFHxA	*93*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C4 PFHpA	*96*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C4 PFOA	*95*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C5 PFNA	*101*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C2 PFDA	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C2 PFUnA	*98*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C2 PFDoA	*84*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C2 PFTeDA	*40*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C3 PFBS	*85*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
18O2 PFHxS	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C4 PFOS	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C8 FOSA	*81*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
M2-4:2 FTS	*140*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
M2-6:2 FTS	*160*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
M2-8:2 FTS	*141*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C3 HFPO-DA	*80*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d3-NMeFOSAA	*73*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d5-NEtFOSAA	*95*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d-N-MeFOSA-M	*55*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d-N-EtFOSA-M	*60*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d7-N-MeFOSE-M	*45*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d9-N-EtFOSE-M	*60*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: BIO-A-24-202409

Date Collected: 09/17/24 09:53
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-13

Matrix: Solid
Percent Solids: 20.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**70**	**B**	4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluoropentanoic acid (PFPeA)	**34**		4.6	0.95	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorohexanoic acid (PFHxA)	**21**	***-**	4.6	0.71	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluoroheptanoic acid (PFHpA)	**13**	***-**	4.6	0.88	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorooctanoic acid (PFOA)	**25**		4.6	1.2	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorononanoic acid (PFNA)	**6.9**		4.6	0.51	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorodecanoic acid (PFDA)	**6.2**		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluoroundecanoic acid (PFUnA)	**2.7**	**J**	4.6	0.97	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorododecanoic acid (PFDoA)	**3.0**	**J**	4.6	0.69	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorotridecanoic acid (PFTrDA)	**0.95**	**J**	4.6	0.48	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorotetradecanoic acid (PFTeA)	**1.2**	**J**	4.6	0.85	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorobutanesulfonic acid (PFBS)	**4.0**	**J**	4.6	0.88	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.6	0.85	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**	**J**	4.6	0.67	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorooctanesulfonic acid (PFOS)	**8.0**		4.6	1.0	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorononanesulfonic acid (PFNS)	ND		4.6	0.67	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.6	1.2	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorooctanesulfonamide (FOSA)	ND	*1	4.6	0.76	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NMeFOSAA	ND		4.6	0.53	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NEtFOSAA	ND		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
4:2 FTS	ND		4.6	1.2	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
6:2 FTS	ND		4.6	0.62	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
8:2 FTS	ND	*1	4.6	0.81	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NEtFOSA	ND		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NMeFOSA	ND		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NMeFOSE	ND	*1	4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NEtFOSE	ND		4.6	0.65	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
HFPO-DA (GenX)	ND		4.6	0.95	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
9Cl-PF3ONS	ND		4.6	0.81	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
11Cl-PF3OUdS	ND		4.6	0.71	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.6	0.90	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C4 PFBA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C5 PFPeA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C2 PFHxA	*99*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C4 PFHpA	*102*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C4 PFOA	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C5 PFNA	*96*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: BIO-A-24-202409

Date Collected: 09/17/24 09:53
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-13

Matrix: Solid
Percent Solids: 20.9

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	98		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C2 PFUnA	93		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C2 PFDoA	87		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C2 PFTeDA	82		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C3 PFBS	94		25 - 150	09/24/24 03:45	09/27/24 04:17	1
18O2 PFHxS	101		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C4 PFOS	92		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d3-NMeFOSAA	79		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d5-NEtFOSAA	95		25 - 150	09/24/24 03:45	09/27/24 04:17	1
M2-4:2 FTS	0		0 - 10	09/24/24 03:45	09/27/24 04:17	1
M2-6:2 FTS	82		25 - 150	09/24/24 03:45	09/27/24 04:17	1
M2-8:2 FTS	93		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d-N-MeFOSA-M	88		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d-N-EtFOSA-M	76		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d7-N-MeFOSE-M	82		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d9-N-EtFOSE-M	77		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C3 HFPO-DA	91		25 - 150	09/24/24 03:45	09/27/24 04:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	79.1		0.1	0.1	%			09/25/24 10:47	1
Percent Solids (ASTM D 2216)	20.9		0.1	0.1	%			09/25/24 10:47	1

Total Oxidation Precursors

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

TestAmerica Job ID: 320-115509-1

Client Sample ID: EFF-202409

Lab Sample ID: 320-115509-7
Matrix: Water

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	13		ng/L	36		ng/L	23	ng/L
Perfluorobutanoic acid (PFBA)	13		ng/L	36		ng/L	23	ng/L
Perfluoropentanoic acid (PFPeA)	16		ng/L	36		ng/L	19	ng/L
Perfluoropentanoic acid (PFPeA)	16		ng/L	36		ng/L	19	ng/L
Perfluorohexanoic acid (PFHxA)	14		ng/L	29		ng/L	14	ng/L
Perfluorohexanoic acid (PFHxA)	14		ng/L	29		ng/L	14	ng/L
Perfluoroheptanoic acid (PFHpA)	2.1	J	ng/L	12		ng/L	10	ng/L
Perfluoroheptanoic acid (PFHpA)	2.1	J	ng/L	12		ng/L	10	ng/L
Perfluorooctanoic acid (PFOA)	8.7		ng/L	15		ng/L	6.8	ng/L
Perfluorooctanoic acid (PFOA)	8.7		ng/L	15		ng/L	6.8	ng/L
Perfluorononanoic acid (PFNA)	ND		ng/L	3.2	J	ng/L	3.2	ng/L
Perfluorononanoic acid (PFNA)	ND		ng/L	3.2	J	ng/L	3.2	ng/L
Total Perfluoroalkyl carboxylic acid	54		ng/L	130		ng/L	77	ng/L

Client Sample ID: BIO-A-22-202409

Lab Sample ID: 320-115509-9
Matrix: Solid

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	8.1		ug/Kg	110		ug/Kg	100	ug/Kg
Perfluoropentanoic acid (PFPeA)	18		ug/Kg	59		ug/Kg	41	ug/Kg
Perfluorohexanoic acid (PFHxA)	26		ug/Kg	55		ug/Kg	29	ug/Kg
Perfluoroheptanoic acid (PFHpA)	3.2	J	ug/Kg	21		ug/Kg	18	ug/Kg
Perfluorooctanoic acid (PFOA)	21		ug/Kg	52		ug/Kg	32	ug/Kg
Perfluorononanoic acid (PFNA)	1.5	J	ug/Kg	9.1		ug/Kg	7.5	ug/Kg
Total Perfluoroalkyl carboxylic acid	78		ug/Kg	310		ug/Kg	230	ug/Kg

Client Sample ID: BIO-B-202409

Lab Sample ID: 320-115509-10
Matrix: Solid

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	ND		ug/Kg	130		ug/Kg	130	ug/Kg
Perfluoropentanoic acid (PFPeA)	ND		ug/Kg	61		ug/Kg	61	ug/Kg
Perfluorohexanoic acid (PFHxA)	2.5	J	ug/Kg	28		ug/Kg	25	ug/Kg
Perfluoroheptanoic acid (PFHpA)	ND		ug/Kg	20		ug/Kg	20	ug/Kg
Perfluorooctanoic acid (PFOA)	ND		ug/Kg	35		ug/Kg	35	ug/Kg
Perfluorononanoic acid (PFNA)	ND		ug/Kg	13	J	ug/Kg	13	ug/Kg
Total Perfluoroalkyl carboxylic acid	2.5		ug/Kg	290		ug/Kg	280	ug/Kg

[1] Difference = Post-Treatment - Pre-Treament

Total Oxidation Precursors

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

TestAmerica Job ID: 320-115509-1

Client Sample ID: BIO-A-23-202409

Lab Sample ID: 320-115509-11
Matrix: Solid

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	4.1		ug/Kg	160		ug/Kg	150	ug/Kg
Perfluoropentanoic acid (PFPeA)	12		ug/Kg	72		ug/Kg	60	ug/Kg
Perfluorohexanoic acid (PFHxA)	15		ug/Kg	50		ug/Kg	34	ug/Kg
Perfluoroheptanoic acid (PFHpA)	1.6	J	ug/Kg	25		ug/Kg	24	ug/Kg
Perfluorooctanoic acid (PFOA)	13		ug/Kg	50		ug/Kg	37	ug/Kg
Perfluorononanoic acid (PFNA)	1.4	J	ug/Kg	15		ug/Kg	13	ug/Kg
Total Perfluoroalkyl carboxylic acid	47		ug/Kg	370		ug/Kg	320	ug/Kg

Client Sample ID: BIO-A-24-202409

Lab Sample ID: 320-115509-13
Matrix: Solid

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	2.8	J	ug/Kg	70		ug/Kg	68	ug/Kg
Perfluoropentanoic acid (PFPeA)	10		ug/Kg	34		ug/Kg	24	ug/Kg
Perfluorohexanoic acid (PFHxA)	8.1		ug/Kg	21		ug/Kg	13	ug/Kg
Perfluoroheptanoic acid (PFHpA)	ND		ug/Kg	13		ug/Kg	13	ug/Kg
Perfluorooctanoic acid (PFOA)	5.9		ug/Kg	25		ug/Kg	19	ug/Kg
Perfluorononanoic acid (PFNA)	1.1	J	ug/Kg	6.9		ug/Kg	5.8	ug/Kg
Total Perfluoroalkyl carboxylic acid	28		ug/Kg	170		ug/Kg	140	ug/Kg

[1] Difference = Post-Treatment - Pre-Treament

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-115509-9	BIO-A-22-202409	77	80	86	83	83	79	59	89
320-115509-10	BIO-B-202409	87	78	87	91	97	96	75	92
320-115509-10 - RA	BIO-B-202409								
320-115509-11	BIO-A-23-202409	87	86	98	96	99	96	91	92
320-115509-11 - DL	BIO-A-23-202409								
320-115509-13	BIO-A-24-202409	89	89	95	96	96	95	59	96
LCS 320-801958/3-A	Lab Control Sample	92	89	96	97	89	90	92	89
LLCS 320-801958/2-A	Lab Control Sample	94	91	94	101	92	95	96	94
MB 320-801958/1-A	Method Blank	89	90	89	97	90	92	97	96

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-115509-9	BIO-A-22-202409	71	56	76	81	67	59	72	86
320-115509-10	BIO-B-202409	77	42	82	87	79	71	78	85
320-115509-10 - RA	BIO-B-202409					92			
320-115509-11	BIO-A-23-202409	65	39	86	92	86	74	52	88
320-115509-11 - DL	BIO-A-23-202409								
320-115509-13	BIO-A-24-202409	71	41	83	92	80	62	58	92
LCS 320-801958/3-A	Lab Control Sample	79	82	85	89	86	84	79	77
LLCS 320-801958/2-A	Lab Control Sample	87	85	86	94	91	88	81	82
MB 320-801958/1-A	Method Blank	85	90	88	96	91	90	83	87

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-115509-9	BIO-A-22-202409	55	58	52	66	153 *5+	159 *5+	70	77
320-115509-10	BIO-B-202409	55	63	49	69	191 *5+	213 *5+	95	79
320-115509-10 - RA	BIO-B-202409								
320-115509-11	BIO-A-23-202409	47	19	42	22	207 *5+			84
320-115509-11 - DL	BIO-A-23-202409						116	162 *5+	
320-115509-13	BIO-A-24-202409	49	38	43	50	225 *5+	187 *5+	114	86
LCS 320-801958/3-A	Lab Control Sample	82	80	83	85	89	87	101	88
LLCS 320-801958/2-A	Lab Control Sample	80	78	87	88	89	91	106	89
MB 320-801958/1-A	Method Blank	76	74	87	85	83	88	109	83

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-115509-1
Project/Site: PFAS Sampling

d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA	PFUnA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-115509-9	BIO-A-22-202409	90	89	97	97	94	99	89	96
320-115509-10	BIO-B-202409	88	84	92	95	97	101	105	99
320-115509-11	BIO-A-23-202409	86	89	98	95	93	98	89	96
320-115509-13	BIO-A-24-202409	86	87	93	96	95	101	87	98
LCS 320-801578/2-A	Lab Control Sample	94	93	92	101	92	95	94	90
LCSD 320-801578/3-A	Lab Control Sample Dup	92	93	93	100	95	95	92	84
MB 320-801578/1-A	Method Blank	95	94	95	97	92	94	92	87

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	PFHxS	PFOS	PFOSA	M242FTS	M262FTS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-115509-9	BIO-A-22-202409	90	77	87	91	83	76	94	132
320-115509-10	BIO-B-202409	87	29	85	89	89	87	156 *5+	191 *5+
320-115509-11	BIO-A-23-202409	82	43	85	91	87	82	158 *5+	181 *5+
320-115509-13	BIO-A-24-202409	84	40	85	89	87	81	140	160 *5+
LCS 320-801578/2-A	Lab Control Sample	85	83	94	98	96	84	70	79
LCSD 320-801578/3-A	Lab Control Sample Dup	78	80	91	99	92	88	69	76
MB 320-801578/1-A	Method Blank	80	84	87	98	84	82	72	72

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M282FTS	HFPODA	d3NMFOS	d5NEFOS	dMeFOSA	dEtFOSA	NMFM	NEFM
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-115509-9	BIO-A-22-202409	109	86	91	101	70	78	70	79
320-115509-10	BIO-B-202409	160 *5+	86	85	96	67	69	58	69
320-115509-11	BIO-A-23-202409	155 *5+	85	69	94	55	51	46	60
320-115509-13	BIO-A-24-202409	141	80	73	95	55	60	45	60
LCS 320-801578/2-A	Lab Control Sample	87	92	77	79	82	81	83	81
LCSD 320-801578/3-A	Lab Control Sample Dup	82	92	76	75	68	65	85	83
MB 320-801578/1-A	Method Blank	85	94	74	78	83	77	77	74

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-115509-1
Project/Site: PFAS Sampling

C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOSA (25-150)	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)
320-115509-9	BIO-A-22-202409	91	91	91	94	99	92	98	99
320-115509-10	BIO-B-202409	89	93	91	97	100	93	92	94
320-115509-11	BIO-A-23-202409	98	93	94	99	100	94	98	96
320-115509-13	BIO-A-24-202409	94	94	94	99	102	92	96	98
LCS 320-801580/2-A	Lab Control Sample	88	92	91	90	100	89	93	90
LCSD 320-801580/3-A	Lab Control Sample Dup	91	94	93	95	101	90	93	96
MB 320-801580/1-A	Method Blank	94	91	92	94	94	93	95	99

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFUnA (25-150)	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-115509-9	BIO-A-22-202409	94	88	83	86	94	89	89	89
320-115509-10	BIO-B-202409	89	85	73	88	94	91	81	80
320-115509-11	BIO-A-23-202409	93	87	84	92	101	93	88	92
320-115509-13	BIO-A-24-202409	93	87	82	94	101	92	79	95
LCS 320-801580/2-A	Lab Control Sample	89	82	81	89	92	92	82	88
LCSD 320-801580/3-A	Lab Control Sample Dup	93	89	81	89	92	88	84	88
MB 320-801580/1-A	Method Blank	91	94	84	90	96	96	87	91

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (0-10)	M262FTS (25-150)	M282FTS (25-150)	dMeFOSA (25-150)	dEtFOSA (25-150)	NMFM (25-150)	NEFM (25-150)	HFPODA (25-150)
320-115509-9	BIO-A-22-202409	0	76	86	79	75	84	82	91
320-115509-10	BIO-B-202409	0	73	86	79	73	83	82	92
320-115509-11	BIO-A-23-202409	0	82	100	92	88	83	81	91
320-115509-13	BIO-A-24-202409	0	82	93	88	76	82	77	91
LCS 320-801580/2-A	Lab Control Sample	0	76	85	91	84	83	82	90
LCSD 320-801580/3-A	Lab Control Sample Dup	0	80	88	86	84	88	84	91
MB 320-801580/1-A	Method Blank	0	78	92	87	83	87	86	86

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-115509-1
Project/Site: PFAS Sampling

PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-115509-1	INF-02-202409	58	77	85	91	91	85	79	64
320-115509-2	INF-07-202409	60	71	79	80	83	80	71	65
320-115509-3	INF-08-202409	58	67	82	83	88	86	77	65
320-115509-4	INF-11-202409	54	63	64	69	66	67	60	54
320-115509-5	INF-18-202409	54	62	65	67	64	67	60	53
320-115509-6	INF-COMP-202409	62	81	82	86	84	84	78	65
320-115509-7	EFF-202409	84	96	105	104	100	101	100	94
320-115509-8	EB01-202409	107	101	105	103	101	103	103	100
320-115509-12	EB02-202409	103	98	104	98	98	97	99	99
LCS 320-802668/3-A	Lab Control Sample	106	104	107	104	101	101	104	98
LCSD 320-802668/4-A	Lab Control Sample Dup	104	101	102	101	101	98	98	94
LLCS 320-802668/2-A	Lab Control Sample	106	104	103	103	99	101	100	102
MB 320-802668/1-A	Method Blank	103	104	102	101	100	101	101	97

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-115509-1	INF-02-202409	50	18 *5-	72	78	73	61	54	67
320-115509-2	INF-07-202409	53	24 *5-	69	75	70	60	53	68
320-115509-3	INF-08-202409	49	17 *5-	73	81	74	61	51	68
320-115509-4	INF-11-202409	45	16 *5-	58	61	57	45	42	53
320-115509-5	INF-18-202409	47	17 *5-	54	59	53	47	41	56
320-115509-6	INF-COMP-202409	52	19 *5-	73	75	69	57	50	65
320-115509-7	EFF-202409	78	47	94	97	92	102	117	119
320-115509-8	EB01-202409	94	85	95	98	96	106	127	120
320-115509-12	EB02-202409	96	86	96	98	95	106	128	120
LCS 320-802668/3-A	Lab Control Sample	95	92	91	98	96	100	112	114
LCSD 320-802668/4-A	Lab Control Sample Dup	87	88	92	94	93	103	111	110
LLCS 320-802668/2-A	Lab Control Sample	92	91	93	94	94	105	114	120
MB 320-802668/1-A	Method Blank	92	91	94	96	95	100	117	115

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-115509-1	INF-02-202409	53	40	46	38	108	167 *5+	129	83
320-115509-2	INF-07-202409	54	45	48	44	124	129	118	73
320-115509-3	INF-08-202409	50	40	44	39	102	156 *5+	126	78
320-115509-4	INF-11-202409	44	32	39	36	90	124	98	61
320-115509-5	INF-18-202409	44	37	42	40	81	117	90	63
320-115509-6	INF-COMP-202409	51	40	48	39	102	153 *5+	113	83
320-115509-7	EFF-202409	97	87	87	80	113	81	77	100
320-115509-8	EB01-202409	98	95	101	100	81	72	74	107
320-115509-12	EB02-202409	93	90	93	94	82	73	76	97
LCS 320-802668/3-A	Lab Control Sample	92	94	100	101	85	78	78	108
LCSD 320-802668/4-A	Lab Control Sample Dup	83	79	101	97	76	76	76	108
LLCS 320-802668/2-A	Lab Control Sample	76	72	101	93	83	77	78	107
MB 320-802668/1-A	Method Blank	80	82	97	97	82	78	78	101

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOSA (25-150)	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)
320-115509-7	EFF-202409	84	85	92	97	97	91	90	91
LCS 320-801201/2-A	Lab Control Sample	83	93	92	91	93	94	89	93
LCSD 320-801201/3-A	Lab Control Sample Dup	81	90	91	89	94	92	90	94
MB 320-801201/1-A	Method Blank	80	91	91	84	93	92	87	88

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-115509-1
Project/Site: PFAS Sampling

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFUnA (25-150)	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-115509-7	EFF-202409	83	76	66	87	89	84	73	81
LCS 320-801201/2-A	Lab Control Sample	93	88	82	80	86	84	98	98
LCSD 320-801201/3-A	Lab Control Sample Dup	97	85	77	80	87	87	91	98
MB 320-801201/1-A	Method Blank	95	87	79	78	87	83	93	98

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	dMeFOSA (25-150)	dEtFOSA (25-150)	NMFM (25-150)	NEFM (25-150)	HFPODA (25-150)
320-115509-7	EFF-202409	115	94	98	76	70	69	68	89
LCS 320-801201/2-A	Lab Control Sample	104	123	109	65	65	89	89	86
LCSD 320-801201/3-A	Lab Control Sample Dup	101	114	104	66	70	84	83	87
MB 320-801201/1-A	Method Blank	102	117	100	53	58	73	71	83

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOSA (25-150)	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)
320-115509-7	EFF-202409	80	91	92	94	99	94	94	96
LCS 320-801202/2-A	Lab Control Sample	76	86	96	92	95	95	90	86
LCSD 320-801202/3-A	Lab Control Sample Dup	84	90	100	91	97	93	87	93
MB 320-801202/1-A	Method Blank	86	91	92	93	95	89	92	96

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-115509-1
Project/Site: PFAS Sampling

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFUnA (25-150)	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-115509-7	EFF-202409	85	81	77	88	95	92	79	81
LCS 320-801202/2-A	Lab Control Sample	93	80	76	85	90	82	89	93
LCSD 320-801202/3-A	Lab Control Sample Dup	94	90	87	85	92	90	97	97
MB 320-801202/1-A	Method Blank	92	90	87	90	91	88	78	86

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (0-10)	M262FTS (25-150)	M282FTS (25-150)	dMeFOSA (25-150)	dEtFOSA (25-150)	NMFM (25-150)	NEFM (25-150)	HFPODA (25-150)
320-115509-7	EFF-202409	0	75	95	65	61	73	74	90
LCS 320-801202/2-A	Lab Control Sample	0	112	102	68	69	75	79	84
LCSD 320-801202/3-A	Lab Control Sample Dup	0	118	107	68	67	85	84	87
MB 320-801202/1-A	Method Blank	0	84	92	71	71	80	76	90

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-801958/1-A
Matrix: Solid
Analysis Batch: 802379

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 801958

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.20	0.046	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.041	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.031	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.038	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.053	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.022	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.048	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.042	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.030	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.021	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.037	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.038	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.037	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.029	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.049	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.043	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.029	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.052	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.047	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.033	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
NEtFOSA	ND		0.20	0.047	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
NMeFOSA	ND		0.20	0.049	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
NMeFOSAA	ND		0.20	0.023	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
NEtFOSAA	ND		0.20	0.048	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
NMeFOSE	ND		0.20	0.047	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
NEtFOSE	ND		0.20	0.028	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
4:2 FTS	ND		0.20	0.051	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
6:2 FTS	ND		0.20	0.027	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
8:2 FTS	ND		0.20	0.035	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.039	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
HFPO-DA (GenX)	ND		0.20	0.041	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
9Cl-PF3ONS	ND		0.20	0.035	ug/Kg		09/25/24 04:42	09/26/24 02:03	1
11Cl-PF3OUdS	ND		0.20	0.031	ug/Kg		09/25/24 04:42	09/26/24 02:03	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:03*	*1*
13C5 PFPeA	*90*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:03*	*1*
13C2 PFHxA	*89*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:03*	*1*
13C4 PFHpA	*97*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:03*	*1*
13C4 PFOA	*90*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:03*	*1*
13C5 PFNA	*92*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:03*	*1*
13C2 PFDA	*97*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:03*	*1*
13C2 PFUnA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:03*	*1*
13C2 PFDoA	*85*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:03*	*1*
13C2 PFTeDA	*90*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:03*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-801958/1-A
Matrix: Solid
Analysis Batch: 802379

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 801958

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	88		25 - 150	09/25/24 04:42	09/26/24 02:03	1
18O2 PFHxS	96		25 - 150	09/25/24 04:42	09/26/24 02:03	1
13C4 PFOS	91		25 - 150	09/25/24 04:42	09/26/24 02:03	1
13C8 FOSA	90		10 - 150	09/25/24 04:42	09/26/24 02:03	1
d3-NMeFOSAA	83		25 - 150	09/25/24 04:42	09/26/24 02:03	1
d5-NEtFOSAA	87		25 - 150	09/25/24 04:42	09/26/24 02:03	1
d-N-MeFOSA-M	76		10 - 150	09/25/24 04:42	09/26/24 02:03	1
d-N-EtFOSA-M	74		10 - 150	09/25/24 04:42	09/26/24 02:03	1
d7-N-MeFOSE-M	87		10 - 150	09/25/24 04:42	09/26/24 02:03	1
d9-N-EtFOSE-M	85		10 - 150	09/25/24 04:42	09/26/24 02:03	1
M2-4:2 FTS	83		25 - 150	09/25/24 04:42	09/26/24 02:03	1
M2-6:2 FTS	88		25 - 150	09/25/24 04:42	09/26/24 02:03	1
M2-8:2 FTS	109		25 - 150	09/25/24 04:42	09/26/24 02:03	1
13C3 HFPO-DA	83		25 - 150	09/25/24 04:42	09/26/24 02:03	1

Lab Sample ID: LCS 320-801958/3-A
Matrix: Solid
Analysis Batch: 802379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 801958

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	2.00	1.98		ug/Kg		99	60 - 135
Perfluoropentanoic acid (PFPeA)	2.00	1.79		ug/Kg		89	60 - 135
Perfluorohexanoic acid (PFHxA)	2.00	1.50		ug/Kg		75	60 - 135
Perfluoroheptanoic acid (PFHpA)	2.00	1.88		ug/Kg		94	60 - 135
Perfluorooctanoic acid (PFOA)	2.00	1.96		ug/Kg		98	60 - 135
Perfluorononanoic acid (PFNA)	2.00	1.98		ug/Kg		99	60 - 135
Perfluorodecanoic acid (PFDA)	2.00	1.99		ug/Kg		100	60 - 135
Perfluoroundecanoic acid (PFUnA)	2.00	2.05		ug/Kg		103	60 - 135
Perfluorododecanoic acid (PFDoA)	2.00	2.08		ug/Kg		104	60 - 135
Perfluorotridecanoic acid (PFTrDA)	2.00	1.77		ug/Kg		89	60 - 135
Perfluorotetradecanoic acid (PFTeA)	2.00	1.97		ug/Kg		98	60 - 135
Perfluorobutanesulfonic acid (PFBS)	1.78	1.90		ug/Kg		107	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.89		ug/Kg		100	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.46		ug/Kg		80	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	1.91	1.90		ug/Kg		100	60 - 135
Perfluorooctanesulfonic acid (PFOS)	1.86	1.93		ug/Kg		104	60 - 135
Perfluorononanesulfonic acid (PFNS)	1.92	1.89		ug/Kg		98	60 - 135
Perfluorodecanesulfonic acid (PFDS)	1.93	1.76		ug/Kg		91	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	1.94	1.68		ug/Kg		87	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-801958/3-A
Matrix: Solid
Analysis Batch: 802379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 801958

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	2.00	2.08		ug/Kg		104	60 - 135
NEtFOSA	2.00	1.58		ug/Kg		79	60 - 135
NMeFOSA	2.00	1.80		ug/Kg		90	60 - 135
NMeFOSAA	2.00	1.84		ug/Kg		92	60 - 135
NEtFOSAA	2.00	1.95		ug/Kg		97	60 - 135
NMeFOSE	2.00	1.91		ug/Kg		95	60 - 135
NEtFOSE	2.00	1.90		ug/Kg		95	60 - 135
4:2 FTS	1.88	1.55		ug/Kg		83	60 - 135
6:2 FTS	1.90	1.64		ug/Kg		86	60 - 135
8:2 FTS	1.92	1.90		ug/Kg		99	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.70		ug/Kg		90	60 - 135
HFPO-DA (GenX)	2.00	1.87		ug/Kg		93	60 - 135
9Cl-PF3ONS	1.87	1.81		ug/Kg		97	60 - 135
11Cl-PF3OUdS	1.89	1.69		ug/Kg		90	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*92*		*25 - 150*
13C5 PFPeA	*89*		*25 - 150*
13C2 PFHxA	*96*		*25 - 150*
13C4 PFHpA	*97*		*25 - 150*
13C4 PFOA	*89*		*25 - 150*
13C5 PFNA	*90*		*25 - 150*
13C2 PFDA	*92*		*25 - 150*
13C2 PFUnA	*89*		*25 - 150*
13C2 PFDoA	*79*		*25 - 150*
13C2 PFTeDA	*82*		*25 - 150*
13C3 PFBS	*85*		*25 - 150*
18O2 PFHxS	*89*		*25 - 150*
13C4 PFOS	*86*		*25 - 150*
13C8 FOSA	*84*		*10 - 150*
d3-NMeFOSAA	*79*		*25 - 150*
d5-NEtFOSAA	*77*		*25 - 150*
d-N-MeFOSA-M	*82*		*10 - 150*
d-N-EtFOSA-M	*80*		*10 - 150*
d7-N-MeFOSE-M	*83*		*10 - 150*
d9-N-EtFOSE-M	*85*		*10 - 150*
M2-4:2 FTS	*89*		*25 - 150*
M2-6:2 FTS	*87*		*25 - 150*
M2-8:2 FTS	*101*		*25 - 150*
13C3 HFPO-DA	*88*		*25 - 150*

Lab Sample ID: LLCS 320-801958/2-A
Matrix: Solid
Analysis Batch: 802379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 801958

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.400	0.377		ug/Kg		94	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-801958/2-A
Matrix: Solid
Analysis Batch: 802379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 801958

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)	0.400	0.355		ug/Kg		89	50 - 150
Perfluorohexanoic acid (PFHxA)	0.400	0.301		ug/Kg		75	50 - 150
Perfluoroheptanoic acid (PFHpA)	0.400	0.332		ug/Kg		83	50 - 150
Perfluorooctanoic acid (PFOA)	0.400	0.364		ug/Kg		91	50 - 150
Perfluorononanoic acid (PFNA)	0.400	0.373		ug/Kg		93	50 - 150
Perfluorodecanoic acid (PFDA)	0.400	0.383		ug/Kg		96	50 - 150
Perfluoroundecanoic acid (PFUnA)	0.400	0.412		ug/Kg		103	50 - 150
Perfluorododecanoic acid (PFDoA)	0.400	0.378		ug/Kg		94	50 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.334		ug/Kg		83	50 - 150
Perfluorotetradecanoic acid (PFTeA)	0.400	0.392		ug/Kg		98	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.340		ug/Kg		96	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.334		ug/Kg		89	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.294		ug/Kg		81	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.349		ug/Kg		91	50 - 150
Perfluorooctanesulfonic acid (PFOS)	0.372	0.367		ug/Kg		99	50 - 150
Perfluorononanesulfonic acid (PFNS)	0.385	0.316		ug/Kg		82	50 - 150
Perfluorodecanesulfonic acid (PFDS)	0.386	0.310		ug/Kg		80	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.333		ug/Kg		86	50 - 150
Perfluorooctanesulfonamide (FOSA)	0.400	0.392		ug/Kg		98	50 - 150
NEtFOSA	0.400	0.301		ug/Kg		75	50 - 150
NMeFOSA	0.400	0.353		ug/Kg		88	50 - 150
NMeFOSAA	0.400	0.336		ug/Kg		84	50 - 150
NEtFOSAA	0.400	0.360		ug/Kg		90	50 - 150
NMeFOSE	0.400	0.376		ug/Kg		94	50 - 150
NEtFOSE	0.400	0.345		ug/Kg		86	50 - 150
4:2 FTS	0.375	0.302		ug/Kg		80	50 - 150
6:2 FTS	0.381	0.309		ug/Kg		81	50 - 150
8:2 FTS	0.384	0.347		ug/Kg		90	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.315		ug/Kg		83	50 - 150
HFPO-DA (GenX)	0.400	0.350		ug/Kg		87	50 - 150
9Cl-PF3ONS	0.374	0.339		ug/Kg		91	50 - 150
11Cl-PF3OUdS	0.378	0.323		ug/Kg		85	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*94*		*25 - 150*
13C5 PFPeA	*91*		*25 - 150*
13C2 PFHxA	*94*		*25 - 150*
13C4 PFHpA	*101*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-801958/2-A
Matrix: Solid
Analysis Batch: 802379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 801958

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFOA	*92*		*25 - 150*
13C5 PFNA	*95*		*25 - 150*
13C2 PFDA	*96*		*25 - 150*
13C2 PFUnA	*94*		*25 - 150*
13C2 PFDoA	*87*		*25 - 150*
13C2 PFTeDA	*85*		*25 - 150*
13C3 PFBS	*86*		*25 - 150*
18O2 PFHxS	*94*		*25 - 150*
13C4 PFOS	*91*		*25 - 150*
13C8 FOSA	*88*		*10 - 150*
d3-NMeFOSAA	*81*		*25 - 150*
d5-NEtFOSAA	*82*		*25 - 150*
d-N-MeFOSA-M	*80*		*10 - 150*
d-N-EtFOSA-M	*78*		*10 - 150*
d7-N-MeFOSE-M	*87*		*10 - 150*
d9-N-EtFOSE-M	*88*		*10 - 150*
M2-4:2 FTS	*89*		*25 - 150*
M2-6:2 FTS	*91*		*25 - 150*
M2-8:2 FTS	*106*		*25 - 150*
13C3 HFPO-DA	*89*		*25 - 150*

Lab Sample ID: MB 320-802668/1-A
Matrix: Water
Analysis Batch: 802943

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 802668

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		09/27/24 05:24	09/27/24 16:40	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		09/27/24 05:24	09/27/24 16:40	1
NEtFOSA	ND		2.0	0.87	ng/L		09/27/24 05:24	09/27/24 16:40	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-802668/1-A
Matrix: Water
Analysis Batch: 802943

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 802668

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		2.0	0.43	ng/L		09/27/24 05:24	09/27/24 16:40	1
NMeFOSAA	ND		5.0	1.2	ng/L		09/27/24 05:24	09/27/24 16:40	1
NEtFOSAA	ND		5.0	1.3	ng/L		09/27/24 05:24	09/27/24 16:40	1
NMeFOSE	ND		4.0	1.4	ng/L		09/27/24 05:24	09/27/24 16:40	1
NEtFOSE	ND		2.0	0.85	ng/L		09/27/24 05:24	09/27/24 16:40	1
4:2 FTS	ND		2.0	0.24	ng/L		09/27/24 05:24	09/27/24 16:40	1
6:2 FTS	ND		5.0	2.5	ng/L		09/27/24 05:24	09/27/24 16:40	1
8:2 FTS	ND		2.0	0.46	ng/L		09/27/24 05:24	09/27/24 16:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		09/27/24 05:24	09/27/24 16:40	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		09/27/24 05:24	09/27/24 16:40	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		09/27/24 05:24	09/27/24 16:40	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		09/27/24 05:24	09/27/24 16:40	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C5 PFPeA	*104*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C2 PFHxA	*102*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C4 PFHpA	*101*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C4 PFOA	*100*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C5 PFNA	*101*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C2 PFDA	*101*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C2 PFUnA	*97*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C2 PFDoA	*92*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C2 PFTeDA	*91*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C3 PFBS	*94*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
18O2 PFHxS	*96*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C4 PFOS	*95*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C8 FOSA	*100*		*10 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
d3-NMeFOSAA	*117*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
d5-NEtFOSAA	*115*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
d-N-MeFOSA-M	*80*		*10 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
d-N-EtFOSA-M	*82*		*10 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
d7-N-MeFOSE-M	*97*		*10 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
d9-N-EtFOSE-M	*97*		*10 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
M2-4:2 FTS	*82*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
M2-6:2 FTS	*78*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
M2-8:2 FTS	*78*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*
13C3 HFPO-DA	*101*		*25 - 150*	*09/27/24 05:24*	*09/27/24 16:40*	*1*

Lab Sample ID: LCS 320-802668/3-A
Matrix: Water
Analysis Batch: 802943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 802668

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	160	158		ng/L		99	60 - 135
Perfluoropentanoic acid (PFPeA)	160	163		ng/L		102	60 - 135
Perfluorohexanoic acid (PFHxA)	160	139		ng/L		87	60 - 135
Perfluoroheptanoic acid (PFHpA)	160	157		ng/L		98	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-802668/3-A
Matrix: Water
Analysis Batch: 802943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 802668

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid (PFOA)	160	165		ng/L		103	60 - 135
Perfluorononanoic acid (PFNA)	160	166		ng/L		104	60 - 135
Perfluorodecanoic acid (PFDA)	160	163		ng/L		102	60 - 135
Perfluoroundecanoic acid (PFUnA)	160	167		ng/L		104	60 - 135
Perfluorododecanoic acid (PFDoA)	160	172		ng/L		107	60 - 135
Perfluorotridecanoic acid (PFTrDA)	160	157		ng/L		98	60 - 135
Perfluorotetradecanoic acid (PFTeA)	160	169		ng/L		106	60 - 135
Perfluorobutanesulfonic acid (PFBS)	142	159		ng/L		112	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	150	166		ng/L		111	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	146	124		ng/L		85	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	153	155		ng/L		102	60 - 135
Perfluorooctanesulfonic acid (PFOS)	149	155		ng/L		104	60 - 135
Perfluorononanesulfonic acid (PFNS)	154	151		ng/L		98	60 - 135
Perfluorodecanesulfonic acid (PFDS)	154	164		ng/L		106	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	155	145		ng/L		93	60 - 135
Perfluorooctanesulfonamide (FOSA)	160	169		ng/L		106	60 - 135
NEtFOSA	160	143		ng/L		89	60 - 135
NMeFOSA	160	163		ng/L		102	60 - 135
NMeFOSAA	160	160		ng/L		100	60 - 135
NEtFOSAA	160	155		ng/L		97	60 - 135
NMeFOSE	160	177		ng/L		111	60 - 135
NEtFOSE	160	165		ng/L		103	60 - 135
4:2 FTS	150	130		ng/L		86	60 - 135
6:2 FTS	152	127		ng/L		83	60 - 135
8:2 FTS	154	157		ng/L		102	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	151	146		ng/L		96	60 - 135
HFPO-DA (GenX)	160	168		ng/L		105	60 - 135
9Cl-PF3ONS	149	170		ng/L		114	60 - 135
11Cl-PF3OUdS	151	157		ng/L		104	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*106*		*25 - 150*
13C5 PFPeA	*104*		*25 - 150*
13C2 PFHxA	*107*		*25 - 150*
13C4 PFHpA	*104*		*25 - 150*
13C4 PFOA	*101*		*25 - 150*
13C5 PFNA	*101*		*25 - 150*
13C2 PFDA	*104*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-802668/3-A
Matrix: Water
Analysis Batch: 802943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 802668

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFUnA	*98*		*25 - 150*
13C2 PFDoA	*95*		*25 - 150*
13C2 PFTeDA	*92*		*25 - 150*
13C3 PFBS	*91*		*25 - 150*
18O2 PFHxS	*98*		*25 - 150*
13C4 PFOS	*96*		*25 - 150*
13C8 FOSA	*100*		*10 - 150*
d3-NMeFOSAA	*112*		*25 - 150*
d5-NEtFOSAA	*114*		*25 - 150*
d-N-MeFOSA-M	*92*		*10 - 150*
d-N-EtFOSA-M	*94*		*10 - 150*
d7-N-MeFOSE-M	*100*		*10 - 150*
d9-N-EtFOSE-M	*101*		*10 - 150*
M2-4:2 FTS	*85*		*25 - 150*
M2-6:2 FTS	*78*		*25 - 150*
M2-8:2 FTS	*78*		*25 - 150*
13C3 HFPO-DA	*108*		*25 - 150*

Lab Sample ID: LCSD 320-802668/4-A
Matrix: Water
Analysis Batch: 802943

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 802668

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	160	164		ng/L		103	60 - 135	4	30
Perfluoropentanoic acid (PFPeA)	160	162		ng/L		102	60 - 135	0	30
Perfluorohexanoic acid (PFHxA)	160	137		ng/L		85	60 - 135	2	30
Perfluoroheptanoic acid (PFHpA)	160	157		ng/L		98	60 - 135	0	30
Perfluorooctanoic acid (PFOA)	160	166		ng/L		103	60 - 135	0	30
Perfluorononanoic acid (PFNA)	160	167		ng/L		105	60 - 135	1	30
Perfluorodecanoic acid (PFDA)	160	163		ng/L		102	60 - 135	1	30
Perfluoroundecanoic acid (PFUnA)	160	168		ng/L		105	60 - 135	1	30
Perfluorododecanoic acid (PFDoA)	160	174		ng/L		109	60 - 135	2	30
Perfluorotridecanoic acid (PFTrDA)	160	171		ng/L		107	60 - 135	9	30
Perfluorotetradecanoic acid (PFTeA)	160	165		ng/L		103	60 - 135	2	30
Perfluorobutanesulfonic acid (PFBS)	142	156		ng/L		110	60 - 135	2	30
Perfluoropentanesulfonic acid (PFPeS)	150	160		ng/L		106	60 - 135	4	30
Perfluorohexanesulfonic acid (PFHxS)	146	130		ng/L		89	60 - 135	21	30
Perfluoroheptanesulfonic acid (PFHpS)	153	156		ng/L		102	60 - 135	0	30
Perfluorooctanesulfonic acid (PFOS)	149	159		ng/L		107	60 - 135	2	30
Perfluorononanesulfonic acid (PFNS)	154	150		ng/L		97	60 - 135	1	30
Perfluorodecanesulfonic acid (PFDS)	154	163		ng/L		105	60 - 135	1	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-802668/4-A
Matrix: Water
Analysis Batch: 802943

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 802668

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorododecanesulfonic acid (PFDoS)			155	152		ng/L		98	60 - 135	5	30
Perfluorooctanesulfonamide (FOSA)			160	166		ng/L		104	60 - 135	2	30
NEtFOSA			160	143		ng/L		89	60 - 135	0	30
NMeFOSA			160	168		ng/L		105	60 - 135	3	30
NMeFOSAA			160	162		ng/L		102	60 - 135	1	30
NEtFOSAA			160	165		ng/L		103	60 - 135	6	30
NMeFOSE			160	172		ng/L		107	60 - 135	3	30
NEtFOSE			160	163		ng/L		102	60 - 135	1	30
4:2 FTS			150	137		ng/L		91	60 - 135	5	30
6:2 FTS			152	129		ng/L		85	60 - 135	2	30
8:2 FTS			154	162		ng/L		105	60 - 135	3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			151	152		ng/L		100	60 - 135	4	30
HFPO-DA (GenX)			160	163		ng/L		102	60 - 135	3	30
9Cl-PF3ONS			149	170		ng/L		114	60 - 135	0	30
11Cl-PF3OUdS			151	154		ng/L		102	60 - 135	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*104*		*25 - 150*
13C5 PFPeA	*101*		*25 - 150*
13C2 PFHxA	*102*		*25 - 150*
13C4 PFHpA	*101*		*25 - 150*
13C4 PFOA	*101*		*25 - 150*
13C5 PFNA	*98*		*25 - 150*
13C2 PFDA	*98*		*25 - 150*
13C2 PFUnA	*94*		*25 - 150*
13C2 PFDoA	*87*		*25 - 150*
13C2 PFTeDA	*88*		*25 - 150*
13C3 PFBS	*92*		*25 - 150*
18O2 PFHxS	*94*		*25 - 150*
13C4 PFOS	*93*		*25 - 150*
13C8 FOSA	*103*		*10 - 150*
d3-NMeFOSAA	*111*		*25 - 150*
d5-NEtFOSAA	*110*		*25 - 150*
d-N-MeFOSA-M	*83*		*10 - 150*
d-N-EtFOSA-M	*79*		*10 - 150*
d7-N-MeFOSE-M	*101*		*10 - 150*
d9-N-EtFOSE-M	*97*		*10 - 150*
M2-4:2 FTS	*76*		*25 - 150*
M2-6:2 FTS	*76*		*25 - 150*
M2-8:2 FTS	*76*		*25 - 150*
13C3 HFPO-DA	*108*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-802668/2-A
Matrix: Water
Analysis Batch: 802943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 802668

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	8.27		ng/L		103	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	8.34		ng/L		104	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	7.20		ng/L		90	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	7.59		ng/L		95	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	8.07		ng/L		101	50 - 150
Perfluorononanoic acid (PFNA)	8.00	8.56		ng/L		107	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	8.74		ng/L		109	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	8.40		ng/L		105	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	9.22		ng/L		115	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	8.48		ng/L		106	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	8.64		ng/L		108	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	8.40		ng/L		118	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	7.78		ng/L		103	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	6.90		ng/L		95	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	7.74		ng/L		101	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	8.13		ng/L		109	50 - 150
Perfluorononanesulfonic acid (PFNS)	7.70	7.98		ng/L		104	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	8.42		ng/L		109	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	7.09		ng/L		91	50 - 150
Perfluorooctanesulfonamide (FOSA)	8.00	8.29		ng/L		104	50 - 150
NEtFOSA	8.00	6.16		ng/L		77	50 - 150
NMeFOSA	8.00	6.59		ng/L		82	50 - 150
NMeFOSAA	8.00	8.21		ng/L		103	50 - 150
NEtFOSAA	8.00	7.90		ng/L		99	50 - 150
NMeFOSE	8.00	8.16		ng/L		102	50 - 150
NEtFOSE	8.00	8.51		ng/L		106	50 - 150
4:2 FTS	7.50	6.60		ng/L		88	50 - 150
6:2 FTS	7.62	6.29		ng/L		83	50 - 150
8:2 FTS	7.68	8.57		ng/L		112	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	7.65		ng/L		101	50 - 150
HFPO-DA (GenX)	8.00	8.02		ng/L		100	50 - 150
9Cl-PF3ONS	7.47	8.59		ng/L		115	50 - 150
11Cl-PF3OUdS	7.55	7.86		ng/L		104	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*106*		*25 - 150*
13C5 PFPeA	*104*		*25 - 150*
13C2 PFHxA	*103*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-802668/2-A
Matrix: Water
Analysis Batch: 802943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 802668

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFHpA	*103*		*25 - 150*
13C4 PFOA	*99*		*25 - 150*
13C5 PFNA	*101*		*25 - 150*
13C2 PFDA	*100*		*25 - 150*
13C2 PFUnA	*102*		*25 - 150*
13C2 PFDoA	*92*		*25 - 150*
13C2 PFTeDA	*91*		*25 - 150*
13C3 PFBS	*93*		*25 - 150*
18O2 PFHxS	*94*		*25 - 150*
13C4 PFOS	*94*		*25 - 150*
13C8 FOSA	*105*		*10 - 150*
d3-NMeFOSAA	*114*		*25 - 150*
d5-NEtFOSAA	*120*		*25 - 150*
d-N-MeFOSA-M	*76*		*10 - 150*
d-N-EtFOSA-M	*72*		*10 - 150*
d7-N-MeFOSE-M	*101*		*10 - 150*
d9-N-EtFOSE-M	*93*		*10 - 150*
M2-4:2 FTS	*83*		*25 - 150*
M2-6:2 FTS	*77*		*25 - 150*
M2-8:2 FTS	*78*		*25 - 150*
13C3 HFPO-DA	*107*		*25 - 150*

Lab Sample ID: MB 320-801201/1-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 801201

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		13	6.0	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluoropentanoic acid (PFPeA)	ND		5.0	1.2	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorohexanoic acid (PFHxA)	ND		5.0	1.4	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluoroheptanoic acid (PFHpA)	ND		5.0	0.63	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorooctanoic acid (PFOA)	ND		5.0	2.1	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorononanoic acid (PFNA)	ND		5.0	0.68	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorodecanoic acid (PFDA)	ND		5.0	0.78	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	3.2	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	0.73	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorobutanesulfonic acid (PFBS)	ND		5.0	0.50	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorohexanesulfonic acid (PFHxS)	ND		5.0	0.43	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorooctanesulfonic acid (PFOS)	ND		5.0	0.80	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		09/23/24 07:15	09/24/24 16:25	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	0.88	ng/L		09/23/24 07:15	09/24/24 16:25	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-801201/1-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 801201

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSAA	ND		13	3.0	ng/L		09/23/24 07:15	09/24/24 16:25	1
NEtFOSAA	ND		13	3.3	ng/L		09/23/24 07:15	09/24/24 16:25	1
4:2 FTS	ND		5.0	0.60	ng/L		09/23/24 07:15	09/24/24 16:25	1
6:2 FTS	ND		13	6.3	ng/L		09/23/24 07:15	09/24/24 16:25	1
8:2 FTS	ND		5.0	1.2	ng/L		09/23/24 07:15	09/24/24 16:25	1
NEtFOSA	ND		5.0	2.2	ng/L		09/23/24 07:15	09/24/24 16:25	1
NMeFOSA	ND		5.0	1.1	ng/L		09/23/24 07:15	09/24/24 16:25	1
NMeFOSE	ND		10	3.5	ng/L		09/23/24 07:15	09/24/24 16:25	1
NEtFOSE	ND		5.0	2.2	ng/L		09/23/24 07:15	09/24/24 16:25	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		09/23/24 07:15	09/24/24 16:25	1
9Cl-PF3ONS	ND		5.0	0.60	ng/L		09/23/24 07:15	09/24/24 16:25	1
11Cl-PF3OUdS	ND		5.0	0.80	ng/L		09/23/24 07:15	09/24/24 16:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		09/23/24 07:15	09/24/24 16:25	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C5 PFPeA	*91*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C2 PFHxA	*84*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C4 PFHpA	*93*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C4 PFOA	*92*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C5 PFNA	*87*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C2 PFDA	*88*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C2 PFUnA	*95*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C2 PFDoA	*87*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C2 PFTeDA	*79*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C3 PFBS	*78*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
18O2 PFHxS	*87*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C4 PFOS	*83*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C8 FOSA	*80*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
M2-4:2 FTS	*102*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
M2-6:2 FTS	*117*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
M2-8:2 FTS	*100*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
d3-NMeFOSAA	*93*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
d5-NEtFOSAA	*98*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
d-N-MeFOSA-M	*53*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
d-N-EtFOSA-M	*58*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
d7-N-MeFOSE-M	*73*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
13C3 HFPO-DA	*83*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*
d9-N-EtFOSE-M	*71*		*25 - 150*	*09/23/24 07:15*	*09/24/24 16:25*	*1*

Lab Sample ID: LCS 320-801201/2-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 801201

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	40.0	38.5		ng/L		96	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	38.6		ng/L		97	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	41.9		ng/L		105	73 - 133

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-801201/2-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 801201

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	40.0	41.7		ng/L		104	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	38.8		ng/L		97	70 - 130
Perfluorononanoic acid (PFNA)	40.0	40.5		ng/L		101	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	39.5		ng/L		99	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	43.5		ng/L		109	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	43.8		ng/L		109	71 - 131
Perfluorotridecanoic acid (PFTrDA)	40.0	37.7		ng/L		94	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	39.9		ng/L		100	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.5	39.0		ng/L		110	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.6	41.2		ng/L		110	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.2		ng/L		96	59 - 119
Perfluoroheptanesulfonic acid (PFHpS)	38.2	41.9		ng/L		110	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.2	38.9		ng/L		104	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.5	39.8		ng/L		103	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	42.1		ng/L		109	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	38.8	30.7		ng/L		79	67 - 127
Perfluorooctanesulfonamide (FOSA)	40.0	41.3		ng/L		103	73 - 133
NMeFOSAA	40.0	38.4		ng/L		96	76 - 136
NEtFOSAA	40.0	37.5		ng/L		94	76 - 136
4:2 FTS	37.5	49.0		ng/L		131	79 - 139
6:2 FTS	38.1	37.8		ng/L		99	59 - 175
8:2 FTS	38.4	37.7		ng/L		98	75 - 135
NEtFOSA	40.0	21.0	*-	ng/L		52	78 - 138
NMeFOSA	40.0	23.0	*-	ng/L		57	67 - 154
NMeFOSE	40.0	35.4		ng/L		89	70 - 130
NEtFOSE	40.0	41.6		ng/L		104	71 - 131
HFPO-DA (GenX)	40.0	40.4		ng/L		101	51 - 173
9Cl-PF3ONS	37.4	42.1		ng/L		113	75 - 135
11Cl-PF3OUdS	37.8	40.5		ng/L		107	54 - 114
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	46.8		ng/L		124	79 - 139

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*93*		*25 - 150*
13C5 PFPeA	*92*		*25 - 150*
13C2 PFHxA	*91*		*25 - 150*
13C4 PFHpA	*93*		*25 - 150*
13C4 PFOA	*94*		*25 - 150*
13C5 PFNA	*89*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-801201/2-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 801201

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFDA	*93*		*25 - 150*
13C2 PFUnA	*93*		*25 - 150*
13C2 PFDoA	*88*		*25 - 150*
13C2 PFTeDA	*82*		*25 - 150*
13C3 PFBS	*80*		*25 - 150*
18O2 PFHxS	*86*		*25 - 150*
13C4 PFOS	*84*		*25 - 150*
13C8 FOSA	*83*		*25 - 150*
M2-4:2 FTS	*104*		*25 - 150*
M2-6:2 FTS	*123*		*25 - 150*
M2-8:2 FTS	*109*		*25 - 150*
d3-NMeFOSAA	*98*		*25 - 150*
d5-NEtFOSAA	*98*		*25 - 150*
d-N-MeFOSA-M	*65*		*25 - 150*
d-N-EtFOSA-M	*65*		*25 - 150*
d7-N-MeFOSE-M	*89*		*25 - 150*
13C3 HFPO-DA	*86*		*25 - 150*
d9-N-EtFOSE-M	*89*		*25 - 150*

Lab Sample ID: LCSD 320-801201/3-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 801201

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	40.7		ng/L		102	76 - 136	6	30
Perfluoropentanoic acid (PFPeA)	40.0	42.1		ng/L		105	71 - 131	9	30
Perfluorohexanoic acid (PFHxA)	40.0	44.6		ng/L		112	73 - 133	6	30
Perfluoroheptanoic acid (PFHpA)	40.0	42.9		ng/L		107	72 - 132	3	30
Perfluorooctanoic acid (PFOA)	40.0	40.3		ng/L		101	70 - 130	4	30
Perfluorononanoic acid (PFNA)	40.0	42.0		ng/L		105	75 - 135	4	30
Perfluorodecanoic acid (PFDA)	40.0	38.4		ng/L		96	76 - 136	3	30
Perfluoroundecanoic acid (PFUnA)	40.0	44.4		ng/L		111	68 - 128	2	30
Perfluorododecanoic acid (PFDoA)	40.0	44.9		ng/L		112	71 - 131	2	30
Perfluorotridecanoic acid (PFTrDA)	40.0	38.5		ng/L		96	71 - 131	2	30
Perfluorotetradecanoic acid (PFTeA)	40.0	39.7		ng/L		99	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	35.5	38.8		ng/L		109	67 - 127	0	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	42.5		ng/L		113	66 - 126	3	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.9		ng/L		98	59 - 119	2	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	41.5		ng/L		109	76 - 136	1	30
Perfluorooctanesulfonic acid (PFOS)	37.2	38.0		ng/L		102	70 - 130	2	30
Perfluorononanesulfonic acid (PFNS)	38.5	40.6		ng/L		106	75 - 135	2	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-801201/3-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 801201

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorodecanesulfonic acid (PFDS)			38.6	37.3		ng/L		97	71 - 131	12	30
Perfluorododecanesulfonic acid (PFDoS)			38.8	30.0		ng/L		77	67 - 127	2	30
Perfluorooctanesulfonamide (FOSA)			40.0	41.0		ng/L		102	73 - 133	1	30
NMeFOSAA			40.0	38.9		ng/L		97	76 - 136	2	30
NEtFOSAA			40.0	36.0		ng/L		90	76 - 136	4	30
4:2 FTS			37.5	50.5		ng/L		135	79 - 139	3	30
6:2 FTS			38.1	39.5		ng/L		104	59 - 175	4	30
8:2 FTS			38.4	41.9		ng/L		109	75 - 135	11	30
NEtFOSA			40.0	19.7	*-	ng/L		49	78 - 138	6	30
NMeFOSA			40.0	21.4	*-	ng/L		53	67 - 154	7	30
NMeFOSE			40.0	33.5		ng/L		84	70 - 130	6	30
NEtFOSE			40.0	40.7		ng/L		102	71 - 131	2	30
HFPO-DA (GenX)			40.0	42.0		ng/L		105	51 - 173	4	30
9Cl-PF3ONS			37.4	41.1		ng/L		110	75 - 135	2	30
11Cl-PF3OUdS			37.8	40.0		ng/L		106	54 - 114	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	46.8		ng/L		124	79 - 139	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*90*		*25 - 150*
13C5 PFPeA	*91*		*25 - 150*
13C2 PFHxA	*89*		*25 - 150*
13C4 PFHpA	*94*		*25 - 150*
13C4 PFOA	*92*		*25 - 150*
13C5 PFNA	*90*		*25 - 150*
13C2 PFDA	*94*		*25 - 150*
13C2 PFUnA	*97*		*25 - 150*
13C2 PFDoA	*85*		*25 - 150*
13C2 PFTeDA	*77*		*25 - 150*
13C3 PFBS	*80*		*25 - 150*
18O2 PFHxS	*87*		*25 - 150*
13C4 PFOS	*87*		*25 - 150*
13C8 FOSA	*81*		*25 - 150*
M2-4:2 FTS	*101*		*25 - 150*
M2-6:2 FTS	*114*		*25 - 150*
M2-8:2 FTS	*104*		*25 - 150*
d3-NMeFOSAA	*91*		*25 - 150*
d5-NEtFOSAA	*98*		*25 - 150*
d-N-MeFOSA-M	*66*		*25 - 150*
d-N-EtFOSA-M	*70*		*25 - 150*
d7-N-MeFOSE-M	*84*		*25 - 150*
13C3 HFPO-DA	*87*		*25 - 150*
d9-N-EtFOSE-M	*83*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-801578/1-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 801578

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.0	0.23	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluoropentanoic acid (PFPeA)	ND		1.0	0.21	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorohexanoic acid (PFHxA)	ND		1.0	0.16	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluoroheptanoic acid (PFHpA)	ND		1.0	0.19	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorooctanoic acid (PFOA)	ND		1.0	0.27	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorononanoic acid (PFNA)	ND		1.0	0.11	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorodecanoic acid (PFDA)	ND		1.0	0.24	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.0	0.21	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.0	0.15	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.0	0.11	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.0	0.19	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.0	0.19	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.0	0.19	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.0	0.15	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.0	0.25	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.0	0.22	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorononanesulfonic acid (PFNS)	ND		1.0	0.15	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.0	0.26	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.0	0.24	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
Perfluorooctanesulfonamide (FOSA)	ND		1.0	0.17	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
NMeFOSAA	ND		1.0	0.12	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
NEtFOSAA	ND		1.0	0.24	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
4:2 FTS	ND		1.0	0.26	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
6:2 FTS	ND		1.0	0.14	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
8:2 FTS	ND		1.0	0.18	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
NEtFOSA	ND		1.0	0.24	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
NMeFOSA	ND		1.0	0.25	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
NMeFOSE	ND		1.0	0.24	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
NEtFOSE	ND		1.0	0.14	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
HFPO-DA (GenX)	ND		1.0	0.21	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
9Cl-PF3ONS	ND		1.0	0.18	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
11Cl-PF3OUdS	ND		1.0	0.16	ug/Kg		09/24/24 03:38	09/27/24 00:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.0	0.20	ug/Kg		09/24/24 03:38	09/27/24 00:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95*		*25 - 150*	*09/24/24 03:38*	*09/27/24 00:32*	*1*
13C5 PFPeA	*94*		*25 - 150*	*09/24/24 03:38*	*09/27/24 00:32*	*1*
13C2 PFHxA	*95*		*25 - 150*	*09/24/24 03:38*	*09/27/24 00:32*	*1*
13C4 PFHpA	*97*		*25 - 150*	*09/24/24 03:38*	*09/27/24 00:32*	*1*
13C4 PFOA	*92*		*25 - 150*	*09/24/24 03:38*	*09/27/24 00:32*	*1*
13C5 PFNA	*94*		*25 - 150*	*09/24/24 03:38*	*09/27/24 00:32*	*1*
13C2 PFDA	*92*		*25 - 150*	*09/24/24 03:38*	*09/27/24 00:32*	*1*
13C2 PFUnA	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 00:32*	*1*
13C2 PFDoA	*80*		*25 - 150*	*09/24/24 03:38*	*09/27/24 00:32*	*1*
13C2 PFTeDA	*84*		*25 - 150*	*09/24/24 03:38*	*09/27/24 00:32*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-801578/1-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 801578

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	87		25 - 150	09/24/24 03:38	09/27/24 00:32	1
18O2 PFHxS	98		25 - 150	09/24/24 03:38	09/27/24 00:32	1
13C4 PFOS	84		25 - 150	09/24/24 03:38	09/27/24 00:32	1
13C8 FOSA	82		25 - 150	09/24/24 03:38	09/27/24 00:32	1
M2-4:2 FTS	72		25 - 150	09/24/24 03:38	09/27/24 00:32	1
M2-6:2 FTS	72		25 - 150	09/24/24 03:38	09/27/24 00:32	1
M2-8:2 FTS	85		25 - 150	09/24/24 03:38	09/27/24 00:32	1
d3-NMeFOSAA	74		25 - 150	09/24/24 03:38	09/27/24 00:32	1
d5-NEtFOSAA	78		25 - 150	09/24/24 03:38	09/27/24 00:32	1
d-N-MeFOSA-M	83		25 - 150	09/24/24 03:38	09/27/24 00:32	1
d-N-EtFOSA-M	77		25 - 150	09/24/24 03:38	09/27/24 00:32	1
d7-N-MeFOSE-M	77		25 - 150	09/24/24 03:38	09/27/24 00:32	1
13C3 HFPO-DA	94		25 - 150	09/24/24 03:38	09/27/24 00:32	1
d9-N-EtFOSE-M	74		25 - 150	09/24/24 03:38	09/27/24 00:32	1

Lab Sample ID: LCS 320-801578/2-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 801578

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	4.00	3.97		ug/Kg		99	76 - 136
Perfluoropentanoic acid (PFPeA)	4.00	4.00		ug/Kg		100	69 - 129
Perfluorohexanoic acid (PFHxA)	4.00	4.25		ug/Kg		106	71 - 131
Perfluoroheptanoic acid (PFHpA)	4.00	3.85		ug/Kg		96	71 - 131
Perfluorooctanoic acid (PFOA)	4.00	4.12		ug/Kg		103	72 - 132
Perfluorononanoic acid (PFNA)	4.00	3.97		ug/Kg		99	73 - 133
Perfluorodecanoic acid (PFDA)	4.00	3.95		ug/Kg		99	72 - 132
Perfluoroundecanoic acid (PFUnA)	4.00	4.10		ug/Kg		103	66 - 126
Perfluorododecanoic acid (PFDoA)	4.00	3.93		ug/Kg		98	71 - 131
Perfluorotridecanoic acid (PFTrDA)	4.00	3.43		ug/Kg		86	71 - 131
Perfluorotetradecanoic acid (PFTeA)	4.00	3.76		ug/Kg		94	67 - 127
Perfluorobutanesulfonic acid (PFBS)	3.55	3.64		ug/Kg		102	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.74		ug/Kg		99	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.63		ug/Kg		100	62 - 122
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.72		ug/Kg		98	76 - 136
Perfluorooctanesulfonic acid (PFOS)	3.72	3.61		ug/Kg		97	68 - 141
Perfluorononanesulfonic acid (PFNS)	3.85	3.66		ug/Kg		95	72 - 132
Perfluorodecanesulfonic acid (PFDS)	3.86	3.37		ug/Kg		87	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.17		ug/Kg		82	70 - 130

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-801578/2-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 801578

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	4.00	3.75		ug/Kg		94	77 - 137
NMeFOSAA	4.00	3.58		ug/Kg		89	72 - 132
NEtFOSAA	4.00	3.66		ug/Kg		92	72 - 132
4:2 FTS	3.75	2.87		ug/Kg		77	68 - 143
6:2 FTS	3.81	4.04		ug/Kg		106	73 - 139
8:2 FTS	3.84	3.78		ug/Kg		98	75 - 135
NEtFOSA	4.00	3.57		ug/Kg		89	47 - 161
NMeFOSA	4.00	4.10		ug/Kg		102	63 - 148
NMeFOSE	4.00	3.41		ug/Kg		85	43 - 153
NEtFOSE	4.00	4.09		ug/Kg		102	44 - 155
HFPO-DA (GenX)	4.00	3.75		ug/Kg		94	53 - 158
9Cl-PF3ONS	3.74	3.59		ug/Kg		96	74 - 134
11Cl-PF3OUdS	3.78	3.44		ug/Kg		91	66 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	3.97		ug/Kg		105	79 - 139

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*94*		*25 - 150*
13C5 PFPeA	*93*		*25 - 150*
13C2 PFHxA	*92*		*25 - 150*
13C4 PFHpA	*101*		*25 - 150*
13C4 PFOA	*92*		*25 - 150*
13C5 PFNA	*95*		*25 - 150*
13C2 PFDA	*94*		*25 - 150*
13C2 PFUnA	*90*		*25 - 150*
13C2 PFDoA	*85*		*25 - 150*
13C2 PFTeDA	*83*		*25 - 150*
13C3 PFBS	*94*		*25 - 150*
18O2 PFHxS	*98*		*25 - 150*
13C4 PFOS	*96*		*25 - 150*
13C8 FOSA	*84*		*25 - 150*
M2-4:2 FTS	*70*		*25 - 150*
M2-6:2 FTS	*79*		*25 - 150*
M2-8:2 FTS	*87*		*25 - 150*
d3-NMeFOSAA	*77*		*25 - 150*
d5-NEtFOSAA	*79*		*25 - 150*
d-N-MeFOSA-M	*82*		*25 - 150*
d-N-EtFOSA-M	*81*		*25 - 150*
d7-N-MeFOSE-M	*83*		*25 - 150*
13C3 HFPO-DA	*92*		*25 - 150*
d9-N-EtFOSE-M	*81*		*25 - 150*

Lab Sample ID: LCSD 320-801578/3-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 801578

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	4.00	4.03		ug/Kg		101	76 - 136	2	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-801578/3-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 801578

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)	4.00	3.95		ug/Kg		99	69 - 129	1	30
Perfluorohexanoic acid (PFHxA)	4.00	3.94		ug/Kg		98	71 - 131	8	30
Perfluoroheptanoic acid (PFHpA)	4.00	3.80		ug/Kg		95	71 - 131	1	30
Perfluorooctanoic acid (PFOA)	4.00	3.88		ug/Kg		97	72 - 132	6	30
Perfluorononanoic acid (PFNA)	4.00	3.89		ug/Kg		97	73 - 133	2	30
Perfluorodecanoic acid (PFDA)	4.00	3.84		ug/Kg		96	72 - 132	3	30
Perfluoroundecanoic acid (PFUnA)	4.00	4.19		ug/Kg		105	66 - 126	2	30
Perfluorododecanoic acid (PFDoA)	4.00	4.10		ug/Kg		102	71 - 131	4	30
Perfluorotridecanoic acid (PFTrDA)	4.00	3.45		ug/Kg		86	71 - 131	1	30
Perfluorotetradecanoic acid (PFTeA)	4.00	3.78		ug/Kg		95	67 - 127	1	30
Perfluorobutanesulfonic acid (PFBS)	3.55	3.73		ug/Kg		105	69 - 129	2	30
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.73		ug/Kg		99	66 - 126	0	30
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.58		ug/Kg		98	62 - 122	1	30
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.97		ug/Kg		104	76 - 136	6	30
Perfluorooctanesulfonic acid (PFOS)	3.72	3.73		ug/Kg		100	68 - 141	3	30
Perfluorononanesulfonic acid (PFNS)	3.85	3.74		ug/Kg		97	72 - 132	2	30
Perfluorodecanesulfonic acid (PFDS)	3.86	3.38		ug/Kg		88	71 - 131	0	30
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.05		ug/Kg		79	70 - 130	4	30
Perfluorooctanesulfonamide (FOSA)	4.00	3.90		ug/Kg		98	77 - 137	4	30
NMeFOSAA	4.00	3.42		ug/Kg		86	72 - 132	4	30
NEtFOSAA	4.00	3.58		ug/Kg		90	72 - 132	2	30
4:2 FTS	3.75	2.79		ug/Kg		74	68 - 143	3	30
6:2 FTS	3.81	4.03		ug/Kg		106	73 - 139	0	30
8:2 FTS	3.84	4.01		ug/Kg		105	75 - 135	6	30
NEtFOSA	4.00	3.53		ug/Kg		88	47 - 161	1	30
NMeFOSA	4.00	3.78		ug/Kg		94	63 - 148	8	30
NMeFOSE	4.00	3.67		ug/Kg		92	43 - 153	8	30
NEtFOSE	4.00	4.17		ug/Kg		104	44 - 155	2	30
HFPO-DA (GenX)	4.00	3.86		ug/Kg		97	53 - 158	3	30
9Cl-PF3ONS	3.74	3.68		ug/Kg		99	74 - 134	3	30
11Cl-PF3OUdS	3.78	3.43		ug/Kg		91	66 - 136	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.10		ug/Kg		109	79 - 139	3	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*92*		*25 - 150*
13C5 PFPeA	*93*		*25 - 150*
13C2 PFHxA	*93*		*25 - 150*
13C4 PFHpA	*100*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-801578/3-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 801578

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFOA	*95*		*25 - 150*
13C5 PFNA	*95*		*25 - 150*
13C2 PFDA	*92*		*25 - 150*
13C2 PFUnA	*84*		*25 - 150*
13C2 PFDoA	*78*		*25 - 150*
13C2 PFTeDA	*80*		*25 - 150*
13C3 PFBS	*91*		*25 - 150*
18O2 PFHxS	*99*		*25 - 150*
13C4 PFOS	*92*		*25 - 150*
13C8 FOSA	*88*		*25 - 150*
M2-4:2 FTS	*69*		*25 - 150*
M2-6:2 FTS	*76*		*25 - 150*
M2-8:2 FTS	*82*		*25 - 150*
d3-NMeFOSAA	*76*		*25 - 150*
d5-NEtFOSAA	*75*		*25 - 150*
d-N-MeFOSA-M	*68*		*25 - 150*
d-N-EtFOSA-M	*65*		*25 - 150*
d7-N-MeFOSE-M	*85*		*25 - 150*
13C3 HFPO-DA	*92*		*25 - 150*
d9-N-EtFOSE-M	*83*		*25 - 150*

Lab Sample ID: MB 320-801202/1-A
Matrix: Water
Analysis Batch: 802518

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 801202

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	9.09	J	13	6.0	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluoropentanoic acid (PFPeA)	7.66		5.0	1.2	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorohexanoic acid (PFHxA)	4.41	J	5.0	1.4	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluoroheptanoic acid (PFHpA)	3.70	J	5.0	0.63	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorooctanoic acid (PFOA)	3.76	J	5.0	2.1	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorononanoic acid (PFNA)	ND		5.0	0.68	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorodecanoic acid (PFDA)	ND		5.0	0.78	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	3.2	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	0.73	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		5.0	0.50	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorohexanesulfonic acid (PFHxS)	ND		5.0	0.43	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorooctanesulfonic acid (PFOS)	ND		5.0	0.80	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		09/23/24 07:21	09/26/24 15:10	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	0.88	ng/L		09/23/24 07:21	09/26/24 15:10	1
NMeFOSAA	ND		13	3.0	ng/L		09/23/24 07:21	09/26/24 15:10	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-801202/1-A
Matrix: Water
Analysis Batch: 802518

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 801202

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	ND		13	3.3	ng/L		09/23/24 07:21	09/26/24 15:10	1
4:2 FTS	ND		5.0	0.60	ng/L		09/23/24 07:21	09/26/24 15:10	1
6:2 FTS	ND		13	6.3	ng/L		09/23/24 07:21	09/26/24 15:10	1
8:2 FTS	ND		5.0	1.2	ng/L		09/23/24 07:21	09/26/24 15:10	1
NEtFOSA	ND		5.0	2.2	ng/L		09/23/24 07:21	09/26/24 15:10	1
NMeFOSA	ND		5.0	1.1	ng/L		09/23/24 07:21	09/26/24 15:10	1
NMeFOSE	ND		10	3.5	ng/L		09/23/24 07:21	09/26/24 15:10	1
NEtFOSE	ND		5.0	2.2	ng/L		09/23/24 07:21	09/26/24 15:10	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		09/23/24 07:21	09/26/24 15:10	1
9Cl-PF3ONS	ND		5.0	0.60	ng/L		09/23/24 07:21	09/26/24 15:10	1
11Cl-PF3OUdS	ND		5.0	0.80	ng/L		09/23/24 07:21	09/26/24 15:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		09/23/24 07:21	09/26/24 15:10	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C5 PFPeA	*92*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C2 PFHxA	*93*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C4 PFHpA	*95*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C4 PFOA	*89*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C5 PFNA	*92*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C2 PFDA	*96*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C2 PFUnA	*92*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C2 PFDoA	*90*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C2 PFTeDA	*87*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C3 PFBS	*90*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
18O2 PFHxS	*91*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C4 PFOS	*88*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C8 FOSA	*86*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
M2-6:2 FTS	*84*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
M2-8:2 FTS	*92*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
d3-NMeFOSAA	*78*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
d5-NEtFOSAA	*86*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
d-N-MeFOSA-M	*71*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
d-N-EtFOSA-M	*71*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
d7-N-MeFOSE-M	*80*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
13C3 HFPO-DA	*90*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*
d9-N-EtFOSE-M	*76*		*25 - 150*	*09/23/24 07:21*	*09/26/24 15:10*	*1*

Lab Sample ID: LCS 320-801202/2-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 801202

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	40.0	74.6		ng/L		187	157 - 278
Perfluoropentanoic acid (PFPeA)	40.0	82.4		ng/L		206	151 - 208
Perfluorohexanoic acid (PFHxA)	40.0	96.8		ng/L		242	194 - 269
Perfluoroheptanoic acid (PFHpA)	40.0	89.0		ng/L		223	199 - 252

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-801202/2-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 801202

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid (PFOA)	40.0	142		ng/L		355	351 - 490
Perfluorononanoic acid (PFNA)	40.0	60.2		ng/L		151	145 - 205
Perfluorodecanoic acid (PFDA)	40.0	51.7	*-	ng/L		129	130 - 190
Perfluoroundecanoic acid (PFUnA)	40.0	39.7		ng/L		99	82 - 142
Perfluorododecanoic acid (PFDoA)	40.0	40.1		ng/L		100	82 - 142
Perfluorotridecanoic acid (PFTrDA)	40.0	33.0	*-	ng/L		82	85 - 145
Perfluorotetradecanoic acid (PFTeA)	40.0	34.7		ng/L		87	72 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	33.9		ng/L		95	84 - 144
Perfluoropentanesulfonic acid (PFPeS)	37.6	35.9		ng/L		96	83 - 143
Perfluorohexanesulfonic acid (PFHxS)	36.5	32.5		ng/L		89	73 - 133
Perfluoroheptanesulfonic acid (PFHpS)	38.2	38.4		ng/L		101	80 - 140
Perfluorooctanesulfonic acid (PFOS)	37.2	35.1		ng/L		94	82 - 142
Perfluorononanesulfonic acid (PFNS)	38.5	35.0		ng/L		91	79 - 139
Perfluorodecanesulfonic acid (PFDS)	38.6	33.4		ng/L		86	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	38.8	25.9		ng/L		67	52 - 139
Perfluorooctanesulfonamide (FOSA)	40.0	1.07	J	ng/L		3	0 - 10
NMeFOSAA	40.0	ND		ng/L		0	0 - 10
NEtFOSAA	40.0	ND		ng/L		1	0 - 10
4:2 FTS	37.5	ND		ng/L		0	0 - 10
6:2 FTS	38.1	ND		ng/L		1	0 - 10
8:2 FTS	38.4	2.07	J	ng/L		5	0 - 10
NEtFOSA	40.0	ND		ng/L		0	0 - 10
NMeFOSA	40.0	ND		ng/L		0	0 - 10
NMeFOSE	40.0	ND		ng/L		0	0 - 10
NEtFOSE	40.0	ND		ng/L		0	0 - 10
HFPO-DA (GenX)	40.0	26.8		ng/L		67	52 - 112
9Cl-PF3ONS	37.4	32.3		ng/L		86	66 - 126
11Cl-PF3OUdS	37.8	20.1		ng/L		53	45 - 105
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	ND		ng/L		2	0 - 10

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*86*		*25 - 150*
13C5 PFPeA	*96*		*25 - 150*
13C2 PFHxA	*92*		*25 - 150*
13C4 PFHpA	*95*		*25 - 150*
13C4 PFOA	*95*		*25 - 150*
13C5 PFNA	*90*		*25 - 150*
13C2 PFDA	*86*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-801202/2-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 801202

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFUnA	*93*		*25 - 150*
13C2 PFDoA	*80*		*25 - 150*
13C2 PFTeDA	*76*		*25 - 150*
13C3 PFBS	*85*		*25 - 150*
18O2 PFHxS	*90*		*25 - 150*
13C4 PFOS	*82*		*25 - 150*
13C8 FOSA	*76*		*25 - 150*
M2-4:2 FTS	*0*		*0 - 10*
M2-6:2 FTS	*112*		*25 - 150*
M2-8:2 FTS	*102*		*25 - 150*
d3-NMeFOSAA	*89*		*25 - 150*
d5-NEtFOSAA	*93*		*25 - 150*
d-N-MeFOSA-M	*68*		*25 - 150*
d-N-EtFOSA-M	*69*		*25 - 150*
d7-N-MeFOSE-M	*75*		*25 - 150*
13C3 HFPO-DA	*84*		*25 - 150*
d9-N-EtFOSE-M	*79*		*25 - 150*

Lab Sample ID: LCSD 320-801202/3-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 801202

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	79.8		ng/L		199	157 - 278	7	30
Perfluoropentanoic acid (PFPeA)	40.0	81.4		ng/L		204	151 - 208	1	30
Perfluorohexanoic acid (PFHxA)	40.0	97.7		ng/L		244	194 - 269	1	30
Perfluoroheptanoic acid (PFHpA)	40.0	93.9		ng/L		235	199 - 252	5	30
Perfluorooctanoic acid (PFOA)	40.0	167		ng/L		417	351 - 490	16	30
Perfluorononanoic acid (PFNA)	40.0	68.6		ng/L		171	145 - 205	13	30
Perfluorodecanoic acid (PFDA)	40.0	56.4		ng/L		141	130 - 190	9	30
Perfluoroundecanoic acid (PFUnA)	40.0	45.5		ng/L		114	82 - 142	14	30
Perfluorododecanoic acid (PFDoA)	40.0	43.6		ng/L		109	82 - 142	8	30
Perfluorotridecanoic acid (PFTrDA)	40.0	38.7		ng/L		97	85 - 145	16	30
Perfluorotetradecanoic acid (PFTeA)	40.0	36.4		ng/L		91	72 - 132	5	30
Perfluorobutanesulfonic acid (PFBS)	35.5	38.5		ng/L		109	84 - 144	13	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	41.5		ng/L		110	83 - 143	14	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	35.3		ng/L		97	73 - 133	8	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	39.2		ng/L		103	80 - 140	2	30
Perfluorooctanesulfonic acid (PFOS)	37.2	37.1		ng/L		100	82 - 142	6	30
Perfluorononanesulfonic acid (PFNS)	38.5	36.4		ng/L		95	79 - 139	4	30
Perfluorodecanesulfonic acid (PFDS)	38.6	34.9		ng/L		91	71 - 131	5	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-801202/3-A
Matrix: Water
Analysis Batch: 801884

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 801202

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorododecanesulfonic acid (PFDoS)			38.8	30.3		ng/L		78	52 - 139	16	30
Perfluorooctanesulfonamide (FOSA)			40.0	1.16	J	ng/L		3	0 - 10	8	30
NMeFOSAA			40.0	ND		ng/L		0	0 - 10	NC	30
NEtFOSAA			40.0	ND	*1	ng/L		0.8	0 - 10	51	30
4:2 FTS			37.5	ND		ng/L		0	0 - 10	NC	30
6:2 FTS			38.1	ND		ng/L		1	0 - 10	2	30
8:2 FTS			38.4	2.48	J	ng/L		6	0 - 10	18	30
NEtFOSA			40.0	ND		ng/L		0	0 - 10	NC	30
NMeFOSA			40.0	ND		ng/L		0	0 - 10	NC	30
NMeFOSE			40.0	ND		ng/L		0	0 - 10	NC	30
NEtFOSE			40.0	ND		ng/L		0	0 - 10	NC	30
HFPO-DA (GenX)			40.0	29.2		ng/L		73	52 - 112	9	30
9Cl-PF3ONS			37.4	35.0		ng/L		94	66 - 126	8	30
11Cl-PF3OUdS			37.8	24.0		ng/L		64	45 - 105	18	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	ND		ng/L		2	0 - 10	15	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*90*		*25 - 150*
13C5 PFPeA	*100*		*25 - 150*
13C2 PFHxA	*91*		*25 - 150*
13C4 PFHpA	*97*		*25 - 150*
13C4 PFOA	*93*		*25 - 150*
13C5 PFNA	*87*		*25 - 150*
13C2 PFDA	*93*		*25 - 150*
13C2 PFUnA	*94*		*25 - 150*
13C2 PFDoA	*90*		*25 - 150*
13C2 PFTeDA	*87*		*25 - 150*
13C3 PFBS	*85*		*25 - 150*
18O2 PFHxS	*92*		*25 - 150*
13C4 PFOS	*90*		*25 - 150*
13C8 FOSA	*84*		*25 - 150*
M2-4:2 FTS	*0*		*0 - 10*
M2-6:2 FTS	*118*		*25 - 150*
M2-8:2 FTS	*107*		*25 - 150*
d3-NMeFOSAA	*97*		*25 - 150*
d5-NEtFOSAA	*97*		*25 - 150*
d-N-MeFOSA-M	*68*		*25 - 150*
d-N-EtFOSA-M	*67*		*25 - 150*
d7-N-MeFOSE-M	*85*		*25 - 150*
13C3 HFPO-DA	*87*		*25 - 150*
d9-N-EtFOSE-M	*84*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-801580/1-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 801580

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.397	J	1.0	0.23	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluoropentanoic acid (PFPeA)	ND		1.0	0.21	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorohexanoic acid (PFHxA)	ND		1.0	0.16	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluoroheptanoic acid (PFHpA)	ND		1.0	0.19	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorooctanoic acid (PFOA)	ND		1.0	0.27	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorononanoic acid (PFNA)	ND		1.0	0.11	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorodecanoic acid (PFDA)	ND		1.0	0.24	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluoroundecanoic acid (PFUnA)	ND		1.0	0.21	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorododecanoic acid (PFDoA)	ND		1.0	0.15	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.0	0.11	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.0	0.19	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.0	0.19	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.0	0.19	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.0	0.15	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.0	0.25	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.0	0.22	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorononanesulfonic acid (PFNS)	ND		1.0	0.15	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.0	0.26	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.0	0.24	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
Perfluorooctanesulfonamide (FOSA)	ND		1.0	0.17	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
NMeFOSAA	ND		1.0	0.12	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
NEtFOSAA	ND		1.0	0.24	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
4:2 FTS	ND		1.0	0.26	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
6:2 FTS	ND		1.0	0.14	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
8:2 FTS	ND		1.0	0.18	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
NEtFOSA	ND		1.0	0.24	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
NMeFOSA	ND		1.0	0.25	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
NMeFOSE	ND		1.0	0.24	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
NEtFOSE	ND		1.0	0.14	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
HFPO-DA (GenX)	ND		1.0	0.21	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
9Cl-PF3ONS	ND		1.0	0.18	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
11Cl-PF3OUdS	ND		1.0	0.16	ug/Kg		09/24/24 03:45	09/27/24 02:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.0	0.20	ug/Kg		09/24/24 03:45	09/27/24 02:38	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 02:38*	*1*
13C5 PFPeA	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 02:38*	*1*
13C2 PFHxA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 02:38*	*1*
13C4 PFHpA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 02:38*	*1*
13C4 PFOA	*93*		*25 - 150*	*09/24/24 03:45*	*09/27/24 02:38*	*1*
13C5 PFNA	*95*		*25 - 150*	*09/24/24 03:45*	*09/27/24 02:38*	*1*
13C2 PFDA	*99*		*25 - 150*	*09/24/24 03:45*	*09/27/24 02:38*	*1*
13C2 PFUnA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 02:38*	*1*
13C2 PFDoA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 02:38*	*1*
13C2 PFTeDA	*84*		*25 - 150*	*09/24/24 03:45*	*09/27/24 02:38*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-801580/1-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 801580

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	90		25 - 150	09/24/24 03:45	09/27/24 02:38	1
18O2 PFHxS	96		25 - 150	09/24/24 03:45	09/27/24 02:38	1
13C4 PFOS	96		25 - 150	09/24/24 03:45	09/27/24 02:38	1
13C8 FOSA	94		25 - 150	09/24/24 03:45	09/27/24 02:38	1
M2-4:2 FTS	0		0 - 10	09/24/24 03:45	09/27/24 02:38	1
M2-6:2 FTS	78		25 - 150	09/24/24 03:45	09/27/24 02:38	1
M2-8:2 FTS	92		25 - 150	09/24/24 03:45	09/27/24 02:38	1
d3-NMeFOSAA	87		25 - 150	09/24/24 03:45	09/27/24 02:38	1
d5-NEtFOSAA	91		25 - 150	09/24/24 03:45	09/27/24 02:38	1
d-N-MeFOSA-M	87		25 - 150	09/24/24 03:45	09/27/24 02:38	1
d-N-EtFOSA-M	83		25 - 150	09/24/24 03:45	09/27/24 02:38	1
d7-N-MeFOSE-M	87		25 - 150	09/24/24 03:45	09/27/24 02:38	1
13C3 HFPO-DA	86		25 - 150	09/24/24 03:45	09/27/24 02:38	1
d9-N-EtFOSE-M	86		25 - 150	09/24/24 03:45	09/27/24 02:38	1

Lab Sample ID: LCS 320-801580/2-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 801580

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	4.00	7.19		ug/Kg		180	167 - 261
Perfluoropentanoic acid (PFPeA)	4.00	6.87		ug/Kg		172	159 - 221
Perfluorohexanoic acid (PFHxA)	4.00	7.81	*-	ug/Kg		195	208 - 257
Perfluoroheptanoic acid (PFHpA)	4.00	7.43	*-	ug/Kg		186	189 - 267
Perfluorooctanoic acid (PFOA)	4.00	15.9		ug/Kg		398	372 - 496
Perfluorononanoic acid (PFNA)	4.00	6.19		ug/Kg		155	154 - 205
Perfluorodecanoic acid (PFDA)	4.00	5.55		ug/Kg		139	130 - 190
Perfluoroundecanoic acid (PFUnA)	4.00	4.13		ug/Kg		103	81 - 141
Perfluorododecanoic acid (PFDoA)	4.00	4.00		ug/Kg		100	84 - 144
Perfluorotridecanoic acid (PFTrDA)	4.00	3.44		ug/Kg		86	78 - 138
Perfluorotetradecanoic acid (PFTeA)	4.00	3.58		ug/Kg		90	72 - 132
Perfluorobutanesulfonic acid (PFBS)	3.55	3.61		ug/Kg		102	89 - 149
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.67		ug/Kg		98	94 - 154
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.62		ug/Kg		99	73 - 133
Perfluoroheptanesulfonic acid (PFHpS)	3.82	3.68		ug/Kg		96	68 - 128
Perfluorooctanesulfonic acid (PFOS)	3.72	3.74		ug/Kg		101	70 - 138
Perfluorononanesulfonic acid (PFNS)	3.85	3.67		ug/Kg		95	66 - 126
Perfluorodecanesulfonic acid (PFDS)	3.86	3.58		ug/Kg		93	66 - 126
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.06		ug/Kg		79	47 - 107

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-801580/2-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 801580

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	4.00	0.203	J	ug/Kg		5	0 - 10
NMeFOSAA	4.00	ND		ug/Kg		0	0 - 10
NEtFOSAA	4.00	ND		ug/Kg		0	0 - 10
4:2 FTS	3.75	ND		ug/Kg		0	0 - 10
6:2 FTS	3.81	ND		ug/Kg		2	0 - 10
8:2 FTS	3.84	0.320	J	ug/Kg		8	0 - 12
NEtFOSA	4.00	ND		ug/Kg		0	0 - 10
NMeFOSA	4.00	ND		ug/Kg		0	0 - 10
NMeFOSE	4.00	ND		ug/Kg		0	0 - 10
NEtFOSE	4.00	ND		ug/Kg		0	0 - 10
HFPO-DA (GenX)	4.00	2.49		ug/Kg		62	53 - 158
9Cl-PF3ONS	3.74	3.20		ug/Kg		86	74 - 134
11Cl-PF3OUdS	3.78	2.25		ug/Kg		59	46 - 106
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	ND		ug/Kg		2	0 - 10

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*92*		*25 - 150*
13C5 PFPeA	*91*		*25 - 150*
13C2 PFHxA	*90*		*25 - 150*
13C4 PFHpA	*100*		*25 - 150*
13C4 PFOA	*89*		*25 - 150*
13C5 PFNA	*93*		*25 - 150*
13C2 PFDA	*90*		*25 - 150*
13C2 PFUnA	*89*		*25 - 150*
13C2 PFDoA	*82*		*25 - 150*
13C2 PFTeDA	*81*		*25 - 150*
13C3 PFBS	*89*		*25 - 150*
18O2 PFHxS	*92*		*25 - 150*
13C4 PFOS	*92*		*25 - 150*
13C8 FOSA	*88*		*25 - 150*
M2-4:2 FTS	*0*		*0 - 10*
M2-6:2 FTS	*76*		*25 - 150*
M2-8:2 FTS	*85*		*25 - 150*
d3-NMeFOSAA	*82*		*25 - 150*
d5-NEtFOSAA	*88*		*25 - 150*
d-N-MeFOSA-M	*91*		*25 - 150*
d-N-EtFOSA-M	*84*		*25 - 150*
d7-N-MeFOSE-M	*83*		*25 - 150*
13C3 HFPO-DA	*90*		*25 - 150*
d9-N-EtFOSE-M	*82*		*25 - 150*

Lab Sample ID: LCSD 320-801580/3-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 801580

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	4.00	7.43		ug/Kg		186	167 - 261	3	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-801580/3-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 801580

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)	4.00	6.92		ug/Kg		173	159 - 221	1	30
Perfluorohexanoic acid (PFHxA)	4.00	7.97	*-	ug/Kg		199	208 - 257	2	30
Perfluoroheptanoic acid (PFHpA)	4.00	7.25	*-	ug/Kg		181	189 - 267	2	30
Perfluorooctanoic acid (PFOA)	4.00	17.1		ug/Kg		427	372 - 496	7	30
Perfluorononanoic acid (PFNA)	4.00	6.46		ug/Kg		161	154 - 205	4	30
Perfluorodecanoic acid (PFDA)	4.00	5.69		ug/Kg		142	130 - 190	2	30
Perfluoroundecanoic acid (PFUnA)	4.00	4.38		ug/Kg		109	81 - 141	6	30
Perfluorododecanoic acid (PFDoA)	4.00	3.88		ug/Kg		97	84 - 144	3	30
Perfluorotridecanoic acid (PFTrDA)	4.00	3.19		ug/Kg		80	78 - 138	8	30
Perfluorotetradecanoic acid (PFTeA)	4.00	3.75		ug/Kg		94	72 - 132	5	30
Perfluorobutanesulfonic acid (PFBS)	3.55	3.74		ug/Kg		105	89 - 149	4	30
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.90		ug/Kg		104	94 - 154	6	30
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.79		ug/Kg		104	73 - 133	5	30
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.04		ug/Kg		106	68 - 128	9	30
Perfluorooctanesulfonic acid (PFOS)	3.72	3.91		ug/Kg		105	70 - 138	5	30
Perfluorononanesulfonic acid (PFNS)	3.85	3.78		ug/Kg		98	66 - 126	3	30
Perfluorodecanesulfonic acid (PFDS)	3.86	3.53		ug/Kg		91	66 - 126	1	30
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.10		ug/Kg		80	47 - 107	1	30
Perfluorooctanesulfonamide (FOSA)	4.00	ND	*1	ug/Kg		4	0 - 10	36	30
NMeFOSAA	4.00	ND		ug/Kg		0	0 - 10	NC	30
NEtFOSAA	4.00	ND		ug/Kg		0	0 - 10	NC	30
4:2 FTS	3.75	ND		ug/Kg		0	0 - 10	NC	30
6:2 FTS	3.81	ND		ug/Kg		2	0 - 10	14	30
8:2 FTS	3.84	0.209	J *1	ug/Kg		5	0 - 12	42	30
NEtFOSA	4.00	ND		ug/Kg		0	0 - 10	NC	30
NMeFOSA	4.00	ND		ug/Kg		0	0 - 10	NC	30
NMeFOSE	4.00	ND	*1	ug/Kg		0.5	0 - 10	200	30
NEtFOSE	4.00	ND		ug/Kg		0	0 - 10	NC	30
HFPO-DA (GenX)	4.00	2.66		ug/Kg		67	53 - 158	7	30
9Cl-PF3ONS	3.74	3.40		ug/Kg		91	74 - 134	6	30
11Cl-PF3OUdS	3.78	2.65		ug/Kg		70	46 - 106	17	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	ND		ug/Kg		2	0 - 10	23	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*94*		*25 - 150*
13C5 PFPeA	*93*		*25 - 150*
13C2 PFHxA	*95*		*25 - 150*
13C4 PFHpA	*101*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-801580/3-A
Matrix: Solid
Analysis Batch: 802527

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 801580

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFOA	*90*		*25 - 150*
13C5 PFNA	*93*		*25 - 150*
13C2 PFDA	*96*		*25 - 150*
13C2 PFUnA	*93*		*25 - 150*
13C2 PFDoA	*89*		*25 - 150*
13C2 PFTeDA	*81*		*25 - 150*
13C3 PFBS	*89*		*25 - 150*
18O2 PFHxS	*92*		*25 - 150*
13C4 PFOS	*88*		*25 - 150*
13C8 FOSA	*91*		*25 - 150*
M2-4:2 FTS	*0*		*0 - 10*
M2-6:2 FTS	*80*		*25 - 150*
M2-8:2 FTS	*88*		*25 - 150*
d3-NMeFOSAA	*84*		*25 - 150*
d5-NEtFOSAA	*88*		*25 - 150*
d-N-MeFOSA-M	*86*		*25 - 150*
d-N-EtFOSA-M	*84*		*25 - 150*
d7-N-MeFOSE-M	*88*		*25 - 150*
13C3 HFPO-DA	*91*		*25 - 150*
d9-N-EtFOSE-M	*84*		*25 - 150*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-787346/1
Matrix: Water
Analysis Batch: 787346

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			09/23/24 15:07	1

Lab Sample ID: LCS 500-787346/2
Matrix: Water
Analysis Batch: 787346

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			200	173		mg/L		87	80 - 120		

Lab Sample ID: MB 500-787556/1
Matrix: Water
Analysis Batch: 787556

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			09/24/24 16:34	1

Lab Sample ID: LCS 500-787556/2
Matrix: Water
Analysis Batch: 787556

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			200	179		mg/L		89	80 - 120		

QC Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: 320-115509-7 DU
Matrix: Water
Analysis Batch: 787556

Client Sample ID: EFF-202409
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	8.4			9.00	F5	mg/L				7	5

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

LCMS

Prep Batch: 801201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-7	EFF-202409	Pre-Treatment	Water	TOP Pre - Prep	
MB 320-801201/1-A	Method Blank	Pre-Treatment	Water	TOP Pre - Prep	
LCS 320-801201/2-A	Lab Control Sample	Pre-Treatment	Water	TOP Pre - Prep	
LCSD 320-801201/3-A	Lab Control Sample Dup	Pre-Treatment	Water	TOP Pre - Prep	

Prep Batch: 801202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-7	EFF-202409	Post-Treatment	Water	TOP Post Prep	
MB 320-801202/1-A	Method Blank	Post-Treatment	Water	TOP Post Prep	
LCS 320-801202/2-A	Lab Control Sample	Post-Treatment	Water	TOP Post Prep	
LCSD 320-801202/3-A	Lab Control Sample Dup	Post-Treatment	Water	TOP Post Prep	

Prep Batch: 801578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-9	BIO-A-22-202409	Pre-Treatment	Solid	TOP Pre-Prep	
320-115509-10	BIO-B-202409	Pre-Treatment	Solid	TOP Pre-Prep	
320-115509-11	BIO-A-23-202409	Pre-Treatment	Solid	TOP Pre-Prep	
320-115509-13	BIO-A-24-202409	Pre-Treatment	Solid	TOP Pre-Prep	
MB 320-801578/1-A	Method Blank	Pre-Treatment	Solid	TOP Pre-Prep	
LCS 320-801578/2-A	Lab Control Sample	Pre-Treatment	Solid	TOP Pre-Prep	
LCSD 320-801578/3-A	Lab Control Sample Dup	Pre-Treatment	Solid	TOP Pre-Prep	

Prep Batch: 801580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-9	BIO-A-22-202409	Post-Treatment	Solid	TOP Post-Prep	
320-115509-10	BIO-B-202409	Post-Treatment	Solid	TOP Post-Prep	
320-115509-11	BIO-A-23-202409	Post-Treatment	Solid	TOP Post-Prep	
320-115509-13	BIO-A-24-202409	Post-Treatment	Solid	TOP Post-Prep	
MB 320-801580/1-A	Method Blank	Post-Treatment	Solid	TOP Post-Prep	
LCS 320-801580/2-A	Lab Control Sample	Post-Treatment	Solid	TOP Post-Prep	
LCSD 320-801580/3-A	Lab Control Sample Dup	Post-Treatment	Solid	TOP Post-Prep	

Analysis Batch: 801884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-801201/1-A	Method Blank	Pre-Treatment	Water	537 (modified)	801201
LCS 320-801201/2-A	Lab Control Sample	Pre-Treatment	Water	537 (modified)	801201
LCS 320-801202/2-A	Lab Control Sample	Post-Treatment	Water	537 (modified)	801202
LCSD 320-801201/3-A	Lab Control Sample Dup	Pre-Treatment	Water	537 (modified)	801201
LCSD 320-801202/3-A	Lab Control Sample Dup	Post-Treatment	Water	537 (modified)	801202

Prep Batch: 801958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-9	BIO-A-22-202409	Total/NA	Solid	SHAKE	
320-115509-10 - RA	BIO-B-202409	Total/NA	Solid	SHAKE	
320-115509-10	BIO-B-202409	Total/NA	Solid	SHAKE	
320-115509-11 - DL	BIO-A-23-202409	Total/NA	Solid	SHAKE	
320-115509-11	BIO-A-23-202409	Total/NA	Solid	SHAKE	
320-115509-13	BIO-A-24-202409	Total/NA	Solid	SHAKE	
MB 320-801958/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-801958/3-A	Lab Control Sample	Total/NA	Solid	SHAKE	
LLCS 320-801958/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

LCMS

Analysis Batch: 802379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-9	BIO-A-22-202409	Total/NA	Solid	537 (modified)	801958
320-115509-10	BIO-B-202409	Total/NA	Solid	537 (modified)	801958
320-115509-11	BIO-A-23-202409	Total/NA	Solid	537 (modified)	801958
320-115509-13	BIO-A-24-202409	Total/NA	Solid	537 (modified)	801958
MB 320-801958/1-A	Method Blank	Total/NA	Solid	537 (modified)	801958
LCS 320-801958/3-A	Lab Control Sample	Total/NA	Solid	537 (modified)	801958
LLCS 320-801958/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	801958

Analysis Batch: 802518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-7	EFF-202409	Post-Treatment	Water	537 (modified)	801202
320-115509-7	EFF-202409	Pre-Treatment	Water	537 (modified)	801201
MB 320-801202/1-A	Method Blank	Post-Treatment	Water	537 (modified)	801202

Analysis Batch: 802527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-9	BIO-A-22-202409	Post-Treatment	Solid	537 (modified)	801580
320-115509-9	BIO-A-22-202409	Pre-Treatment	Solid	537 (modified)	801578
320-115509-10	BIO-B-202409	Post-Treatment	Solid	537 (modified)	801580
320-115509-10	BIO-B-202409	Pre-Treatment	Solid	537 (modified)	801578
320-115509-11	BIO-A-23-202409	Post-Treatment	Solid	537 (modified)	801580
320-115509-11	BIO-A-23-202409	Pre-Treatment	Solid	537 (modified)	801578
320-115509-13	BIO-A-24-202409	Post-Treatment	Solid	537 (modified)	801580
320-115509-13	BIO-A-24-202409	Pre-Treatment	Solid	537 (modified)	801578
MB 320-801578/1-A	Method Blank	Pre-Treatment	Solid	537 (modified)	801578
MB 320-801580/1-A	Method Blank	Post-Treatment	Solid	537 (modified)	801580
LCS 320-801578/2-A	Lab Control Sample	Pre-Treatment	Solid	537 (modified)	801578
LCS 320-801580/2-A	Lab Control Sample	Post-Treatment	Solid	537 (modified)	801580
LCSD 320-801578/3-A	Lab Control Sample Dup	Pre-Treatment	Solid	537 (modified)	801578
LCSD 320-801580/3-A	Lab Control Sample Dup	Post-Treatment	Solid	537 (modified)	801580

Prep Batch: 802668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-1	INF-02-202409	Total/NA	Water	3535	
320-115509-2	INF-07-202409	Total/NA	Water	3535	
320-115509-3	INF-08-202409	Total/NA	Water	3535	
320-115509-4	INF-11-202409	Total/NA	Water	3535	
320-115509-5	INF-18-202409	Total/NA	Water	3535	
320-115509-6	INF-COMP-202409	Total/NA	Water	3535	
320-115509-7	EFF-202409	Total/NA	Water	3535	
320-115509-8	EB01-202409	Total/NA	Water	3535	
320-115509-12	EB02-202409	Total/NA	Water	3535	
MB 320-802668/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-802668/3-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-802668/4-A	Lab Control Sample Dup	Total/NA	Water	3535	
LLCS 320-802668/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 802943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-1	INF-02-202409	Total/NA	Water	537 (modified)	802668
320-115509-2	INF-07-202409	Total/NA	Water	537 (modified)	802668

LCMS (Continued)

Analysis Batch: 802943 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-3	INF-08-202409	Total/NA	Water	537 (modified)	802668
320-115509-4	INF-11-202409	Total/NA	Water	537 (modified)	802668
320-115509-5	INF-18-202409	Total/NA	Water	537 (modified)	802668
320-115509-6	INF-COMP-202409	Total/NA	Water	537 (modified)	802668
320-115509-7	EFF-202409	Total/NA	Water	537 (modified)	802668
320-115509-8	EB01-202409	Total/NA	Water	537 (modified)	802668
320-115509-12	EB02-202409	Total/NA	Water	537 (modified)	802668
MB 320-802668/1-A	Method Blank	Total/NA	Water	537 (modified)	802668
LCS 320-802668/3-A	Lab Control Sample	Total/NA	Water	537 (modified)	802668
LCSD 320-802668/4-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	802668
LLCS 320-802668/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	802668

Analysis Batch: 803664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-11 - DL	BIO-A-23-202409	Total/NA	Solid	537 (modified)	801958

Analysis Batch: 804006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-10 - RA	BIO-B-202409	Total/NA	Solid	537 (modified)	801958

General Chemistry

Analysis Batch: 787346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-1	INF-02-202409	Total/NA	Water	SM 2540D	
320-115509-2	INF-07-202409	Total/NA	Water	SM 2540D	
320-115509-3	INF-08-202409	Total/NA	Water	SM 2540D	
320-115509-4	INF-11-202409	Total/NA	Water	SM 2540D	
320-115509-5	INF-18-202409	Total/NA	Water	SM 2540D	
320-115509-6	INF-COMP-202409	Total/NA	Water	SM 2540D	
MB 500-787346/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-787346/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 787556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-7	EFF-202409	Total/NA	Water	SM 2540D	
MB 500-787556/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-787556/2	Lab Control Sample	Total/NA	Water	SM 2540D	
320-115509-7 DU	EFF-202409	Total/NA	Water	SM 2540D	

Analysis Batch: 802085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-115509-9	BIO-A-22-202409	Total/NA	Solid	D 2216	
320-115509-10	BIO-B-202409	Total/NA	Solid	D 2216	
320-115509-11	BIO-A-23-202409	Total/NA	Solid	D 2216	
320-115509-13	BIO-A-24-202409	Total/NA	Solid	D 2216	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: INF-02-202409
Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			282 mL	10.0 mL	802668	09/27/24 05:24	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802943	09/27/24 17:36	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	787346	09/23/24 15:45	SO	EET CHI
							Completed:	09/23/24 15:47 [1]		

Client Sample ID: INF-07-202409
Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			291.2 mL	10.0 mL	802668	09/27/24 05:24	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802943	09/27/24 17:50	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	70 mL	500 mL	787346	09/23/24 15:47	SO	EET CHI
							Completed:	09/23/24 15:49 [1]		

Client Sample ID: INF-08-202409
Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			290.5 mL	10.0 mL	802668	09/27/24 05:24	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802943	09/27/24 18:04	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	787346	09/23/24 15:49	SO	EET CHI
							Completed:	09/23/24 15:51 [1]		

Client Sample ID: INF-11-202409
Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			292.8 mL	10.0 mL	802668	09/27/24 05:24	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802943	09/27/24 18:18	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	787346	09/23/24 15:51	SO	EET CHI
							Completed:	09/23/24 15:53 [1]		

Client Sample ID: INF-18-202409
Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			278.3 mL	10.0 mL	802668	09/27/24 05:24	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802943	09/27/24 18:32	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	787346	09/23/24 15:53	SO	EET CHI
							Completed:	09/23/24 15:55 [1]		

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: INF-COMP-202409
Lab Sample ID: 320-115509-6
Date Collected: 09/16/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			281.5 mL	10.0 mL	802668	09/27/24 05:24	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802943	09/27/24 18:46	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	787346	09/23/24 15:55	SO	EET CHI
							Completed:	09/23/24 15:57 [1]		

Client Sample ID: EFF-202409
Lab Sample ID: 320-115509-7
Date Collected: 09/17/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post Prep			100 mL	10.0 mL	801202	09/23/24 07:21	HJA	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	802518	09/26/24 16:06	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre - Prep			100 mL	10.0 mL	801201	09/23/24 07:15	HJA	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	802518	09/26/24 13:31	P1P	EET SAC
Total/NA	Prep	3535			284 mL	10.0 mL	802668	09/27/24 05:24	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802943	09/27/24 19:28	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	787556	09/24/24 16:52	SO	EET CHI
							Completed:	09/24/24 16:53 [1]		

Client Sample ID: EB01-202409
Lab Sample ID: 320-115509-8
Date Collected: 09/17/24 07:10
Matrix: Water
Date Received: 09/19/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			280 mL	10.0 mL	802668	09/27/24 05:24	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802943	09/27/24 19:42	P1R	EET SAC

Client Sample ID: BIO-A-22-202409
Lab Sample ID: 320-115509-9
Date Collected: 09/17/24 07:37
Matrix: Solid
Date Received: 09/19/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			802085	09/25/24 10:47	CFR	EET SAC

Client Sample ID: BIO-A-22-202409
Lab Sample ID: 320-115509-9
Date Collected: 09/17/24 07:37
Matrix: Solid
Date Received: 09/19/24 09:00
Percent Solids: 27.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post-Prep			1.00 g	10.0 mL	801580	09/24/24 03:45	F1D	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	802527	09/27/24 03:34	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep			1.00 g	10.0 mL	801578	09/24/24 03:38	F1D	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	802527	09/27/24 01:28	P1P	EET SAC
Total/NA	Prep	SHAKE			1.16 g	10.0 mL	801958	09/25/24 04:42	R1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802379	09/26/24 02:45	JTD	EET SAC

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: BIO-B-202409
Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			802085	09/25/24 10:47	CFR	EET SAC

Client Sample ID: BIO-B-202409
Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-10
Matrix: Solid
Percent Solids: 6.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post-Prep			1.02 g	10.0 mL	801580	09/24/24 03:45	F1D	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	802527	09/27/24 03:48	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep			1.05 g	10.0 mL	801578	09/24/24 03:38	F1D	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	802527	09/27/24 01:42	P1P	EET SAC
Total/NA	Prep	SHAKE	RA		1.48 g	10.0 mL	801958	09/25/24 04:42	R1T	EET SAC
Total/NA	Analysis	537 (modified)	RA	1	1 mL	1 mL	804006	10/02/24 21:49	K1S	EET SAC
Total/NA	Prep	SHAKE			1.48 g	10.0 mL	801958	09/25/24 04:42	R1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802379	09/26/24 02:59	JTD	EET SAC

Client Sample ID: BIO-A-23-202409
Date Collected: 09/17/24 08:40
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			802085	09/25/24 10:47	CFR	EET SAC

Client Sample ID: BIO-A-23-202409
Date Collected: 09/17/24 08:40
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-11
Matrix: Solid
Percent Solids: 27.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post-Prep			1.01 g	10.0 mL	801580	09/24/24 03:45	F1D	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	802527	09/27/24 04:02	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep			1.04 g	10.0 mL	801578	09/24/24 03:38	F1D	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	802527	09/27/24 01:56	P1P	EET SAC
Total/NA	Prep	SHAKE	DL		1.46 g	10.0 mL	801958	09/25/24 04:42	R1T	EET SAC
Total/NA	Analysis	537 (modified)	DL	10	1 mL	1 mL	803664	10/01/24 13:05	AP1	EET SAC
Total/NA	Prep	SHAKE			1.46 g	10.0 mL	801958	09/25/24 04:42	R1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802379	09/26/24 03:13	JTD	EET SAC

Client Sample ID: EB02-202409
Date Collected: 09/17/24 09:10
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			282.7 mL	10.0 mL	802668	09/27/24 05:24	SJ	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802943	09/27/24 19:56	P1R	EET SAC

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: BIO-A-24-202409

Lab Sample ID: 320-115509-13

Date Collected: 09/17/24 09:53
Matrix: Solid
Date Received: 09/19/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			802085	09/25/24 10:47	CFR	EET SAC

Client Sample ID: BIO-A-24-202409

Lab Sample ID: 320-115509-13

Date Collected: 09/17/24 09:53
Matrix: Solid
Date Received: 09/19/24 09:00
Percent Solids: 20.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post-Prep			1.04 g	10.0 mL	801580	09/24/24 03:45	F1D	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	802527	09/27/24 04:17	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep			1.02 g	10.0 mL	801578	09/24/24 03:38	F1D	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	802527	09/27/24 02:10	P1P	EET SAC
Total/NA	Prep	SHAKE			1.41 g	10.0 mL	801958	09/25/24 04:42	R1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	802379	09/26/24 03:27	JTD	EET SAC

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Wisconsin	State	998204680	08-31-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-25

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
D 2216	Percent Moisture	ASTM	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC
TOP Post Prep	Solid-Phase Extraction (SPE)	SW846	EET SAC
TOP Post-Prep	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC
TOP Pre - Prep	Solid-Phase Extraction (SPE)	SW846	EET SAC
TOP Pre-Prep	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-115509-1	INF-02-202409	Water	09/16/24 23:59	09/19/24 09:00
320-115509-2	INF-07-202409	Water	09/16/24 23:59	09/19/24 09:00
320-115509-3	INF-08-202409	Water	09/16/24 23:59	09/19/24 09:00
320-115509-4	INF-11-202409	Water	09/16/24 23:59	09/19/24 09:00
320-115509-5	INF-18-202409	Water	09/16/24 23:59	09/19/24 09:00
320-115509-6	INF-COMP-202409	Water	09/16/24 23:59	09/19/24 09:00
320-115509-7	EFF-202409	Water	09/17/24 23:59	09/19/24 09:00
320-115509-8	EB01-202409	Water	09/17/24 07:10	09/19/24 09:00
320-115509-9	BIO-A-22-202409	Solid	09/17/24 07:37	09/19/24 09:00
320-115509-10	BIO-B-202409	Solid	09/17/24 08:02	09/19/24 09:00
320-115509-11	BIO-A-23-202409	Solid	09/17/24 08:40	09/19/24 09:00
320-115509-12	EB02-202409	Water	09/17/24 09:10	09/19/24 09:00
320-115509-13	BIO-A-24-202409	Solid	09/17/24 09:53	09/19/24 09:00

Reports to Mike Ursin mursin@trccompanies.com

Chain of Custody Record 725314

eurofins | Environment Testing America

Address: TRC
999 Fourier Dr Suite 101
Madison, WI 53717

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☒ Other:

TAL-8210

Client Contact		Project Manager: Mary Powers	Site Contact:	Date: 9-18-24	COC No: 725314
Company Name: Madison Metro Sewerage Dist		Tel/Email: marypemadsewer.org	Lab Contact: Jenny Faust	Carrier: Fed Ex	1 of 2 COCs
Address: 1610 Moorland Rd		Analysis Turnaround Time			Sampler:
City/State/Zip: Madison, WI 53713-2898		☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone: 608 222-1301		TAT if different from Below 20 business days			Walk-in Client:
Fax:		☐ 2 weeks			Lab Sampling:
Project Name:		☐ 1 week			
Site: MMSD		☐ 2 days			Job / SDG No.:
P O # 2400419		☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	PFAS	TSS	TOP Assay	Sample Specific Notes:
INF-02-202409	9/16/24	23:59	C	WW	3	N	N	X	X		
INF-07-202409	9/16/24	23:59	C	WW	3	N	N	X	X		
INF-08-202409	9/16/24	23:59	C	WW	3	N	N	X	X		
INF-11-202409	9/16/24	23:59	C	WW	3	N	N	X	X		
INF-18-202409	9/16/24	23:59	C	WW	3	N	N	X	X		
INF-COMP-202409	9/16/24	23:59	C	WW	3	N	N	X	X		
EFF-202409	9/17/24	23:59	C	WW	7	N	N	X	X	X	
~~BIO-A-22~~											

320-115509 Chain of Custody

9/18/24 JF

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: For Inf Samples follow EPA 1900.1 (WI PFAS expectations) Sec V13 procedure for particulates in aqueous samples. Centrifuge as needed.

Custody Seals Intact: ☒ Yes ☐ No | Custody Seal No.: 249/000 / 249/001 | Cooler Temp. (°C): Obs'd: 0.2 Corr'd: 0.2 | Therm ID No.: 612

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Jennifer Faust	MMSD	9/18/24 0700	[signature]	[illegible]	9/18/24 0900
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

reports to Mike Ursin mursin@trccompanies.com

Chain of Custody Record 725312

eurofins | Environment Testing America

Address: TRC
999 Fourier Dr Suite 101
Madison, WI 53717

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☒ Other:

TAL-8210

Client Contact	Project Manager: Mary Powers	Site Contact:	Date: 9-18-24	COC No: 725312
Company Name: Madison Metro Sewerage Dist	Tel/Email: maryp@madsewerage	Lab Contact: Jenny Faust	Carrier: Fed Ex	2 of 2 COCs
Address: 1610 Moorland	Analysis Turnaround Time			Sampler:
City/State/Zip: Madison, WI 53713-2898	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone: 608 222-1301	TAT if different from Below 20 business days			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name:	☐ 1 week			
Site: MMSD	☐ 2 days			Job / SDG No.:
P O # 2400419	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PFAS	TOP	Sample Specific Notes:
EB01-202409	9/17/24	7:10	G	~~SL~~ WT	2	N	N	X		
B10-A-22-202409	9/17/24	7:37	C	SL	1	N	N	X	X	
B10-B-202409	9/17/24	8:02	C	SL	1	N	N	X	X	
B10-A-23-202409	9/17/24	8:40	C	SL	1	N	N	X	X	
EB02-202409	9/17/24	9:10	G	WT	2	N	N	X		
B10-A-24-202409	9/17/24	9:53	C	SL	1	N	N	X	X	

9/17/24 JF

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☒ Yes ☐ No | Custody Seal No.: 249 1000 / 249 1001 | Cooler Temp. (°C): Obs'd: 0.2 Corr'd: 0.2 | Therm ID No.: 112

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Jennifer Faust	MMSD	9/18/24 07:00	[signature]	Fedex	9/19/24 0900
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc: 320
115509

Tracking # : 7407 9451 4955

Job:_ _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: 412 Corr. Factor: (+ / -) _____°C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: 249 1000 / 249 1001

Cooler ID: _____

Temp Observed: 0.2 °C Corrected: 0.2 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: JK Date: 9/19/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: [signature] Date: 9.19.24

Notes: Incorrect client ID
EFF-COMP-202409
#7 (A-G)

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials: [signature] Date: 9.19.24

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916-373-5600 Fax 916-372 1059

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM: Smith, Micah	Carrier Tracking No(s)	COC No: 320-349503 1
Client Contact: Shipping/Receiving	Phone	E Mail: Micah Smith@et eurofinsus com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): NELAP Oregon, State - Wisconsin		Job #: 320 115509 1
Address: 2417 Bond Street, ,	Due Date Requested: 10/9/2024			
City: University Park	TAT Requested (days):			
State, Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #:			
Email	WO #			
Project Name: PFAS Sampling	Project #: 32021779			
Site	SSOW#			

Analysis Requested

320-115509 COC

Preservation Codes.

Other

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
INF-02 202409 (320 115509 1)	9/16/24	23 59 Central	G	Water			X	1	
INF-07-202409 (320-115509 2)	9/16/24	23 59 Central	G	Water			X	1	
INF-08 202409 (320 115509-3)	9/16/24	23 59 Central	G	Water			X	1	
INF 11 202409 (320-115509-4)	9/16/24	23 59 Central	G	Water			X	1	
INF 18-202409 (320-115509-5)	9/16/24	23 59 Central	G	Water			X	1	
INF COMP-202409 (320 115509-6)	9/16/24	23 59 Central	G	Water			X	1	
EFF-202409 (320-115509-7)	9/17/24	23 59 Central	G	Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northern California, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing Northern California, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northern California, LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northern California LLC

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment.

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
DSM	09/20/24 1630	EETSAC	Stephanie Hernandez	9/21/24 0925	EETA

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
		4°C QT 1.8+1.7

Ver: 05/06/2024

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-115509-1

Login Number: 115509
List Number: 1
Creator: Costa, Brian L

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	REFER TO SSRN
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	N/A	
Cooler Temperature is recorded.	N/A	
COC is present.	N/A	
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
Samples are received within Holding Time (excluding tests with immediate HTs)	N/A	
Sample containers have legible labels.	N/A	
Containers are not broken or leaking.	N/A	
Sample collection date/times are provided.	N/A	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-115509-1

Login Number: 115509
List Number: 2
Creator: Hernandez, Stephanie

List Source: Eurofins Chicago
List Creation: 09/21/24 11:44 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

October 2024

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Julie Maas
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

Generated 11/4/2024 4:51:01 PM Revision 1

JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-116240-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization

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Revision 1

Authorized for release by
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Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-116240-1

Revision
The report being provided is a revision of the original report sent on 10/28/2024. The report (revision 1) is being revised to remove several in correct narrations that are not applicable.

Receipt
The samples were received on 10/17/2024 9:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9º C.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analyte(s) have been flagged: INF-Comp-20241014 (320-116240-1) and EFF-20241015 (320-116240-2).

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: INF-Comp-20241014 (320-116240-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: INF-Comp-20241014 (320-116240-1). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

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

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

Organic Prep
Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-808042.

Method 3535: The following samples in preparation batch 320-808042 were light yellow in color and were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: INF-Comp-20241014 (320-116240-1) and EFF-20241015 (320-116240-2).

Method 3535: During the solid phase extraction process sample INF-Comp-20241014 (320-116240-1) in preparation batch 320-808042 contained particulates which clogged the solid phase extraction column. The volume of the sample that was extracted via SPE prior to the clogging of the SPE cartridge was 77%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent.

Method 3535: The following samples in preparation batch 320-808042 were light yellow in color following extraction: INF-Comp-20241014 (320-116240-1) and EFF-20241015 (320-116240-2).

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Client Sample ID: INF-Comp-20241014 — Lab Sample ID: 320-116240-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.6		4.7	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.9		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	9.2		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.6	J	1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.3		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.1	J I	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.53	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.3		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.81	J	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.7		1.9	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.4		1.9	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.94	J	1.9	0.92	ng/L	1		537 (modified)	Total/NA
NMeFOSE	2.8	J	3.7	1.3	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	220		42	16	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EFF-20241015 — Lab Sample ID: 320-116240-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.9		4.4	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	16		1.8	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	16		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.0		1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	7.7		1.8	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.70	J I	1.8	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.70	J	1.8	0.27	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.70	J	1.8	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.5		1.8	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.8		1.8	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	2.2		1.8	0.86	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	5.4		5.0	1.9	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Client Sample ID: INF-Comp-20241014

Lab Sample ID: 320-116240-1

Date Collected: 10/14/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.6**		4.7	2.2	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoropentanoic acid (PFPeA)	**4.9**		1.9	0.46	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorohexanoic acid (PFHxA)	**9.2**		1.9	0.54	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	1.9	0.23	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorooctanoic acid (PFOA)	**5.3**		1.9	0.80	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorononanoic acid (PFNA)	**1.1**	**J I**	1.9	0.25	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorodecanoic acid (PFDA)	**0.53**	**J**	1.9	0.29	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.68	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorobutanesulfonic acid (PFBS)	**3.3**		1.9	0.19	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoropentanesulfonic acid (PFPeS)	**0.81**	**J**	1.9	0.28	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorohexanesulfonic acid (PFHxS)	**6.7**		1.9	0.53	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorooctanesulfonic acid (PFOS)	**4.4**		1.9	0.51	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.91	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorooctanesulfonamide (FOSA)	**0.94**	**J**	1.9	0.92	ng/L		10/18/24 04:24	10/19/24 07:00	1
NEtFOSA	ND		1.9	0.81	ng/L		10/18/24 04:24	10/19/24 07:00	1
NMeFOSA	ND		1.9	0.40	ng/L		10/18/24 04:24	10/19/24 07:00	1
NMeFOSAA	ND		4.7	1.1	ng/L		10/18/24 04:24	10/19/24 07:00	1
NEtFOSAA	ND		4.7	1.2	ng/L		10/18/24 04:24	10/19/24 07:00	1
NMeFOSE	**2.8**	**J**	3.7	1.3	ng/L		10/18/24 04:24	10/19/24 07:00	1
NEtFOSE	ND		1.9	0.80	ng/L		10/18/24 04:24	10/19/24 07:00	1
4:2 FTS	ND		1.9	0.22	ng/L		10/18/24 04:24	10/19/24 07:00	1
6:2 FTS	ND		4.7	2.3	ng/L		10/18/24 04:24	10/19/24 07:00	1
8:2 FTS	ND		1.9	0.43	ng/L		10/18/24 04:24	10/19/24 07:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.37	ng/L		10/18/24 04:24	10/19/24 07:00	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		10/18/24 04:24	10/19/24 07:00	1
9Cl-PF3ONS	ND		1.9	0.22	ng/L		10/18/24 04:24	10/19/24 07:00	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		10/18/24 04:24	10/19/24 07:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C5 PFPeA	*68*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFHxA	*89*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C4 PFHpA	*84*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C4 PFOA	*83*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C5 PFNA	*86*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFDA	*81*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFUnA	*61*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFDoA	*34*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*

Client Sample ID: INF-Comp-20241014

Lab Sample ID: 320-116240-1

Date Collected: 10/14/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*23*	**5-*	*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C3 PFBS	*69*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
18O2 PFHxS	*75*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C4 PFOS	*63*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C8 FOSA	*57*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d3-NMeFOSAA	*53*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d5-NEtFOSAA	*55*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d-N-MeFOSA-M	*21*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d-N-EtFOSA-M	*42*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d7-N-MeFOSE-M	*33*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d9-N-EtFOSE-M	*38*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
M2-4:2 FTS	*126*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
M2-6:2 FTS	*203*	**5+*	*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
M2-8:2 FTS	*156*	**5+*	*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C3 HFPO-DA	*83*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**220**		42	16	mg/L			10/18/24 16:03	1

Client Sample ID: EFF-20241015

Lab Sample ID: 320-116240-2

Date Collected: 10/15/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.9**		4.4	2.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoropentanoic acid (PFPeA)	**16**		1.8	0.43	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorohexanoic acid (PFHxA)	**16**		1.8	0.51	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoroheptanoic acid (PFHpA)	**2.0**		1.8	0.22	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorooctanoic acid (PFOA)	**7.7**		1.8	0.75	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorononanoic acid (PFNA)	**0.70**	**J I**	1.8	0.24	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorodecanoic acid (PFDA)	**0.70**	**J**	1.8	0.27	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.64	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoropentanesulfonic acid (PFPeS)	**0.70**	**J**	1.8	0.26	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorohexanesulfonic acid (PFHxS)	**7.5**		1.8	0.50	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorooctanesulfonic acid (PFOS)	**3.8**		1.8	0.47	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.85	ng/L		10/18/24 04:24	10/19/24 07:10	1

Client Sample ID: EFF-20241015

Lab Sample ID: 320-116240-2

Date Collected: 10/15/24 23:59
Date Received: 10/17/24 09:10

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	**2.2**		1.8	0.86	ng/L		10/18/24 04:24	10/19/24 07:10	1
NEtFOSA	ND		1.8	0.76	ng/L		10/18/24 04:24	10/19/24 07:10	1
NMeFOSA	ND		1.8	0.38	ng/L		10/18/24 04:24	10/19/24 07:10	1
NMeFOSAA	ND		4.4	1.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
NEtFOSAA	ND		4.4	1.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
NMeFOSE	ND		3.5	1.2	ng/L		10/18/24 04:24	10/19/24 07:10	1
NEtFOSE	ND		1.8	0.75	ng/L		10/18/24 04:24	10/19/24 07:10	1
4:2 FTS	ND		1.8	0.21	ng/L		10/18/24 04:24	10/19/24 07:10	1
6:2 FTS	ND		4.4	2.2	ng/L		10/18/24 04:24	10/19/24 07:10	1
8:2 FTS	ND		1.8	0.40	ng/L		10/18/24 04:24	10/19/24 07:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		10/18/24 04:24	10/19/24 07:10	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		10/18/24 04:24	10/19/24 07:10	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		10/18/24 04:24	10/19/24 07:10	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		10/18/24 04:24	10/19/24 07:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C5 PFPeA	*73*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFHxA	*97*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C4 PFHpA	*91*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C4 PFOA	*108*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C5 PFNA	*105*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFDA	*96*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFUnA	*96*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFDoA	*79*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFTeDA	*45*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C3 PFBS	*81*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
18O2 PFHxS	*87*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C4 PFOS	*89*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C8 FOSA	*91*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d3-NMeFOSAA	*91*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d5-NEtFOSAA	*102*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d-N-MeFOSA-M	*72*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d-N-EtFOSA-M	*70*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d7-N-MeFOSE-M	*66*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d9-N-EtFOSE-M	*58*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
M2-4:2 FTS	*131*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
M2-6:2 FTS	*115*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
M2-8:2 FTS	*111*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C3 HFPO-DA	*91*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**5.4**		5.0	1.9	mg/L			10/21/24 16:48	1

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-116240-1	INF-Comp-20241014	78	68	89	84	83	86	81	61
320-116240-2	EFF-20241015	90	73	97	91	108	105	96	96
LCS 320-808042/3-A	Lab Control Sample	98	80	99	87	101	98	92	94
LCSD 320-808042/4-A	Lab Control Sample Dup	97	78	94	83	96	98	92	88
LLCS 320-808042/2-A	Lab Control Sample	94	77	99	86	106	92	93	92
MB 320-808042/1-A	Method Blank	102	84	106	91	99	104	99	93

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-116240-1	INF-Comp-20241014	34	23 *5-	69	75	63	57	53	55
320-116240-2	EFF-20241015	79	45	81	87	89	91	91	102
LCS 320-808042/3-A	Lab Control Sample	87	73	84	89	93	85	90	85
LCSD 320-808042/4-A	Lab Control Sample Dup	82	76	82	87	88	83	87	80
LLCS 320-808042/2-A	Lab Control Sample	86	76	82	88	85	88	89	91
MB 320-808042/1-A	Method Blank	86	74	86	88	94	88	91	92

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-116240-1	INF-Comp-20241014	21	42	33	38	126	203 *5+	156 *5+	83
320-116240-2	EFF-20241015	72	70	66	58	131	115	111	91
LCS 320-808042/3-A	Lab Control Sample	73	75	83	75	80	79	86	89
LCSD 320-808042/4-A	Lab Control Sample Dup	71	74	84	73	91	75	81	88
LLCS 320-808042/2-A	Lab Control Sample	75	80	83	78	88	83	85	85
MB 320-808042/1-A	Method Blank	76	80	83	73	83	86	94	87

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-116240-1
Project/Site: PFAS Sampling

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-808042/1-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 808042

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		10/18/24 04:23	10/19/24 03:31	1
NEtFOSA	ND		2.0	0.87	ng/L		10/18/24 04:23	10/19/24 03:31	1
NMeFOSA	ND		2.0	0.43	ng/L		10/18/24 04:23	10/19/24 03:31	1
NMeFOSAA	ND		5.0	1.2	ng/L		10/18/24 04:23	10/19/24 03:31	1
NEtFOSAA	ND		5.0	1.3	ng/L		10/18/24 04:23	10/19/24 03:31	1
NMeFOSE	ND		4.0	1.4	ng/L		10/18/24 04:23	10/19/24 03:31	1
NEtFOSE	ND		2.0	0.85	ng/L		10/18/24 04:23	10/19/24 03:31	1
4:2 FTS	ND		2.0	0.24	ng/L		10/18/24 04:23	10/19/24 03:31	1
6:2 FTS	ND		5.0	2.5	ng/L		10/18/24 04:23	10/19/24 03:31	1
8:2 FTS	ND		2.0	0.46	ng/L		10/18/24 04:23	10/19/24 03:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		10/18/24 04:23	10/19/24 03:31	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		10/18/24 04:23	10/19/24 03:31	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		10/18/24 04:23	10/19/24 03:31	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		10/18/24 04:23	10/19/24 03:31	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C5 PFPeA	*84*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C2 PFHxA	*106*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C4 PFHpA	*91*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C4 PFOA	*99*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C5 PFNA	*104*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C2 PFDA	*99*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C2 PFUnA	*93*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C2 PFDoA	*86*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C2 PFTeDA	*74*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-808042/1-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 808042

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	86		25 - 150	10/18/24 04:23	10/19/24 03:31	1
18O2 PFHxS	88		25 - 150	10/18/24 04:23	10/19/24 03:31	1
13C4 PFOS	94		25 - 150	10/18/24 04:23	10/19/24 03:31	1
13C8 FOSA	88		10 - 150	10/18/24 04:23	10/19/24 03:31	1
d3-NMeFOSAA	91		25 - 150	10/18/24 04:23	10/19/24 03:31	1
d5-NEtFOSAA	92		25 - 150	10/18/24 04:23	10/19/24 03:31	1
d-N-MeFOSA-M	76		10 - 150	10/18/24 04:23	10/19/24 03:31	1
d-N-EtFOSA-M	80		10 - 150	10/18/24 04:23	10/19/24 03:31	1
d7-N-MeFOSE-M	83		10 - 150	10/18/24 04:23	10/19/24 03:31	1
d9-N-EtFOSE-M	73		10 - 150	10/18/24 04:23	10/19/24 03:31	1
M2-4:2 FTS	83		25 - 150	10/18/24 04:23	10/19/24 03:31	1
M2-6:2 FTS	86		25 - 150	10/18/24 04:23	10/19/24 03:31	1
M2-8:2 FTS	94		25 - 150	10/18/24 04:23	10/19/24 03:31	1
13C3 HFPO-DA	87		25 - 150	10/18/24 04:23	10/19/24 03:31	1

Lab Sample ID: LCS 320-808042/3-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 808042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	160	144		ng/L		90	60 - 135
Perfluoropentanoic acid (PFPeA)	160	170		ng/L		106	60 - 135
Perfluorohexanoic acid (PFHxA)	160	157		ng/L		98	60 - 135
Perfluoroheptanoic acid (PFHpA)	160	167		ng/L		105	60 - 135
Perfluorooctanoic acid (PFOA)	160	157		ng/L		98	60 - 135
Perfluorononanoic acid (PFNA)	160	153		ng/L		95	60 - 135
Perfluorodecanoic acid (PFDA)	160	151		ng/L		95	60 - 135
Perfluoroundecanoic acid (PFUnA)	160	153		ng/L		96	60 - 135
Perfluorododecanoic acid (PFDoA)	160	155		ng/L		97	60 - 135
Perfluorotridecanoic acid (PFTrDA)	160	144		ng/L		90	60 - 135
Perfluorotetradecanoic acid (PFTeA)	160	173		ng/L		108	60 - 135
Perfluorobutanesulfonic acid (PFBS)	142	147		ng/L		103	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	150	172		ng/L		114	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	146	140		ng/L		96	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	153	161		ng/L		106	60 - 135
Perfluorooctanesulfonic acid (PFOS)	149	154		ng/L		103	60 - 135
Perfluorononanesulfonic acid (PFNS)	154	157		ng/L		102	60 - 135
Perfluorodecanesulfonic acid (PFDS)	154	165		ng/L		107	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	155	162		ng/L		104	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-808042/3-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 808042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	160	180		ng/L		112	60 - 135
NEtFOSA	160	161		ng/L		101	60 - 135
NMeFOSA	160	169		ng/L		106	60 - 135
NMeFOSAA	160	161		ng/L		101	60 - 135
NEtFOSAA	160	174		ng/L		109	60 - 135
NMeFOSE	160	177		ng/L		111	60 - 135
NEtFOSE	160	191		ng/L		119	60 - 135
4:2 FTS	150	172		ng/L		115	60 - 135
6:2 FTS	152	176		ng/L		115	60 - 135
8:2 FTS	154	145		ng/L		94	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	151	135		ng/L		89	60 - 135
HFPO-DA (GenX)	160	173		ng/L		108	60 - 135
9Cl-PF3ONS	149	167		ng/L		111	60 - 135
11Cl-PF3OUdS	151	145		ng/L		96	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*98*		*25 - 150*
13C5 PFPeA	*80*		*25 - 150*
13C2 PFHxA	*99*		*25 - 150*
13C4 PFHpA	*87*		*25 - 150*
13C4 PFOA	*101*		*25 - 150*
13C5 PFNA	*98*		*25 - 150*
13C2 PFDA	*92*		*25 - 150*
13C2 PFUnA	*94*		*25 - 150*
13C2 PFDoA	*87*		*25 - 150*
13C2 PFTeDA	*73*		*25 - 150*
13C3 PFBS	*84*		*25 - 150*
18O2 PFHxS	*89*		*25 - 150*
13C4 PFOS	*93*		*25 - 150*
13C8 FOSA	*85*		*10 - 150*
d3-NMeFOSAA	*90*		*25 - 150*
d5-NEtFOSAA	*85*		*25 - 150*
d-N-MeFOSA-M	*73*		*10 - 150*
d-N-EtFOSA-M	*75*		*10 - 150*
d7-N-MeFOSE-M	*83*		*10 - 150*
d9-N-EtFOSE-M	*75*		*10 - 150*
M2-4:2 FTS	*80*		*25 - 150*
M2-6:2 FTS	*79*		*25 - 150*
M2-8:2 FTS	*86*		*25 - 150*
13C3 HFPO-DA	*89*		*25 - 150*

Lab Sample ID: LCSD 320-808042/4-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 808042

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	160	142		ng/L		89	60 - 135	1	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-808042/4-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 808042

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			160	166		ng/L		104	60 - 135	2	30
Perfluorohexanoic acid (PFHxA)			160	160		ng/L		100	60 - 135	2	30
Perfluoroheptanoic acid (PFHpA)			160	177		ng/L		111	60 - 135	6	30
Perfluorooctanoic acid (PFOA)			160	165		ng/L		103	60 - 135	5	30
Perfluorononanoic acid (PFNA)			160	161		ng/L		101	60 - 135	5	30
Perfluorodecanoic acid (PFDA)			160	158		ng/L		99	60 - 135	4	30
Perfluoroundecanoic acid (PFUnA)			160	159		ng/L		99	60 - 135	4	30
Perfluorododecanoic acid (PFDoA)			160	164		ng/L		102	60 - 135	6	30
Perfluorotridecanoic acid (PFTrDA)			160	154		ng/L		96	60 - 135	7	30
Perfluorotetradecanoic acid (PFTeA)			160	174		ng/L		109	60 - 135	0	30
Perfluorobutanesulfonic acid (PFBS)			142	153		ng/L		108	60 - 135	4	30
Perfluoropentanesulfonic acid (PFPeS)			150	177		ng/L		118	60 - 135	3	30
Perfluorohexanesulfonic acid (PFHxS)			146	145		ng/L		99	60 - 135	3	30
Perfluoroheptanesulfonic acid (PFHpS)			153	170		ng/L		112	60 - 135	6	30
Perfluorooctanesulfonic acid (PFOS)			149	168		ng/L		113	60 - 135	9	30
Perfluorononanesulfonic acid (PFNS)			154	161		ng/L		105	60 - 135	3	30
Perfluorodecanesulfonic acid (PFDS)			154	172		ng/L		112	60 - 135	4	30
Perfluorododecanesulfonic acid (PFDoS)			155	169		ng/L		109	60 - 135	4	30
Perfluorooctanesulfonamide (FOSA)			160	190		ng/L		119	60 - 135	6	30
NEtFOSA			160	165		ng/L		103	60 - 135	2	30
NMeFOSA			160	179		ng/L		112	60 - 135	5	30
NMeFOSAA			160	167		ng/L		104	60 - 135	3	30
NEtFOSAA			160	178		ng/L		111	60 - 135	2	30
NMeFOSE			160	183		ng/L		114	60 - 135	3	30
NEtFOSE			160	195		ng/L		122	60 - 135	2	30
4:2 FTS			150	156		ng/L		104	60 - 135	10	30
6:2 FTS			152	191		ng/L		125	60 - 135	8	30
8:2 FTS			154	138		ng/L		90	60 - 135	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			151	142		ng/L		94	60 - 135	5	30
HFPO-DA (GenX)			160	176		ng/L		110	60 - 135	2	30
9Cl-PF3ONS			149	179		ng/L		120	60 - 135	7	30
11Cl-PF3OUdS			151	162		ng/L		107	60 - 135	11	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*97*		*25 - 150*
13C5 PFPeA	*78*		*25 - 150*
13C2 PFHxA	*94*		*25 - 150*
13C4 PFHpA	*83*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-808042/4-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 808042

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFOA	*96*		*25 - 150*
13C5 PFNA	*98*		*25 - 150*
13C2 PFDA	*92*		*25 - 150*
13C2 PFUnA	*88*		*25 - 150*
13C2 PFDoA	*82*		*25 - 150*
13C2 PFTeDA	*76*		*25 - 150*
13C3 PFBS	*82*		*25 - 150*
18O2 PFHxS	*87*		*25 - 150*
13C4 PFOS	*88*		*25 - 150*
13C8 FOSA	*83*		*10 - 150*
d3-NMeFOSAA	*87*		*25 - 150*
d5-NEtFOSAA	*80*		*25 - 150*
d-N-MeFOSA-M	*71*		*10 - 150*
d-N-EtFOSA-M	*74*		*10 - 150*
d7-N-MeFOSE-M	*84*		*10 - 150*
d9-N-EtFOSE-M	*73*		*10 - 150*
M2-4:2 FTS	*91*		*25 - 150*
M2-6:2 FTS	*75*		*25 - 150*
M2-8:2 FTS	*81*		*25 - 150*
13C3 HFPO-DA	*88*		*25 - 150*

Lab Sample ID: LLCS 320-808042/2-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 808042

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	7.86		ng/L		98	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	9.69		ng/L		121	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	8.40		ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	9.32		ng/L		117	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	8.36		ng/L		105	50 - 150
Perfluorononanoic acid (PFNA)	8.00	9.49		ng/L		119	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	8.25		ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	8.97		ng/L		112	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	9.36		ng/L		117	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	8.07		ng/L		101	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	8.80		ng/L		110	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	8.10		ng/L		114	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	9.01		ng/L		120	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.50		ng/L		103	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	9.00		ng/L		118	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	8.78		ng/L		118	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-808042/2-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 808042

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanesulfonic acid (PFNS)	7.70	9.03		ng/L		117	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	8.60		ng/L		111	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	9.27		ng/L		119	50 - 150
Perfluorooctanesulfonamide (FOSA)	8.00	9.23		ng/L		115	50 - 150
NEtFOSA	8.00	7.56		ng/L		95	50 - 150
NMeFOSA	8.00	8.07		ng/L		101	50 - 150
NMeFOSAA	8.00	8.64		ng/L		108	50 - 150
NEtFOSAA	8.00	8.93		ng/L		112	50 - 150
NMeFOSE	8.00	9.39		ng/L		117	50 - 150
NEtFOSE	8.00	10.4		ng/L		129	50 - 150
4:2 FTS	7.50	8.37		ng/L		112	50 - 150
6:2 FTS	7.62	10.7		ng/L		140	50 - 150
8:2 FTS	7.68	7.71		ng/L		100	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	9.62		ng/L		127	50 - 150
HFPO-DA (GenX)	8.00	9.23		ng/L		115	50 - 150
9Cl-PF3ONS	7.47	9.65		ng/L		129	50 - 150
11Cl-PF3OUdS	7.55	8.95		ng/L		118	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*94*		*25 - 150*
13C5 PFPeA	*77*		*25 - 150*
13C2 PFHxA	*99*		*25 - 150*
13C4 PFHpA	*86*		*25 - 150*
13C4 PFOA	*106*		*25 - 150*
13C5 PFNA	*92*		*25 - 150*
13C2 PFDA	*93*		*25 - 150*
13C2 PFUnA	*92*		*25 - 150*
13C2 PFDoA	*86*		*25 - 150*
13C2 PFTeDA	*76*		*25 - 150*
13C3 PFBS	*82*		*25 - 150*
18O2 PFHxS	*88*		*25 - 150*
13C4 PFOS	*85*		*25 - 150*
13C8 FOSA	*88*		*10 - 150*
d3-NMeFOSAA	*89*		*25 - 150*
d5-NEtFOSAA	*91*		*25 - 150*
d-N-MeFOSA-M	*75*		*10 - 150*
d-N-EtFOSA-M	*80*		*10 - 150*
d7-N-MeFOSE-M	*83*		*10 - 150*
d9-N-EtFOSE-M	*78*		*10 - 150*
M2-4:2 FTS	*88*		*25 - 150*
M2-6:2 FTS	*83*		*25 - 150*
M2-8:2 FTS	*85*		*25 - 150*
13C3 HFPO-DA	*85*		*25 - 150*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-791405/1
Matrix: Water
Analysis Batch: 791405

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			10/18/24 15:23	1

Lab Sample ID: LCS 500-791405/2
Matrix: Water
Analysis Batch: 791405

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	174		mg/L		87	80 - 120

Lab Sample ID: MB 500-791733/1
Matrix: Water
Analysis Batch: 791733

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			10/21/24 16:00	1

Lab Sample ID: LCS 500-791733/2
Matrix: Water
Analysis Batch: 791733

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	178		mg/L		89	80 - 120

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

LCMS

Prep Batch: 808042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-116240-1	INF-Comp-20241014	Total/NA	Water	3535	
320-116240-2	EFF-20241015	Total/NA	Water	3535	
MB 320-808042/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-808042/3-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-808042/4-A	Lab Control Sample Dup	Total/NA	Water	3535	
LLCS 320-808042/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 808270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-116240-1	INF-Comp-20241014	Total/NA	Water	537 (modified)	808042
320-116240-2	EFF-20241015	Total/NA	Water	537 (modified)	808042
MB 320-808042/1-A	Method Blank	Total/NA	Water	537 (modified)	808042
LCS 320-808042/3-A	Lab Control Sample	Total/NA	Water	537 (modified)	808042
LCSD 320-808042/4-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	808042
LLCS 320-808042/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	808042

General Chemistry

Analysis Batch: 791405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-116240-1	INF-Comp-20241014	Total/NA	Water	SM 2540D	
MB 500-791405/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-791405/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 791733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-116240-2	EFF-20241015	Total/NA	Water	SM 2540D	
MB 500-791733/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-791733/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Client Sample ID: INF-Comp-20241014

Lab Sample ID: 320-116240-1

Date Collected: 10/14/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			267.1 mL	10.0 mL	808042	10/18/24 04:24	BMS	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	808270	10/19/24 07:00	N1K	EET SAC
Total/NA	Analysis	SM 2540D		1	60 mL	500 mL	791405	10/18/24 16:03	SO	EET CHI
							Completed:	10/18/24 16:05 [1]		

Client Sample ID: EFF-20241015

Lab Sample ID: 320-116240-2

Date Collected: 10/15/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			284.4 mL	10.0 mL	808042	10/18/24 04:24	BMS	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	808270	10/19/24 07:10	N1K	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	791733	10/21/24 16:48	SO	EET CHI
							Completed:	10/21/24 16:50 [1]		

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25
Wisconsin	State	998204680	10-23-24

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-25

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-116240-1	INF-Comp-20241014	Water	10/14/24 23:59	10/17/24 09:10
320-116240-2	EFF-20241015	Water	10/15/24 23:59	10/17/24 09:10

Report to Mike [illegible] mu[illegible]@trccompanies.com
TRC 999 Fourier Dr Suite 101 Madison, WI 53717

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605
Phone (916) 373-5600

Chain of Custody Record

eurofins
Environment Testing

Client Information	Sampler: Jennifer Faust	Lab PM: Jessica McCommon	Carrier Tracking No(s): Fed Ex	COC No:
Client Contact: Jessica McCommon	Phone: 608 370-7745	E-Mail: jessica.mccommon@mmsd.com	State of Origin: WI	Page: Page 1 of 1
Company: Madison Metro Sewerage District	PWSID:			Job #:
Address: 1610 Moorland Rd	Due Date Requested:			
City: Madison	TAT Requested (days): 20 Business Days			
State, Zip: WI 53713-2818	Compliance Project: Δ Yes ☒ No			
Phone: 608 222-3018	PO #: 240049			
Email: jessica.mccommon@mmsd.com	WO #:			
Project Name: PFAS PHASE 3 CONT	Project #:			
Site: MSD	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TSS	PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
INF-COMP 20241004	10/4/24	23:59	C	WW	N	N	X	X		
EFF-20241015	10/-/24	23:59	C	WW	N	N	X	X		

320 116240 Chain of Custody

10-16-24 TT

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Jennifer Faust	10/16/24 7:10am	MMSD	[signature]	10/17/24 0910	EETSac

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 2.9°C

Ver 01/16/2019

11/4/2024 (Rev. 1)

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc 320
116240

Tracking # 7792 9863 5292

Job _____ _____

SO / (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID LOT Corr Factor (+ / -) N/A °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 2580878/ 2580879

Cooler ID —

Temp Observed: 2.9 °C Corrected 2.9 °C
From Temp Blank ☑ Sandwich ☐ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials SO Date 10/17/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☑	☐	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials RSH Date 10/17/24

Notes: _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials RSH Date 10/17/24

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916-373-5600 Fax 916-372-1059

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Smith, Micah	Carrier Tracking No(s):	COC No: 320-351928 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Micah Smith@et eurofinsus com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): NELAP - Oregon, State - Wisconsin		Job #: 320-116240-1
Address: 2417 Bond Street, ,	Due Date Requested: 10/30/2024			Preservation Codes
City: University Park	TAT Requested (days):			
State Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #			
Email	WO #:			
Project Name: PFAS Sampling	Project #: 32021779			
Site	SSOW#:			Other:

320-116240 COC

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
INF-Comp-20241014 (320-116240-1)	10/14/24	23 59 Central	G	Water			X	1	
EFF-20241015 (320-116240-2)	10/15/24	23 59 Central	G	Water			X	1	

Note Since laboratory accreditations are subject to change Eurofins Environment Testing Northern California LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northern California LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northern California LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northern California LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment.

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	10/17/24 1630	EETSac	[signature]	10/18/24 0930	EETSac

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
Δ Yes Δ No		0.4-70.4

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-116240-1

Login Number: 116240
List Number: 2
Creator: Scott, Sherri L

List Source: Eurofins Chicago
List Creation: 10/18/24 03:01 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

November 2024

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Julie Maas
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

Generated 11/4/2024 4:51:01 PM Revision 1

JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-116240-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization

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Revision 1

Authorized for release by
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Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-116240-1

Revision
The report being provided is a revision of the original report sent on 10/28/2024. The report (revision 1) is being revised to remove several in correct narrations that are not applicable.

Receipt
The samples were received on 10/17/2024 9:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.9º C.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analyte(s) have been flagged: INF-Comp-20241014 (320-116240-1) and EFF-20241015 (320-116240-2).

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: INF-Comp-20241014 (320-116240-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: INF-Comp-20241014 (320-116240-1). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

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

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

Organic Prep
Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-808042.

Method 3535: The following samples in preparation batch 320-808042 were light yellow in color and were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: INF-Comp-20241014 (320-116240-1) and EFF-20241015 (320-116240-2).

Method 3535: During the solid phase extraction process sample INF-Comp-20241014 (320-116240-1) in preparation batch 320-808042 contained particulates which clogged the solid phase extraction column. The volume of the sample that was extracted via SPE prior to the clogging of the SPE cartridge was 77%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent.

Method 3535: The following samples in preparation batch 320-808042 were light yellow in color following extraction: INF-Comp-20241014 (320-116240-1) and EFF-20241015 (320-116240-2).

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Client Sample ID: INF-Comp-20241014 — Lab Sample ID: 320-116240-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.6		4.7	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.9		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	9.2		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.6	J	1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.3		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.1	J I	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.53	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.3		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.81	J	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.7		1.9	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.4		1.9	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.94	J	1.9	0.92	ng/L	1		537 (modified)	Total/NA
NMeFOSE	2.8	J	3.7	1.3	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	220		42	16	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EFF-20241015 — Lab Sample ID: 320-116240-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.9		4.4	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	16		1.8	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	16		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.0		1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	7.7		1.8	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.70	J I	1.8	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.70	J	1.8	0.27	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.70	J	1.8	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.5		1.8	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.8		1.8	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	2.2		1.8	0.86	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	5.4		5.0	1.9	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Client Sample ID: INF-Comp-20241014

Lab Sample ID: 320-116240-1

Date Collected: 10/14/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.6**		4.7	2.2	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoropentanoic acid (PFPeA)	**4.9**		1.9	0.46	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorohexanoic acid (PFHxA)	**9.2**		1.9	0.54	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	1.9	0.23	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorooctanoic acid (PFOA)	**5.3**		1.9	0.80	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorononanoic acid (PFNA)	**1.1**	**J I**	1.9	0.25	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorodecanoic acid (PFDA)	**0.53**	**J**	1.9	0.29	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.68	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorobutanesulfonic acid (PFBS)	**3.3**		1.9	0.19	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoropentanesulfonic acid (PFPeS)	**0.81**	**J**	1.9	0.28	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorohexanesulfonic acid (PFHxS)	**6.7**		1.9	0.53	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorooctanesulfonic acid (PFOS)	**4.4**		1.9	0.51	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.91	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorooctanesulfonamide (FOSA)	**0.94**	**J**	1.9	0.92	ng/L		10/18/24 04:24	10/19/24 07:00	1
NEtFOSA	ND		1.9	0.81	ng/L		10/18/24 04:24	10/19/24 07:00	1
NMeFOSA	ND		1.9	0.40	ng/L		10/18/24 04:24	10/19/24 07:00	1
NMeFOSAA	ND		4.7	1.1	ng/L		10/18/24 04:24	10/19/24 07:00	1
NEtFOSAA	ND		4.7	1.2	ng/L		10/18/24 04:24	10/19/24 07:00	1
NMeFOSE	**2.8**	**J**	3.7	1.3	ng/L		10/18/24 04:24	10/19/24 07:00	1
NEtFOSE	ND		1.9	0.80	ng/L		10/18/24 04:24	10/19/24 07:00	1
4:2 FTS	ND		1.9	0.22	ng/L		10/18/24 04:24	10/19/24 07:00	1
6:2 FTS	ND		4.7	2.3	ng/L		10/18/24 04:24	10/19/24 07:00	1
8:2 FTS	ND		1.9	0.43	ng/L		10/18/24 04:24	10/19/24 07:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.37	ng/L		10/18/24 04:24	10/19/24 07:00	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		10/18/24 04:24	10/19/24 07:00	1
9Cl-PF3ONS	ND		1.9	0.22	ng/L		10/18/24 04:24	10/19/24 07:00	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		10/18/24 04:24	10/19/24 07:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C5 PFPeA	*68*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFHxA	*89*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C4 PFHpA	*84*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C4 PFOA	*83*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C5 PFNA	*86*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFDA	*81*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFUnA	*61*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFDoA	*34*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*

Client Sample ID: INF-Comp-20241014

Lab Sample ID: 320-116240-1

Date Collected: 10/14/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*23*	**5-*	*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C3 PFBS	*69*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
18O2 PFHxS	*75*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C4 PFOS	*63*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C8 FOSA	*57*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d3-NMeFOSAA	*53*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d5-NEtFOSAA	*55*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d-N-MeFOSA-M	*21*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d-N-EtFOSA-M	*42*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d7-N-MeFOSE-M	*33*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d9-N-EtFOSE-M	*38*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
M2-4:2 FTS	*126*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
M2-6:2 FTS	*203*	**5+*	*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
M2-8:2 FTS	*156*	**5+*	*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C3 HFPO-DA	*83*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**220**		42	16	mg/L			10/18/24 16:03	1

Client Sample ID: EFF-20241015

Lab Sample ID: 320-116240-2

Date Collected: 10/15/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.9**		4.4	2.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoropentanoic acid (PFPeA)	**16**		1.8	0.43	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorohexanoic acid (PFHxA)	**16**		1.8	0.51	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoroheptanoic acid (PFHpA)	**2.0**		1.8	0.22	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorooctanoic acid (PFOA)	**7.7**		1.8	0.75	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorononanoic acid (PFNA)	**0.70**	**J I**	1.8	0.24	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorodecanoic acid (PFDA)	**0.70**	**J**	1.8	0.27	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.64	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoropentanesulfonic acid (PFPeS)	**0.70**	**J**	1.8	0.26	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorohexanesulfonic acid (PFHxS)	**7.5**		1.8	0.50	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorooctanesulfonic acid (PFOS)	**3.8**		1.8	0.47	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.85	ng/L		10/18/24 04:24	10/19/24 07:10	1

Client Sample ID: EFF-20241015

Lab Sample ID: 320-116240-2

Date Collected: 10/15/24 23:59
Date Received: 10/17/24 09:10

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	**2.2**		1.8	0.86	ng/L		10/18/24 04:24	10/19/24 07:10	1
NEtFOSA	ND		1.8	0.76	ng/L		10/18/24 04:24	10/19/24 07:10	1
NMeFOSA	ND		1.8	0.38	ng/L		10/18/24 04:24	10/19/24 07:10	1
NMeFOSAA	ND		4.4	1.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
NEtFOSAA	ND		4.4	1.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
NMeFOSE	ND		3.5	1.2	ng/L		10/18/24 04:24	10/19/24 07:10	1
NEtFOSE	ND		1.8	0.75	ng/L		10/18/24 04:24	10/19/24 07:10	1
4:2 FTS	ND		1.8	0.21	ng/L		10/18/24 04:24	10/19/24 07:10	1
6:2 FTS	ND		4.4	2.2	ng/L		10/18/24 04:24	10/19/24 07:10	1
8:2 FTS	ND		1.8	0.40	ng/L		10/18/24 04:24	10/19/24 07:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		10/18/24 04:24	10/19/24 07:10	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		10/18/24 04:24	10/19/24 07:10	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		10/18/24 04:24	10/19/24 07:10	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		10/18/24 04:24	10/19/24 07:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C5 PFPeA	*73*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFHxA	*97*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C4 PFHpA	*91*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C4 PFOA	*108*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C5 PFNA	*105*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFDA	*96*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFUnA	*96*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFDoA	*79*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFTeDA	*45*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C3 PFBS	*81*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
18O2 PFHxS	*87*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C4 PFOS	*89*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C8 FOSA	*91*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d3-NMeFOSAA	*91*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d5-NEtFOSAA	*102*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d-N-MeFOSA-M	*72*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d-N-EtFOSA-M	*70*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d7-N-MeFOSE-M	*66*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d9-N-EtFOSE-M	*58*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
M2-4:2 FTS	*131*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
M2-6:2 FTS	*115*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
M2-8:2 FTS	*111*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C3 HFPO-DA	*91*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**5.4**		5.0	1.9	mg/L			10/21/24 16:48	1

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-116240-1	INF-Comp-20241014	78	68	89	84	83	86	81	61
320-116240-2	EFF-20241015	90	73	97	91	108	105	96	96
LCS 320-808042/3-A	Lab Control Sample	98	80	99	87	101	98	92	94
LCSD 320-808042/4-A	Lab Control Sample Dup	97	78	94	83	96	98	92	88
LLCS 320-808042/2-A	Lab Control Sample	94	77	99	86	106	92	93	92
MB 320-808042/1-A	Method Blank	102	84	106	91	99	104	99	93

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-116240-1	INF-Comp-20241014	34	23 *5-	69	75	63	57	53	55
320-116240-2	EFF-20241015	79	45	81	87	89	91	91	102
LCS 320-808042/3-A	Lab Control Sample	87	73	84	89	93	85	90	85
LCSD 320-808042/4-A	Lab Control Sample Dup	82	76	82	87	88	83	87	80
LLCS 320-808042/2-A	Lab Control Sample	86	76	82	88	85	88	89	91
MB 320-808042/1-A	Method Blank	86	74	86	88	94	88	91	92

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-116240-1	INF-Comp-20241014	21	42	33	38	126	203 *5+	156 *5+	83
320-116240-2	EFF-20241015	72	70	66	58	131	115	111	91
LCS 320-808042/3-A	Lab Control Sample	73	75	83	75	80	79	86	89
LCSD 320-808042/4-A	Lab Control Sample Dup	71	74	84	73	91	75	81	88
LLCS 320-808042/2-A	Lab Control Sample	75	80	83	78	88	83	85	85
MB 320-808042/1-A	Method Blank	76	80	83	73	83	86	94	87

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-116240-1
Project/Site: PFAS Sampling

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-808042/1-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 808042

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		10/18/24 04:23	10/19/24 03:31	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		10/18/24 04:23	10/19/24 03:31	1
NEtFOSA	ND		2.0	0.87	ng/L		10/18/24 04:23	10/19/24 03:31	1
NMeFOSA	ND		2.0	0.43	ng/L		10/18/24 04:23	10/19/24 03:31	1
NMeFOSAA	ND		5.0	1.2	ng/L		10/18/24 04:23	10/19/24 03:31	1
NEtFOSAA	ND		5.0	1.3	ng/L		10/18/24 04:23	10/19/24 03:31	1
NMeFOSE	ND		4.0	1.4	ng/L		10/18/24 04:23	10/19/24 03:31	1
NEtFOSE	ND		2.0	0.85	ng/L		10/18/24 04:23	10/19/24 03:31	1
4:2 FTS	ND		2.0	0.24	ng/L		10/18/24 04:23	10/19/24 03:31	1
6:2 FTS	ND		5.0	2.5	ng/L		10/18/24 04:23	10/19/24 03:31	1
8:2 FTS	ND		2.0	0.46	ng/L		10/18/24 04:23	10/19/24 03:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		10/18/24 04:23	10/19/24 03:31	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		10/18/24 04:23	10/19/24 03:31	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		10/18/24 04:23	10/19/24 03:31	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		10/18/24 04:23	10/19/24 03:31	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C5 PFPeA	*84*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C2 PFHxA	*106*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C4 PFHpA	*91*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C4 PFOA	*99*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C5 PFNA	*104*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C2 PFDA	*99*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C2 PFUnA	*93*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C2 PFDoA	*86*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*
13C2 PFTeDA	*74*		*25 - 150*	*10/18/24 04:23*	*10/19/24 03:31*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-808042/1-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 808042

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	86		25 - 150	10/18/24 04:23	10/19/24 03:31	1
18O2 PFHxS	88		25 - 150	10/18/24 04:23	10/19/24 03:31	1
13C4 PFOS	94		25 - 150	10/18/24 04:23	10/19/24 03:31	1
13C8 FOSA	88		10 - 150	10/18/24 04:23	10/19/24 03:31	1
d3-NMeFOSAA	91		25 - 150	10/18/24 04:23	10/19/24 03:31	1
d5-NEtFOSAA	92		25 - 150	10/18/24 04:23	10/19/24 03:31	1
d-N-MeFOSA-M	76		10 - 150	10/18/24 04:23	10/19/24 03:31	1
d-N-EtFOSA-M	80		10 - 150	10/18/24 04:23	10/19/24 03:31	1
d7-N-MeFOSE-M	83		10 - 150	10/18/24 04:23	10/19/24 03:31	1
d9-N-EtFOSE-M	73		10 - 150	10/18/24 04:23	10/19/24 03:31	1
M2-4:2 FTS	83		25 - 150	10/18/24 04:23	10/19/24 03:31	1
M2-6:2 FTS	86		25 - 150	10/18/24 04:23	10/19/24 03:31	1
M2-8:2 FTS	94		25 - 150	10/18/24 04:23	10/19/24 03:31	1
13C3 HFPO-DA	87		25 - 150	10/18/24 04:23	10/19/24 03:31	1

Lab Sample ID: LCS 320-808042/3-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 808042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	160	144		ng/L		90	60 - 135
Perfluoropentanoic acid (PFPeA)	160	170		ng/L		106	60 - 135
Perfluorohexanoic acid (PFHxA)	160	157		ng/L		98	60 - 135
Perfluoroheptanoic acid (PFHpA)	160	167		ng/L		105	60 - 135
Perfluorooctanoic acid (PFOA)	160	157		ng/L		98	60 - 135
Perfluorononanoic acid (PFNA)	160	153		ng/L		95	60 - 135
Perfluorodecanoic acid (PFDA)	160	151		ng/L		95	60 - 135
Perfluoroundecanoic acid (PFUnA)	160	153		ng/L		96	60 - 135
Perfluorododecanoic acid (PFDoA)	160	155		ng/L		97	60 - 135
Perfluorotridecanoic acid (PFTrDA)	160	144		ng/L		90	60 - 135
Perfluorotetradecanoic acid (PFTeA)	160	173		ng/L		108	60 - 135
Perfluorobutanesulfonic acid (PFBS)	142	147		ng/L		103	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	150	172		ng/L		114	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	146	140		ng/L		96	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	153	161		ng/L		106	60 - 135
Perfluorooctanesulfonic acid (PFOS)	149	154		ng/L		103	60 - 135
Perfluorononanesulfonic acid (PFNS)	154	157		ng/L		102	60 - 135
Perfluorodecanesulfonic acid (PFDS)	154	165		ng/L		107	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	155	162		ng/L		104	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-808042/3-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 808042

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	160	180		ng/L		112	60 - 135
NEtFOSA	160	161		ng/L		101	60 - 135
NMeFOSA	160	169		ng/L		106	60 - 135
NMeFOSAA	160	161		ng/L		101	60 - 135
NEtFOSAA	160	174		ng/L		109	60 - 135
NMeFOSE	160	177		ng/L		111	60 - 135
NEtFOSE	160	191		ng/L		119	60 - 135
4:2 FTS	150	172		ng/L		115	60 - 135
6:2 FTS	152	176		ng/L		115	60 - 135
8:2 FTS	154	145		ng/L		94	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	151	135		ng/L		89	60 - 135
HFPO-DA (GenX)	160	173		ng/L		108	60 - 135
9Cl-PF3ONS	149	167		ng/L		111	60 - 135
11Cl-PF3OUdS	151	145		ng/L		96	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*98*		*25 - 150*
13C5 PFPeA	*80*		*25 - 150*
13C2 PFHxA	*99*		*25 - 150*
13C4 PFHpA	*87*		*25 - 150*
13C4 PFOA	*101*		*25 - 150*
13C5 PFNA	*98*		*25 - 150*
13C2 PFDA	*92*		*25 - 150*
13C2 PFUnA	*94*		*25 - 150*
13C2 PFDoA	*87*		*25 - 150*
13C2 PFTeDA	*73*		*25 - 150*
13C3 PFBS	*84*		*25 - 150*
18O2 PFHxS	*89*		*25 - 150*
13C4 PFOS	*93*		*25 - 150*
13C8 FOSA	*85*		*10 - 150*
d3-NMeFOSAA	*90*		*25 - 150*
d5-NEtFOSAA	*85*		*25 - 150*
d-N-MeFOSA-M	*73*		*10 - 150*
d-N-EtFOSA-M	*75*		*10 - 150*
d7-N-MeFOSE-M	*83*		*10 - 150*
d9-N-EtFOSE-M	*75*		*10 - 150*
M2-4:2 FTS	*80*		*25 - 150*
M2-6:2 FTS	*79*		*25 - 150*
M2-8:2 FTS	*86*		*25 - 150*
13C3 HFPO-DA	*89*		*25 - 150*

Lab Sample ID: LCSD 320-808042/4-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 808042

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	160	142		ng/L		89	60 - 135	1	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-808042/4-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 808042

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			160	166		ng/L		104	60 - 135	2	30
Perfluorohexanoic acid (PFHxA)			160	160		ng/L		100	60 - 135	2	30
Perfluoroheptanoic acid (PFHpA)			160	177		ng/L		111	60 - 135	6	30
Perfluorooctanoic acid (PFOA)			160	165		ng/L		103	60 - 135	5	30
Perfluorononanoic acid (PFNA)			160	161		ng/L		101	60 - 135	5	30
Perfluorodecanoic acid (PFDA)			160	158		ng/L		99	60 - 135	4	30
Perfluoroundecanoic acid (PFUnA)			160	159		ng/L		99	60 - 135	4	30
Perfluorododecanoic acid (PFDoA)			160	164		ng/L		102	60 - 135	6	30
Perfluorotridecanoic acid (PFTrDA)			160	154		ng/L		96	60 - 135	7	30
Perfluorotetradecanoic acid (PFTeA)			160	174		ng/L		109	60 - 135	0	30
Perfluorobutanesulfonic acid (PFBS)			142	153		ng/L		108	60 - 135	4	30
Perfluoropentanesulfonic acid (PFPeS)			150	177		ng/L		118	60 - 135	3	30
Perfluorohexanesulfonic acid (PFHxS)			146	145		ng/L		99	60 - 135	3	30
Perfluoroheptanesulfonic acid (PFHpS)			153	170		ng/L		112	60 - 135	6	30
Perfluorooctanesulfonic acid (PFOS)			149	168		ng/L		113	60 - 135	9	30
Perfluorononanesulfonic acid (PFNS)			154	161		ng/L		105	60 - 135	3	30
Perfluorodecanesulfonic acid (PFDS)			154	172		ng/L		112	60 - 135	4	30
Perfluorododecanesulfonic acid (PFDoS)			155	169		ng/L		109	60 - 135	4	30
Perfluorooctanesulfonamide (FOSA)			160	190		ng/L		119	60 - 135	6	30
NEtFOSA			160	165		ng/L		103	60 - 135	2	30
NMeFOSA			160	179		ng/L		112	60 - 135	5	30
NMeFOSAA			160	167		ng/L		104	60 - 135	3	30
NEtFOSAA			160	178		ng/L		111	60 - 135	2	30
NMeFOSE			160	183		ng/L		114	60 - 135	3	30
NEtFOSE			160	195		ng/L		122	60 - 135	2	30
4:2 FTS			150	156		ng/L		104	60 - 135	10	30
6:2 FTS			152	191		ng/L		125	60 - 135	8	30
8:2 FTS			154	138		ng/L		90	60 - 135	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			151	142		ng/L		94	60 - 135	5	30
HFPO-DA (GenX)			160	176		ng/L		110	60 - 135	2	30
9Cl-PF3ONS			149	179		ng/L		120	60 - 135	7	30
11Cl-PF3OUdS			151	162		ng/L		107	60 - 135	11	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*97*		*25 - 150*
13C5 PFPeA	*78*		*25 - 150*
13C2 PFHxA	*94*		*25 - 150*
13C4 PFHpA	*83*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-808042/4-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 808042

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFOA	*96*		*25 - 150*
13C5 PFNA	*98*		*25 - 150*
13C2 PFDA	*92*		*25 - 150*
13C2 PFUnA	*88*		*25 - 150*
13C2 PFDoA	*82*		*25 - 150*
13C2 PFTeDA	*76*		*25 - 150*
13C3 PFBS	*82*		*25 - 150*
18O2 PFHxS	*87*		*25 - 150*
13C4 PFOS	*88*		*25 - 150*
13C8 FOSA	*83*		*10 - 150*
d3-NMeFOSAA	*87*		*25 - 150*
d5-NEtFOSAA	*80*		*25 - 150*
d-N-MeFOSA-M	*71*		*10 - 150*
d-N-EtFOSA-M	*74*		*10 - 150*
d7-N-MeFOSE-M	*84*		*10 - 150*
d9-N-EtFOSE-M	*73*		*10 - 150*
M2-4:2 FTS	*91*		*25 - 150*
M2-6:2 FTS	*75*		*25 - 150*
M2-8:2 FTS	*81*		*25 - 150*
13C3 HFPO-DA	*88*		*25 - 150*

Lab Sample ID: LLCS 320-808042/2-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 808042

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	7.86		ng/L		98	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	9.69		ng/L		121	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	8.40		ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	9.32		ng/L		117	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	8.36		ng/L		105	50 - 150
Perfluorononanoic acid (PFNA)	8.00	9.49		ng/L		119	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	8.25		ng/L		103	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	8.97		ng/L		112	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	9.36		ng/L		117	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	8.07		ng/L		101	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	8.80		ng/L		110	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	8.10		ng/L		114	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	9.01		ng/L		120	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.50		ng/L		103	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	9.00		ng/L		118	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	8.78		ng/L		118	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-808042/2-A
Matrix: Water
Analysis Batch: 808270

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 808042

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanesulfonic acid (PFNS)	7.70	9.03		ng/L		117	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	8.60		ng/L		111	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	9.27		ng/L		119	50 - 150
Perfluorooctanesulfonamide (FOSA)	8.00	9.23		ng/L		115	50 - 150
NEtFOSA	8.00	7.56		ng/L		95	50 - 150
NMeFOSA	8.00	8.07		ng/L		101	50 - 150
NMeFOSAA	8.00	8.64		ng/L		108	50 - 150
NEtFOSAA	8.00	8.93		ng/L		112	50 - 150
NMeFOSE	8.00	9.39		ng/L		117	50 - 150
NEtFOSE	8.00	10.4		ng/L		129	50 - 150
4:2 FTS	7.50	8.37		ng/L		112	50 - 150
6:2 FTS	7.62	10.7		ng/L		140	50 - 150
8:2 FTS	7.68	7.71		ng/L		100	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	9.62		ng/L		127	50 - 150
HFPO-DA (GenX)	8.00	9.23		ng/L		115	50 - 150
9Cl-PF3ONS	7.47	9.65		ng/L		129	50 - 150
11Cl-PF3OUdS	7.55	8.95		ng/L		118	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*94*		*25 - 150*
13C5 PFPeA	*77*		*25 - 150*
13C2 PFHxA	*99*		*25 - 150*
13C4 PFHpA	*86*		*25 - 150*
13C4 PFOA	*106*		*25 - 150*
13C5 PFNA	*92*		*25 - 150*
13C2 PFDA	*93*		*25 - 150*
13C2 PFUnA	*92*		*25 - 150*
13C2 PFDoA	*86*		*25 - 150*
13C2 PFTeDA	*76*		*25 - 150*
13C3 PFBS	*82*		*25 - 150*
18O2 PFHxS	*88*		*25 - 150*
13C4 PFOS	*85*		*25 - 150*
13C8 FOSA	*88*		*10 - 150*
d3-NMeFOSAA	*89*		*25 - 150*
d5-NEtFOSAA	*91*		*25 - 150*
d-N-MeFOSA-M	*75*		*10 - 150*
d-N-EtFOSA-M	*80*		*10 - 150*
d7-N-MeFOSE-M	*83*		*10 - 150*
d9-N-EtFOSE-M	*78*		*10 - 150*
M2-4:2 FTS	*88*		*25 - 150*
M2-6:2 FTS	*83*		*25 - 150*
M2-8:2 FTS	*85*		*25 - 150*
13C3 HFPO-DA	*85*		*25 - 150*

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-791405/1
Matrix: Water
Analysis Batch: 791405

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			10/18/24 15:23	1

Lab Sample ID: LCS 500-791405/2
Matrix: Water
Analysis Batch: 791405

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	174		mg/L		87	80 - 120

Lab Sample ID: MB 500-791733/1
Matrix: Water
Analysis Batch: 791733

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			10/21/24 16:00	1

Lab Sample ID: LCS 500-791733/2
Matrix: Water
Analysis Batch: 791733

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Suspended Solids	200	178		mg/L		89	80 - 120

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

LCMS

Prep Batch: 808042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-116240-1	INF-Comp-20241014	Total/NA	Water	3535	
320-116240-2	EFF-20241015	Total/NA	Water	3535	
MB 320-808042/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-808042/3-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-808042/4-A	Lab Control Sample Dup	Total/NA	Water	3535	
LLCS 320-808042/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 808270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-116240-1	INF-Comp-20241014	Total/NA	Water	537 (modified)	808042
320-116240-2	EFF-20241015	Total/NA	Water	537 (modified)	808042
MB 320-808042/1-A	Method Blank	Total/NA	Water	537 (modified)	808042
LCS 320-808042/3-A	Lab Control Sample	Total/NA	Water	537 (modified)	808042
LCSD 320-808042/4-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	808042
LLCS 320-808042/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	808042

General Chemistry

Analysis Batch: 791405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-116240-1	INF-Comp-20241014	Total/NA	Water	SM 2540D	
MB 500-791405/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-791405/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 791733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-116240-2	EFF-20241015	Total/NA	Water	SM 2540D	
MB 500-791733/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-791733/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Client Sample ID: INF-Comp-20241014

Lab Sample ID: 320-116240-1

Date Collected: 10/14/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			267.1 mL	10.0 mL	808042	10/18/24 04:24	BMS	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	808270	10/19/24 07:00	N1K	EET SAC
Total/NA	Analysis	SM 2540D		1	60 mL	500 mL	791405	10/18/24 16:03	SO	EET CHI
							Completed:	10/18/24 16:05 [1]		

Client Sample ID: EFF-20241015

Lab Sample ID: 320-116240-2

Date Collected: 10/15/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			284.4 mL	10.0 mL	808042	10/18/24 04:24	BMS	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	808270	10/19/24 07:10	N1K	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	791733	10/21/24 16:48	SO	EET CHI
							Completed:	10/21/24 16:50 [1]		

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25
Wisconsin	State	998204680	10-23-24

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-25

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-116240-1	INF-Comp-20241014	Water	10/14/24 23:59	10/17/24 09:10
320-116240-2	EFF-20241015	Water	10/15/24 23:59	10/17/24 09:10

Report to Mike [illegible] mu[illegible]@trccompanies.com
TRC 999 Fourier Dr Suite 101 Madison, WI 53717

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605
Phone (916) 373-5600

Chain of Custody Record

eurofins
Environment Testing

Client Information	Sampler: Jennifer Faust	Lab PM: Jessica McCommon	Carrier Tracking No(s): Fed Ex	COC No:
Client Contact: Jessica McCommon	Phone: 608 370-7745	E-Mail: jessica.mccommon@mmsd.com	State of Origin: WI	Page: Page 1 of 1
Company: Madison Metro Sewerage District	PWSID:			Job #:
Address: 1610 Moorland Rd	Due Date Requested:			
City: Madison	TAT Requested (days): 20 Business Days			
State, Zip: WI 53713-2818	Compliance Project: Δ Yes ☒ No			
Phone: 608 222-3018	PO #: 240049			
Email: jessica.mccommon@mmsd.com	WO #:			
Project Name: PFAS PHASE 3 CONT	Project #:			
Site: MSD	SSOW#:			

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	TSS	PFAS	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
INF-COMP 20241004	10/4/24	23:59	C	WW	N	N	X	X		
EFF-20241015	10/-/24	23:59	C	WW	N	N	X	X		

320 116240 Chain of Custody

10-16-24 TT

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Jennifer Faust	10/16/24 7:10am	MMSD	[signature]	10/17/24 0910	EETSac

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 2.9°C

Ver 01/16/2019

11/4/2024 (Rev. 1)

eurofins | Environment Testing

Sacramento Sample Receiving Notes (SSRN)

Loc 320
116240

Tracking # 7792 9863 5292

Job _____ _____

SO / (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID LOT Corr Factor (+ / -) N/A °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 2580878/ 2580879

Cooler ID —

Temp Observed: 2.9 °C Corrected 2.9 °C
From Temp Blank ☑ Sandwich ☐ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials SO Date 10/17/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☑	☐	☐
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials RSH Date 10/17/24

Notes: _____

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☐	☐	☑
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials RSH Date 10/17/24

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916-373-5600 Fax 916-372-1059

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Smith, Micah	Carrier Tracking No(s):	COC No: 320-351928 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Micah Smith@et eurofinsus com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): NELAP - Oregon, State - Wisconsin		Job #: 320-116240-1
Address: 2417 Bond Street, ,	Due Date Requested: 10/30/2024			Preservation Codes
City: University Park	TAT Requested (days):			
State Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #			
Email	WO #:			
Project Name: PFAS Sampling	Project #: 32021779			
Site	SSOW#:			Other:

320-116240 COC

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
INF-Comp-20241014 (320-116240-1)	10/14/24	23 59 Central	G	Water			X	1	
EFF-20241015 (320-116240-2)	10/15/24	23 59 Central	G	Water			X	1	

Note Since laboratory accreditations are subject to change Eurofins Environment Testing Northern California LLC places the ownership of method analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northern California LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northern California LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northern California LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment.

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	10/17/24 1630	EETSac	[signature]	10/18/24 0930	EETSac

Custody Seals Intact	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.
Δ Yes Δ No		0.4-70.4

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-116240-1

Login Number: 116240
List Number: 2
Creator: Scott, Sherri L

List Source: Eurofins Chicago
List Creation: 10/18/24 03:01 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

December 2024

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Jessica McCammon
Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713-3398

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JOB DESCRIPTION

PFAS Sampling

JOB NUMBER

320-117663-1

Eurofins Sacramento
880 Riverside Parkway
West Sacramento CA 95605

See page two for job notes and contact information.

my EOL

Eurofins Sacramento

Job Notes

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Authorization

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Revision 2

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Qualifiers

LCMS

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
CI	The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is reason to suspect there may be a high bias.
F1	MS and/or MSD recovery exceeds control limits.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
320-117663-1

Revision
The report being provided is a revision of the original report sent on 1/14/2025. The report (revision 2) is being revised to add clarification regarding how the samples that clogged the SPE cartridges were handled. Also, the correct preparation batch numbers were included in the narration regarding sediment in the bottles prior to extraction.

Report revision history
Revision 1 - 1/24/2025 - Reason - . The report (revision 1) is being revised to remove the narration regarding a 5x dilution for samples Inf-02-202412 (320-117663-1), Inf-07-202412 (320-117663-2), Inf-08-202412 (320-117663-3), Inf-11-202412 (320-117663-4), Inf-18-202412 (320-117663-5) and Inf-Comp-202412 (320-117663-6). This narration was originally included in error. The Treatment Difference and Treatment Summary portions of the report were also removed, as requested.

Receipt
The samples were received on 12/12/2024 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.2º C and 4.8º C.

Receipt Exceptions
The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): Eff-202412 (320-117663-7), EB01-202412 (320-117663-8) and EB02-202412 (320-117663-12).

Sample #7 containers list the following ID: EFF-COMP-202412
Sample #8 containers list the following ID: EB-1-202412
Sample #12 containers list the following ID: EB-2-202412

The samples were logged in and labeled according to the COC.

LCMS
Method 537 (modified): The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-821951 and analytical batch 320-822223 recovered outside control limits for the following analyte: NEtFOSE.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: Eff-202412 (320-117663-7). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 320-822468 and analytical batch 320-822653 were outside control limits for one or more analytes. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analyte(s) have been flagged: BIO-A-22-202412 (320-117663-9), BIO-A-24-202412 (320-117663-11) and BIO-B-202412 (320-117663-13).

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: BIO-A-22-202412 (320-117663-9), BIO-A-23-202412 (320-117663-10), BIO-A-24-202412 (320-117663-11), BIO-B-202412 (320-117663-13), (320-117663-A-9-D MS) and (320-117663-A-9-E MSD). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. These samples were re-analyzed with concurring results, therefore, the original data have been reported.

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: BIO-A-22-202412 (320-117663-9), BIO-A-23-202412 (320-117663-10), BIO-A-24-202412 (320-117663-11), (320-117663-A-9-D MS) and (320-117663-A-9-E MSD). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). These sample was re-analyzed with concurring results, therefore, the original data was reported.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analyte(s) have been flagged: Inf-02-202412 (320-117663-1) and Inf-11-202412 (320-117663-4).

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Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: Inf-02-202412 (320-117663-1), Inf-07-202412 (320-117663-2), Inf-08-202412 (320-117663-3), Inf-11-202412 (320-117663-4), Inf-18-202412 (320-117663-5) and Inf-Comp-202412 (320-117663-6). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample(s). The samples were re-analyzed with concurring results: therefore, the original set of data have been reported.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: Inf-02-202412 (320-117663-1), Inf-07-202412 (320-117663-2), Inf-08-202412 (320-117663-3), Inf-11-202412 (320-117663-4), Inf-18-202412 (320-117663-5) and Inf-Comp-202412 (320-117663-6). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The sample was re-analyzed with concurring results: therefore, the original set of data have been reported

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: BIO-A-22-202412 (320-117663-9), BIO-A-23-202412 (320-117663-10) and BIO-B-202412 (320-117663-13).

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: BIO-A-22-202412 (320-117663-9), BIO-A-23-202412 (320-117663-10) and BIO-B-202412 (320-117663-13). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The labeled analyte M2-4:2 FTS is employed in this analysis as a "Reverse Surrogate". It is used to monitor the oxidation efficiency of the TOP assay. This analyte is fortified into all sample fractions prior to any processing. The recovery of this analyte should be 0% in Post-Treatment fractions, indicating complete oxidation of the sample. The following samples are associated with this narration: BIO-A-22-202412 (320-117663-9), BIO-A-23-202412 (320-117663-10), BIO-A-24-202412 (320-117663-11), BIO-B-202412 (320-117663-13), (LCS 320-822138/2-A), (LCS 320-822142/2-A), (LCSD 320-822138/3-A), (LCSD 320-822142/3-A), (MB 320-822138/1-A) and (MB 320-822142/1-A).

Method 537 (modified): Zero to ten percent recovery (0 - 10%) of precursor analytes (such as 4:2 FTS, 6:2 FTS, 8:2 FTS, FOSA, NMeFOSAA, NEtFOSAA, etc.) and enhanced recoveries of PFCA is observed in the Post-Treatment Laboratory Control Sample (LCS) and Post-Treatment Laboratory Control Sample Duplicate (LCSD) associated with these samples, consistent with the expected oxidation of precursor analytes. The following samples are associated with this narration: BIO-A-22-202412 (320-117663-9), BIO-A-23-202412 (320-117663-10), BIO-A-24-202412 (320-117663-11), BIO-B-202412 (320-117663-13), (LCS 320-822142/2-A) and (LCSD 320-822142/3-A).

Method 537 (modified): The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-822142 and analytical batch 320-823588 recovered outside control limits for Perfluorooctanesulfonamide (FOSA) and 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) due to small but acceptable positive results for analytes that are oxidized during the "POST" sample extraction method.

Method 537 (modified): The labeled analyte M2-4:2 FTS is converted to PFBA during the oxidation step of the TOP assay. The PFBA result in the Post-Treatment Method Blank (MB) indicates how much of a field sample's Post-Treatment PFBA result is contributed by the Reverse Surrogate, when adjusted for dilution factors. The following samples are associated with this narration: BIO-A-22-202412 (320-117663-9), BIO-A-23-202412 (320-117663-10), BIO-A-24-202412 (320-117663-11), BIO-B-202412 (320-117663-13) and (MB 320-822142/1-A).

Method 537 (modified): The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-822142 and analytical batch 320-823588 recovered outside control limits for Perfluorotridecanoic acid (PFTrDA), Perfluorododecanesulfonic acid (PFDoS) and 11Cl-PF3OUdS. Re-analysis confirms the recoveries outside control limits. The associated samples were non-detect (ND) for this analyte and each sample was manually examined to ensure that the ND results did not reflect a low bias versus the MDL. No such results were identified and therefore there is no adverse impact on the reported results. The following samples are associated with this narration: BIO-A-22-202412 (320-117663-9), BIO-A-23-202412 (320-117663-10), BIO-A-24-202412 (320-117663-11), BIO-B-202412 (320-117663-13), (LCS 320-822142/2-A) and (LCSD 320-822142/3-A).

Method 537 (modified): Isotope Dilution Analytes (IDA), M2-6:2 FTS and M2-8:2 FTS, recoveries are above the method recommended limit for the following samples: Inf-18-202412 (320-117663-5), BIO-A-22-202412 (320-117663-9), BIO-A-23-202412 (320-117663-10), (320-117663-A-9-D MS) and (320-117663-A-9-E MSD). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The client was contacted and gave permission to report the high IDA recoveries.

Method 537 (modified): The low level continuing calibration verification (CCVL) associated with batch 320-823113 recovered above the upper control limit for Perfluorododecanesulfonic acid (PFDoS). The samples associated with this CCV were non-detects for

Job ID: 320-117663-1 (Continued) Eurofins Sacramento

the affected analytes; therefore, the data have been reported. The associated samples are impacted: Inf-02-202412 (320-117663-1), Inf-07-202412 (320-117663-2), Inf-08-202412 (320-117663-3), Inf-11-202412 (320-117663-4), Inf-18-202412 (320-117663-5), Inf-Comp-202412 (320-117663-6) and (CCVL 320-823113/2).

Method 537 (modified): The following sample has chromatographic interferences that could adversely impact the identification and quantitation of target analyte Perfluorobutanesulfonic acid (PFBS): Inf-02-202412 (320-117663-1). These interferences could cause false positive results.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. The associated analytes have been flagged: Eff-202412 (320-117663-7).

Method 537 (modified): The transition mass ratio was outside of the established ratio limit for Perfluoroundecanoic acid (PFUnA) in (CCVL 320-826340/2) associated to this data set. This is indicated by the "R" flag in the raw data. As the flagged data is in control in the low level continuing calibration verification (CCVL), there is no adverse impact to the data.

Method 537 (modified): The labeled analyte M2-4:2 FTS is converted to PFBA during the oxidation step of the TOP assay. The PFBA result in the Post-Treatment Method Blank (MB) indicates how much of a field sample's Post-Treatment PFBA result is contributed by the Reverse Surrogate, when adjusted for dilution factors. The following samples are associated with this narration: Eff-202412 (320-117663-7) and (MB 320-825295/1-A).

Method 537 (modified): The labeled analyte M2-4:2 FTS is employed in this analysis as a "Reverse Surrogate". It is used to monitor the oxidation efficiency of the TOP assay. This analyte is fortified into all sample fractions prior to any processing. The recovery of this analyte should be 0% in Post-Treatment fractions, indicating complete oxidation of the sample. The following samples are associated with this narration: Eff-202412 (320-117663-7), (LCS 320-825293/2-A), (LCSD 320-825293/3-A) and (MB 320-825293/1-A).

Method 537 (modified): The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-825293 and analytical batch 320-826341 recovered outside control limits for NMeFOSA. Re-analysis confirms the recoveries outside control limits. The associated samples were non-detect (ND) for this analyte and each sample was manually examined to ensure that the ND results did not reflect a low bias versus the MDL. No such results were identified and therefore there is no adverse impact on the reported results. The following samples are associated with this narration: Eff-202412 (320-117663-7), (LCS 320-825293/2-A) and (LCSD 320-825293/3-A).

Method 537 (modified): Zero to ten percent recovery (0 - 10%) of precursor analytes (such as 4:2 FTS, 6:2 FTS, 8:2 FTS, FOSA, NMeFOSAA, NEtFOSAA, etc.) and enhanced recoveries of PFCA is observed in the Post-Treatment Laboratory Control Sample (LCS) and Post-Treatment Laboratory Control Sample Duplicate (LCSD) associated with these samples, consistent with the expected oxidation of precursor analytes. The following samples are associated with this narration: Eff-202412 (320-117663-7), (LCS 320-825295/2-A) and (LCSD 320-825295/3-A).

Method 537 (modified): The labeled analyte M2-4:2 FTS is employed in this analysis as a "Reverse Surrogate". It is used to monitor the oxidation efficiency of the TOP assay. This analyte is fortified into all sample fractions prior to any processing. The recovery of this analyte should be 0% in Post-Treatment fractions, indicating complete oxidation of the sample. The following samples are associated with this narration: Eff-202412 (320-117663-7), (LCS 320-825295/2-A) and (LCSD 320-825295/3-A).

Method 537 (modified): The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-825295 and analytical batch 320-826342 recovered outside control limits for Perfluorotridecanoic acid (PFTrDA), Perfluorodecanesulfonic acid (PFDS), Perfluorododecanesulfonic acid (PFDoS) and 11Cl-PF3OUdS. Re-analysis confirms the recoveries outside control limits. The associated samples were non-detect (ND) for this analyte and each sample was manually examined to ensure that the ND results did not reflect a low bias versus the MDL. No such results were identified and therefore there is no adverse impact on the reported results. The following samples are associated with this narration: Eff-202412 (320-117663-7), (LCS 320-825295/2-A) and (LCSD 320-825295/3-A).

Method 537 (modified): The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-825295 and analytical batch 320-826342 recovered outside control limits for 4,8-Dioxa-3H-perfluorononanoic acid (ADONA) due to small but acceptable positive results for analytes that are oxidized during the "POST" sample extraction method.

Method 537 (modified): The labeled analyte M2-4:2FTS is employed in this analysis as a "Reverse Surrogate". It is used to monitor the oxidation efficiency of the TOP assay. This analyte is fortified into all sample fractions prior to any processing. The recovery of this analyte should be 0% in Post-Treatment fractions, indicating complete oxidation of the sample. The following samples are associated with this narration: (LCS 320-822142/2-A) and (LCSD 320-822142/3-A).

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

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

Organic Prep
Method 3535: The following samples in preparation batch 320-821951 and preparation batch 320-822908 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction: Inf-02-202412 (320-117663-1), Inf-07-202412 (320-117663-2), Inf-08-202412 (320-117663-3), Inf-11-202412 (320-117663-4), Inf-18-202412 (320-117663-5), Inf-Comp-202412 (320-117663-6) and Eff-202412 (320-117663-7).

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-821951.

Method SHAKE: The following samples in preparation batch 320-822468 were light yellow in color following extraction: BIO-A-22-202412 (320-117663-9), BIO-A-23-202412 (320-117663-10), BIO-A-24-202412 (320-117663-11), BIO-B-202412 (320-117663-13), (320-117663-A-9 MS) and (320-117663-A-9 MSD).

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-822908.

Method 3535: The following samples in preparation batch 320-822908 were yellow in color prior to extraction: Inf-02-202412 (320-117663-1), Inf-07-202412 (320-117663-2), Inf-08-202412 (320-117663-3), Inf-11-202412 (320-117663-4), Inf-18-202412 (320-117663-5) and Inf-Comp-202412 (320-117663-6)

Method 3535: The following samples in preparation batch 320-822908 were observed to have floating particulates present in the sample bottle: Inf-02-202412 (320-117663-1), Inf-07-202412 (320-117663-2), Inf-08-202412 (320-117663-3), Inf-11-202412 (320-117663-4), Inf-18-202412 (320-117663-5) and Inf-Comp-202412 (320-117663-6).

Method 3535: During the solid phase extraction process, the following samples Inf-02-202412 (320-117663-1), Inf-07-202412 (320-117663-2), Inf-08-202412 (320-117663-3), Inf-11-202412 (320-117663-4), Inf-18-202412 (320-117663-5) and Inf-Comp-202412 (320-117663-6) in preparation batch 320-822908 contained non-settable particulates which clogged the solid phase extraction column. The % volume that went through SPE are as follows, in the respective order: 79.3%, 79%, 57.5%, 75.5%, 74.2%, 76.1%. The remainder of the sample was retained in the original sample bottle. The SPE column along with the particles that clogged it were then extracted using the elution solvent.

Method 3535: The following samples in preparation batch 320-822908 were yellow in color following extraction: Inf-02-202412 (320-117663-1), Inf-07-202412 (320-117663-2), Inf-08-202412 (320-117663-3), Inf-11-202412 (320-117663-4), Inf-18-202412 (320-117663-5) and Inf-Comp-202412 (320-117663-6).

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

Detection Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Client Sample ID: Inf-02-202412 — Lab Sample ID: 320-117663-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.8	J	4.3	1.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.9		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.6	I	1.7	0.50	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.89	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.9		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.9	CI	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9		1.7	0.50	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	260		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Inf-07-202412 — Lab Sample ID: 320-117663-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	17		4.3	1.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	8.4		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	14		1.7	0.49	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.0		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.4		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	6.7		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.9		1.7	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.5		1.7	0.43	ng/L	1		537 (modified)	Total/NA
NMeFOSE	3.0	J	3.4	1.2	ng/L	1		537 (modified)	Total/NA
NEtFOSE	1.3	J	1.7	0.72	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	150		42	16	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Inf-08-202412 — Lab Sample ID: 320-117663-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.4	J	4.1	1.0	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.0		1.6	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	3.7		1.6	0.48	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.50	J	1.6	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.9		1.6	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.2	J	1.6	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.4		1.6	0.47	ng/L	1		537 (modified)	Total/NA
NMeFOSE	1.9	J	3.3	1.2	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	250		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Inf-11-202412 — Lab Sample ID: 320-117663-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.2	J	4.6	1.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.1		1.8	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	3.5	I	1.8	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.9		1.8	0.46	ng/L	1		537 (modified)	Total/NA
NMeFOSE	2.7	J	3.6	1.3	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	260		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Inf-18-202412 — Lab Sample ID: 320-117663-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.3		4.2	1.0	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	5.3		1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	6.8		1.7	0.48	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: Inf-18-202412 (Continued) — Lab Sample ID: 320-117663-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	1.9		1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.9		1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.4		1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.0	J	1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	16		1.7	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.8		1.7	0.42	ng/L	1		537 (modified)	Total/NA
NMeFOSE	1.6	J	3.3	1.2	ng/L	1		537 (modified)	Total/NA
6:2 FTS	1.9	J	4.2	1.0	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	280		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Inf-Comp-202412 — Lab Sample ID: 320-117663-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.2		4.8	1.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.7		1.9	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	6.3		1.9	0.56	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.2	J	1.9	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.9		1.9	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.9		1.9	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.4		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.0		1.9	0.48	ng/L	1		537 (modified)	Total/NA
NMeFOSE	1.8	J	3.8	1.3	ng/L	1		537 (modified)	Total/NA
Total Suspended Solids	250		50	19	mg/L	1		SM 2540D	Total/NA

Client Sample ID: Eff-202412 — Lab Sample ID: 320-117663-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.9		4.1	1.0	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	11		1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	12		1.7	0.48	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.6	J	1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	6.5		1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.83	J	1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.8	I	1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.51	J	1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.5		1.7	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		1.7	0.41	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	8.2	J	13	3.1	ng/L	1		537 (modified)	Pre-Treatment
Perfluoropentanoic acid (PFPeA)	12		5.0	1.3	ng/L	1		537 (modified)	Pre-Treatment
Perfluorohexanoic acid (PFHxA)	14		5.0	1.5	ng/L	1		537 (modified)	Pre-Treatment
Perfluoroheptanoic acid (PFHpA)	1.6	J	5.0	1.3	ng/L	1		537 (modified)	Pre-Treatment
Perfluorooctanoic acid (PFOA)	6.9		5.0	1.3	ng/L	1		537 (modified)	Pre-Treatment
Perfluorobutanesulfonic acid (PFBS)	4.6	J I	5.0	1.3	ng/L	1		537 (modified)	Pre-Treatment
Perfluorohexanesulfonic acid (PFHxS)	7.3		5.0	1.4	ng/L	1		537 (modified)	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: Eff-202412 (Continued) — Lab Sample ID: 320-117663-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	4.2	J I	5.0	1.3	ng/L	1		537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	25	B	13	3.1	ng/L	1		537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	23	*+	5.0	1.3	ng/L	1		537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	19	*+	5.0	1.5	ng/L	1		537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	2.7	J	5.0	1.3	ng/L	1		537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	8.9		5.0	1.3	ng/L	1		537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	1.3	J	5.0	1.3	ng/L	1		537 (modified)	Post-Treatment
Perfluorobutanesulfonic acid (PFBS)	3.6	J	5.0	1.3	ng/L	1		537 (modified)	Post-Treatment
Perfluorohexanesulfonic acid (PFHxS)	7.0		5.0	1.4	ng/L	1		537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	3.2	J	5.0	1.3	ng/L	1		537 (modified)	Post-Treatment
Total Suspended Solids	7.2		5.0	1.9	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EB01-202412 — Lab Sample ID: 320-117663-8

No Detections.

Client Sample ID: BIO-A-22-202412 — Lab Sample ID: 320-117663-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	8.0		1.7	0.63	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	20		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	28	F1	0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.2		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	21	F1	0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.6		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	11		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.8		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	4.3		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.47	J F1	0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.94		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.8		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	14		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	3.4	I F1	0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	2.1		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	31		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	9.6		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	17	F1	0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	3.5	F1	0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
6:2 FTS	1.4		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
8:2 FTS	1.2		0.70	0.17	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	5.5		3.6	0.84	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoropentanoic acid (PFPeA)	21		3.6	0.75	ug/Kg	1	☼	537 (modified)	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-A-22-202412 (Continued)
Lab Sample ID: 320-117663-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	21		3.6	0.56	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroheptanoic acid (PFHpA)	1.5	J	3.6	0.69	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanoic acid (PFOA)	14		3.6	0.97	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorononanoic acid (PFNA)	1.4	J	3.6	0.40	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanoic acid (PFDA)	7.4		3.6	0.87	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroundecanoic acid (PFUnA)	1.1	J I	3.6	0.76	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorododecanoic acid (PFDoA)	2.3	J	3.6	0.55	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorotetradecanoic acid (PFTeA)	0.81	J	3.6	0.67	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanesulfonic acid (PFBS)	1.7	J	3.6	0.69	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanesulfonic acid (PFHxS)	2.4	J	3.6	0.53	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	14		3.6	0.79	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanesulfonic acid (PFDS)	1.4	J	3.6	0.95	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonamide (FOSA)	1.7	J	3.6	0.60	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSAA	19		3.6	0.42	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSAA	5.7		3.6	0.87	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSE	10		3.6	0.86	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSE	5.8		3.6	0.51	ug/Kg	1	☼	537 (modified)	Pre-Treatment
6:2 FTS	1.4	J	3.6	0.49	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	210	B	3.6	0.84	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	130	*+	3.6	0.75	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	88	*+	3.6	0.56	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	44		3.6	0.69	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	66		3.6	0.97	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	21		3.6	0.40	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	18		3.6	0.87	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroundecanoic acid (PFUnA)	8.1		3.6	0.76	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorododecanoic acid (PFDoA)	6.4		3.6	0.55	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotridecanoic acid (PFTrDA)	2.0	J	3.6	0.38	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotetradecanoic acid (PFTeA)	2.7	J	3.6	0.67	ug/Kg	1	☼	537 (modified)	Post-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-A-22-202412 (Continued) — Lab Sample ID: 320-117663-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	29		3.6	0.69	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanesulfonic acid (PFHxS)	1.8	J	3.6	0.53	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	13		3.6	0.79	ug/Kg	1	☼	537 (modified)	Post-Treatment

Client Sample ID: BIO-A-23-202412 — Lab Sample ID: 320-117663-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	8.5		1.4	0.53	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	24		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	46		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.2		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	51		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	2.6		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	17		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.9		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	4.3		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.31	J	0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	1.1		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.5		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.4		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	15		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	1.6		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	1.7		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	34		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	10		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	9.8		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	3.6		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
6:2 FTS	2.7		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
8:2 FTS	1.6		0.58	0.14	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	5.4		3.0	0.69	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoropentanoic acid (PFPeA)	18		3.0	0.62	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanoic acid (PFHxA)	34		3.0	0.47	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroheptanoic acid (PFHpA)	2.7	J	3.0	0.57	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanoic acid (PFOA)	32		3.0	0.80	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorononanoic acid (PFNA)	1.9	J	3.0	0.33	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanoic acid (PFDA)	12		3.0	0.72	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroundecanoic acid (PFUnA)	1.2	J I	3.0	0.63	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorododecanoic acid (PFDoA)	2.5	J	3.0	0.45	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorotetradecanoic acid (PFTeA)	0.70	J	3.0	0.56	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanesulfonic acid (PFBS)	2.0	J	3.0	0.57	ug/Kg	1	☼	537 (modified)	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-A-23-202412 (Continued) — Lab Sample ID: 320-117663-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	1.3	J	3.0	0.44	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	14		3.0	0.65	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanesulfonic acid (PFDS)	1.1	J	3.0	0.78	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonamide (FOSA)	1.2	J	3.0	0.50	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSAA	23		3.0	0.35	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSAA	6.8		3.0	0.72	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSE	6.7		3.0	0.71	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSE	4.1		3.0	0.42	ug/Kg	1	☼	537 (modified)	Pre-Treatment
6:2 FTS	2.3	J	3.0	0.41	ug/Kg	1	☼	537 (modified)	Pre-Treatment
8:2 FTS	1.3	J	3.0	0.53	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	110	B	3.1	0.71	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	85	*+	3.1	0.63	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	54	*+	3.1	0.48	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	27		3.1	0.58	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	44		3.1	0.82	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	14		3.1	0.34	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	12		3.1	0.74	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroundecanoic acid (PFUnA)	5.4		3.1	0.65	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorododecanoic acid (PFDoA)	4.0		3.1	0.46	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotridecanoic acid (PFTrDA)	1.3	J	3.1	0.32	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotetradecanoic acid (PFTeA)	1.9	J	3.1	0.57	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorobutanesulfonic acid (PFBS)	14		3.1	0.58	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanesulfonic acid (PFHxS)	0.98	J	3.1	0.45	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	8.7		3.1	0.66	ug/Kg	1	☼	537 (modified)	Post-Treatment

Client Sample ID: BIO-A-24-202412 — Lab Sample ID: 320-117663-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.6		2.0	0.73	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	20		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	19		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.8		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	17		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-A-24-202412 (Continued)
Lab Sample ID: 320-117663-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	1.5		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	8.3		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.5		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	3.1		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic acid (PFTrDA)	0.27	J	0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.67	J	0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.2		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.3	I	0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	11		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	1.4		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	1.2		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	22		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	6.6		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	10		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	2.5		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
6:2 FTS	0.88		0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
8:2 FTS	0.73	J	0.80	0.20	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	5.4		4.2	0.96	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoropentanoic acid (PFPeA)	19		4.2	0.86	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanoic acid (PFHxA)	19		4.2	0.64	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroheptanoic acid (PFHpA)	1.8	J	4.2	0.79	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanoic acid (PFOA)	18		4.2	1.1	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorononanoic acid (PFNA)	1.3	J	4.2	0.46	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanoic acid (PFDA)	7.4		4.2	1.0	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluoroundecanoic acid (PFUnA)	0.94	J	4.2	0.87	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorododecanoic acid (PFDoA)	2.3	J	4.2	0.62	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorotetradecanoic acid (PFTeA)	0.90	J	4.2	0.77	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanesulfonic acid (PFBS)	2.6	J	4.2	0.79	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorohexanesulfonic acid (PFHxS)	2.1	J	4.2	0.60	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	14		4.2	0.90	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorodecanesulfonic acid (PFDS)	2.1	J	4.2	1.1	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonamide (FOSA)	1.3	J	4.2	0.69	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSAA	18		4.2	0.48	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSAA	4.5		4.2	1.0	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSE	6.9		4.2	0.98	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSE	5.3		4.2	0.58	ug/Kg	1	☼	537 (modified)	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-A-24-202412 (Continued) — Lab Sample ID: 320-117663-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 FTS	0.94	J	4.2	0.56	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	270	B	4.1	0.95	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	200	*+	4.1	0.85	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	150	*+	4.1	0.64	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	59		4.1	0.78	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	110		4.1	1.1	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	34		4.1	0.45	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	32		4.1	0.99	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroundecanoic acid (PFUnA)	14		4.1	0.86	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorododecanoic acid (PFDoA)	14		4.1	0.62	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotridecanoic acid (PFTrDA)	3.3	J	4.1	0.43	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotetradecanoic acid (PFTeA)	5.3		4.1	0.76	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorobutanesulfonic acid (PFBS)	48		4.1	0.78	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanesulfonic acid (PFHxS)	1.6	J	4.1	0.60	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	18		4.1	0.89	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanesulfonic acid (PFDS)	1.3	J	4.1	1.1	ug/Kg	1	☼	537 (modified)	Post-Treatment
6:2 FTS	15		4.1	0.56	ug/Kg	1	☼	537 (modified)	Post-Treatment

Client Sample ID: EB02-202412 — Lab Sample ID: 320-117663-12

No Detections.

Client Sample ID: BIO-B-202412 — Lab Sample ID: 320-117663-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	1.6	J I	3.6	0.91	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.4	J	3.6	0.91	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	2.3	J	3.6	0.91	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.99	J	3.6	0.91	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	1.8	J	3.6	0.91	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	14	I	3.6	0.91	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSAA	12		3.6	0.91	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSAA	4.5		3.6	0.91	ug/Kg	1	☼	537 (modified)	Total/NA
NMeFOSE	7.6		3.6	0.91	ug/Kg	1	☼	537 (modified)	Total/NA
NEtFOSE	1.0	J	3.6	0.91	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11	J I	19	2.7	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorooctanesulfonic acid (PFOS)	23		19	4.0	ug/Kg	1	☼	537 (modified)	Pre-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample ID: BIO-B-202412 (Continued)

Lab Sample ID: 320-117663-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
NMeFOSAA	12	J	19	2.1	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NMeFOSE	12	J	19	4.4	ug/Kg	1	☼	537 (modified)	Pre-Treatment
NEtFOSE	8.2	J	19	2.6	ug/Kg	1	☼	537 (modified)	Pre-Treatment
Perfluorobutanoic acid (PFBA)	150	B	18	4.2	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoropentanoic acid (PFPeA)	89	*+	18	3.8	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorohexanoic acid (PFHxA)	39	*+	18	2.8	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroheptanoic acid (PFHpA)	35		18	3.5	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanoic acid (PFOA)	41		18	4.9	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorononanoic acid (PFNA)	22		18	2.0	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorodecanoic acid (PFDA)	11	J	18	4.4	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluoroundecanoic acid (PFUnA)	6.9	J	18	3.9	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorododecanoic acid (PFDoA)	5.0	J I	18	2.8	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorotridecanoic acid (PFTrDA)	3.8	J I	18	1.9	ug/Kg	1	☼	537 (modified)	Post-Treatment
Perfluorooctanesulfonic acid (PFOS)	14	J	18	4.0	ug/Kg	1	☼	537 (modified)	Post-Treatment

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Client Sample ID: Inf-02-202412

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.8**	**J**	4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluoropentanoic acid (PFPeA)	**3.9**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorohexanoic acid (PFHxA)	**4.6**	**I**	1.7	0.50	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluoroheptanoic acid (PFHpA)	**0.89**	**J**	1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorooctanoic acid (PFOA)	**2.9**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.63	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorobutanesulfonic acid (PFBS)	**1.9**	**CI**	1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorohexanesulfonic acid (PFHxS)	**3.9**		1.7	0.50	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.84	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.85	ng/L		12/18/24 11:58	12/19/24 17:35	1
NEtFOSA	ND		1.7	0.76	ng/L		12/18/24 11:58	12/19/24 17:35	1
NMeFOSA	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
NMeFOSAA	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:35	1
NEtFOSAA	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:35	1
NMeFOSE	ND		3.5	1.2	ng/L		12/18/24 11:58	12/19/24 17:35	1
NEtFOSE	ND		1.7	0.74	ng/L		12/18/24 11:58	12/19/24 17:35	1
4:2 FTS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
6:2 FTS	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:35	1
8:2 FTS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
HFPO-DA (GenX)	ND		3.5	0.87	ng/L		12/18/24 11:58	12/19/24 17:35	1
9Cl-PF3ONS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
11Cl-PF3OUdS	ND		1.7	0.60	ng/L		12/18/24 11:58	12/19/24 17:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C5 PFPeA	*73*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C2 PFHxA	*87*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C4 PFHpA	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C4 PFOA	*89*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C5 PFNA	*85*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C2 PFDA	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C2 PFUnA	*71*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C2 PFDoA	*51*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C2 PFTeDA	*17*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C3 PFBS	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*

Client Sample ID: Inf-02-202412

Lab Sample ID: 320-117663-1

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*80*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C4 PFOS	*76*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C8 FOSA	*57*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d3-NMeFOSAA	*44*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d5-NEtFOSAA	*57*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d-N-MeFOSA-M	*47*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d-N-EtFOSA-M	*28*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d7-N-MeFOSE-M	*42*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d9-N-EtFOSE-M	*35*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
M2-4:2 FTS	*173*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
M2-6:2 FTS	*289*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
M2-8:2 FTS	*249*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C3 HFPO-DA	*71*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		50	19	mg/L			12/13/24 16:38	1

Client Sample ID: Inf-07-202412

Lab Sample ID: 320-117663-2

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**17**		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluoropentanoic acid (PFPeA)	**8.4**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorohexanoic acid (PFHxA)	**14**		1.7	0.49	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluoroheptanoic acid (PFHpA)	**2.0**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorooctanoic acid (PFOA)	**5.4**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.62	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorobutanesulfonic acid (PFBS)	**6.7**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorohexanesulfonic acid (PFHxS)	**5.9**		1.7	0.48	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorooctanesulfonic acid (PFOS)	**3.5**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.82	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.83	ng/L		12/18/24 11:58	12/19/24 17:49	1
NEtFOSA	ND		1.7	0.74	ng/L		12/18/24 11:58	12/19/24 17:49	1

Client Sample ID: Inf-07-202412

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
NMeFOSAA	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:49	1
NEtFOSAA	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:49	1
NMeFOSE	**3.0**	**J**	3.4	1.2	ng/L		12/18/24 11:58	12/19/24 17:49	1
NEtFOSE	**1.3**	**J**	1.7	0.72	ng/L		12/18/24 11:58	12/19/24 17:49	1
4:2 FTS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
6:2 FTS	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:49	1
8:2 FTS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
HFPO-DA (GenX)	ND		3.4	0.85	ng/L		12/18/24 11:58	12/19/24 17:49	1
9Cl-PF3ONS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
11Cl-PF3OUdS	ND		1.7	0.59	ng/L		12/18/24 11:58	12/19/24 17:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*57*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C5 PFPeA	*72*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C2 PFHxA	*89*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C4 PFHpA	*84*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C4 PFOA	*93*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C5 PFNA	*89*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C2 PFDA	*85*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C2 PFUnA	*71*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C2 PFDoA	*49*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C2 PFTeDA	*16*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C3 PFBS	*78*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
18O2 PFHxS	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C4 PFOS	*77*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C8 FOSA	*58*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d3-NMeFOSAA	*43*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d5-NEtFOSAA	*61*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d-N-MeFOSA-M	*48*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d-N-EtFOSA-M	*25*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d7-N-MeFOSE-M	*43*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d9-N-EtFOSE-M	*34*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
M2-4:2 FTS	*204*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
M2-6:2 FTS	*286*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
M2-8:2 FTS	*247*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C3 HFPO-DA	*72*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**150**		42	16	mg/L			12/13/24 16:40	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Client Sample ID: Inf-08-202412

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.4**	**J**	4.1	1.0	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluoropentanoic acid (PFPeA)	**3.0**		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorohexanoic acid (PFHxA)	**3.7**		1.6	0.48	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluoroheptanoic acid (PFHpA)	**0.50**	**J**	1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorooctanoic acid (PFOA)	**1.9**		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.45	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.6	0.60	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J**	1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorohexanesulfonic acid (PFHxS)	**3.4**		1.6	0.47	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.80	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorooctanesulfonamide (FOSA)	ND		1.6	0.81	ng/L		12/18/24 11:58	12/19/24 18:03	1
NEtFOSA	ND		1.6	0.72	ng/L		12/18/24 11:58	12/19/24 18:03	1
NMeFOSA	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
NMeFOSAA	ND		4.1	1.0	ng/L		12/18/24 11:58	12/19/24 18:03	1
NEtFOSAA	ND		4.1	1.0	ng/L		12/18/24 11:58	12/19/24 18:03	1
NMeFOSE	**1.9**	**J**	3.3	1.2	ng/L		12/18/24 11:58	12/19/24 18:03	1
NEtFOSE	ND		1.6	0.70	ng/L		12/18/24 11:58	12/19/24 18:03	1
4:2 FTS	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
6:2 FTS	ND		4.1	1.0	ng/L		12/18/24 11:58	12/19/24 18:03	1
8:2 FTS	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
HFPO-DA (GenX)	ND		3.3	0.82	ng/L		12/18/24 11:58	12/19/24 18:03	1
9Cl-PF3ONS	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
11Cl-PF3OUdS	ND		1.6	0.57	ng/L		12/18/24 11:58	12/19/24 18:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C5 PFPeA	*66*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C2 PFHxA	*74*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C4 PFHpA	*73*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C4 PFOA	*80*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C5 PFNA	*78*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C2 PFDA	*77*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C2 PFUnA	*71*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C2 PFDoA	*54*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C2 PFTeDA	*21*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C3 PFBS	*68*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*

Client Sample ID: Inf-08-202412

Lab Sample ID: 320-117663-3

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*69*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C4 PFOS	*66*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C8 FOSA	*57*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d3-NMeFOSAA	*44*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d5-NEtFOSAA	*62*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d-N-MeFOSA-M	*48*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d-N-EtFOSA-M	*33*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d7-N-MeFOSE-M	*42*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d9-N-EtFOSE-M	*46*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
M2-4:2 FTS	*142*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
M2-6:2 FTS	*237*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
M2-8:2 FTS	*225*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C3 HFPO-DA	*64*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**250**		50	19	mg/L			12/13/24 16:41	1

Client Sample ID: Inf-11-202412

Lab Sample ID: 320-117663-4

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.2**	**J**	4.6	1.1	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluoropentanoic acid (PFPeA)	**2.1**		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorohexanoic acid (PFHxA)	**3.5**	**I**	1.8	0.53	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorooctanoic acid (PFOA)	**1.9**		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.67	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.52	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.88	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.89	ng/L		12/18/24 11:58	12/19/24 18:17	1
NEtFOSA	ND		1.8	0.79	ng/L		12/18/24 11:58	12/19/24 18:17	1
NMeFOSA	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
NMeFOSAA	ND		4.6	1.1	ng/L		12/18/24 11:58	12/19/24 18:17	1

Client Sample ID: Inf-11-202412

Lab Sample ID: 320-117663-4

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	ND		4.6	1.1	ng/L		12/18/24 11:58	12/19/24 18:17	1
NMeFOSE	**2.7**	**J**	3.6	1.3	ng/L		12/18/24 11:58	12/19/24 18:17	1
NEtFOSE	ND		1.8	0.78	ng/L		12/18/24 11:58	12/19/24 18:17	1
4:2 FTS	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
6:2 FTS	ND		4.6	1.1	ng/L		12/18/24 11:58	12/19/24 18:17	1
8:2 FTS	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
HFPO-DA (GenX)	ND		3.6	0.91	ng/L		12/18/24 11:58	12/19/24 18:17	1
9Cl-PF3ONS	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
11Cl-PF3OUdS	ND		1.8	0.63	ng/L		12/18/24 11:58	12/19/24 18:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C5 PFPeA	*75*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C2 PFHxA	*89*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C4 PFHpA	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C4 PFOA	*89*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C5 PFNA	*84*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C2 PFDA	*85*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C2 PFUnA	*73*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C2 PFDoA	*58*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C2 PFTeDA	*14*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C3 PFBS	*72*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
18O2 PFHxS	*80*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C4 PFOS	*78*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C8 FOSA	*58*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d3-NMeFOSAA	*41*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d5-NEtFOSAA	*61*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d-N-MeFOSA-M	*53*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d-N-EtFOSA-M	*22*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d7-N-MeFOSE-M	*49*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d9-N-EtFOSE-M	*31*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
M2-4:2 FTS	*200*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
M2-6:2 FTS	*274*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
M2-8:2 FTS	*251*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C3 HFPO-DA	*69*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		50	19	mg/L			12/13/24 16:43	1

Client Sample ID: Inf-18-202412

Lab Sample ID: 320-117663-5

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.3**		4.2	1.0	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluoropentanoic acid (PFPeA)	**5.3**		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1

Client Sample ID: Inf-18-202412

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-5

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**6.8**		1.7	0.48	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluoroheptanoic acid (PFHpA)	**1.9**		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorooctanoic acid (PFOA)	**8.9**		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorobutanesulfonic acid (PFBS)	**3.4**		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluoropentanesulfonic acid (PFPeS)	**1.0**	**J**	1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorohexanesulfonic acid (PFHxS)	**16**		1.7	0.48	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorooctanesulfonic acid (PFOS)	**6.8**		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.81	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.82	ng/L		12/18/24 11:58	12/19/24 18:31	1
NEtFOSA	ND		1.7	0.73	ng/L		12/18/24 11:58	12/19/24 18:31	1
NMeFOSA	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
NMeFOSAA	ND		4.2	1.0	ng/L		12/18/24 11:58	12/19/24 18:31	1
NEtFOSAA	ND		4.2	1.0	ng/L		12/18/24 11:58	12/19/24 18:31	1
NMeFOSE	**1.6**	**J**	3.3	1.2	ng/L		12/18/24 11:58	12/19/24 18:31	1
NEtFOSE	ND		1.7	0.71	ng/L		12/18/24 11:58	12/19/24 18:31	1
4:2 FTS	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
6:2 FTS	**1.9**	**J**	4.2	1.0	ng/L		12/18/24 11:58	12/19/24 18:31	1
8:2 FTS	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
HFPO-DA (GenX)	ND		3.3	0.84	ng/L		12/18/24 11:58	12/19/24 18:31	1
9Cl-PF3ONS	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
11Cl-PF3OUdS	ND		1.7	0.58	ng/L		12/18/24 11:58	12/19/24 18:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*66*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C5 PFPeA	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C2 PFHxA	*94*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C4 PFHpA	*90*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C4 PFOA	*92*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C5 PFNA	*93*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C2 PFDA	*94*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C2 PFUnA	*81*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C2 PFDoA	*68*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C2 PFTeDA	*20*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C3 PFBS	*84*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
18O2 PFHxS	*88*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*

Client Sample ID: Inf-18-202412

Lab Sample ID: 320-117663-5
Matrix: Water

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*86*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C8 FOSA	*67*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d3-NMeFOSAA	*47*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d5-NEtFOSAA	*71*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d-N-MeFOSA-M	*66*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d-N-EtFOSA-M	*32*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d7-N-MeFOSE-M	*57*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d9-N-EtFOSE-M	*47*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
M2-4:2 FTS	*167*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
M2-6:2 FTS	*299*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
M2-8:2 FTS	*282*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C3 HFPO-DA	*79*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**280**		50	19	mg/L			12/13/24 16:45	1

Client Sample ID: Inf-Comp-202412

Lab Sample ID: 320-117663-6
Matrix: Water

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.2**		4.8	1.2	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluoropentanoic acid (PFPeA)	**4.7**		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorohexanoic acid (PFHxA)	**6.3**		1.9	0.56	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluoroheptanoic acid (PFHpA)	**1.2**	**J**	1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorooctanoic acid (PFOA)	**4.9**		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.70	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorohexanesulfonic acid (PFHxS)	**7.4**		1.9	0.55	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorooctanesulfonic acid (PFOS)	**4.0**		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.93	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.94	ng/L		12/18/24 11:58	12/19/24 18:45	1
NEtFOSA	ND		1.9	0.83	ng/L		12/18/24 11:58	12/19/24 18:45	1
NMeFOSA	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1

Client Sample ID: Inf-Comp-202412

Lab Sample ID: 320-117663-6

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSAA	ND		4.8	1.2	ng/L		12/18/24 11:58	12/19/24 18:45	1
NEtFOSAA	ND		4.8	1.2	ng/L		12/18/24 11:58	12/19/24 18:45	1
NMeFOSE	**1.8**	**J**	3.8	1.3	ng/L		12/18/24 11:58	12/19/24 18:45	1
NEtFOSE	ND		1.9	0.81	ng/L		12/18/24 11:58	12/19/24 18:45	1
4:2 FTS	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
6:2 FTS	ND		4.8	1.2	ng/L		12/18/24 11:58	12/19/24 18:45	1
8:2 FTS	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
HFPO-DA (GenX)	ND		3.8	0.96	ng/L		12/18/24 11:58	12/19/24 18:45	1
9Cl-PF3ONS	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
11Cl-PF3OUdS	ND		1.9	0.66	ng/L		12/18/24 11:58	12/19/24 18:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*63*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C5 PFPeA	*70*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C2 PFHxA	*87*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C4 PFHpA	*81*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C4 PFOA	*86*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C5 PFNA	*85*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C2 PFDA	*82*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C2 PFUnA	*69*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C2 PFDoA	*50*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C2 PFTeDA	*16*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C3 PFBS	*75*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
18O2 PFHxS	*81*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C4 PFOS	*74*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C8 FOSA	*58*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d3-NMeFOSAA	*42*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d5-NEtFOSAA	*59*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d-N-MeFOSA-M	*52*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d-N-EtFOSA-M	*28*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d7-N-MeFOSE-M	*45*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d9-N-EtFOSE-M	*37*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
M2-4:2 FTS	*170*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
M2-6:2 FTS	*269*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
M2-8:2 FTS	*241*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C3 HFPO-DA	*67*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**250**		50	19	mg/L			12/13/24 16:46	1

Client Sample ID: Eff-202412

Lab Sample ID: 320-117663-7

Date Collected: 12/10/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.9**		4.1	1.0	ng/L		12/13/24 12:36	12/16/24 22:28	1

Client Sample ID: Eff-202412

Lab Sample ID: 320-117663-7

Date Collected: 12/10/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**11**		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorohexanoic acid (PFHxA)	**12**		1.7	0.48	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorooctanoic acid (PFOA)	**6.5**		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorononanoic acid (PFNA)	**0.83**	**J**	1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.45	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.60	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorobutanesulfonic acid (PFBS)	**3.8**	**I**	1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluoropentanesulfonic acid (PFPeS)	**0.51**	**J**	1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorohexanesulfonic acid (PFHxS)	**6.5**		1.7	0.47	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorooctanesulfonic acid (PFOS)	**3.6**		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.80	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.81	ng/L		12/13/24 12:36	12/16/24 22:28	1
NEtFOSA	ND		1.7	0.72	ng/L		12/13/24 12:36	12/16/24 22:28	1
NMeFOSA	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
NMeFOSAA	ND		4.1	1.0	ng/L		12/13/24 12:36	12/16/24 22:28	1
NEtFOSAA	ND		4.1	1.0	ng/L		12/13/24 12:36	12/16/24 22:28	1
NMeFOSE	ND		3.3	1.2	ng/L		12/13/24 12:36	12/16/24 22:28	1
NEtFOSE	ND	*1	1.7	0.70	ng/L		12/13/24 12:36	12/16/24 22:28	1
4:2 FTS	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
6:2 FTS	ND		4.1	1.0	ng/L		12/13/24 12:36	12/16/24 22:28	1
8:2 FTS	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
HFPO-DA (GenX)	ND		3.3	0.83	ng/L		12/13/24 12:36	12/16/24 22:28	1
9Cl-PF3ONS	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
11Cl-PF3OUdS	ND		1.7	0.57	ng/L		12/13/24 12:36	12/16/24 22:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C5 PFPeA	*101*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C2 PFHxA	*115*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C4 PFHpA	*100*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C4 PFOA	*101*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C5 PFNA	*103*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C2 PFDA	*103*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C2 PFUnA	*92*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C2 PFDoA	*68*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C2 PFTeDA	*55*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C3 PFBS	*110*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*

Client Sample ID: Eff-202412

Lab Sample ID: 320-117663-7

Date Collected: 12/10/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	111		25 - 150	12/13/24 12:36	12/16/24 22:28	1
13C4 PFOS	104		25 - 150	12/13/24 12:36	12/16/24 22:28	1
13C8 FOSA	95		10 - 150	12/13/24 12:36	12/16/24 22:28	1
d3-NMeFOSAA	70		25 - 150	12/13/24 12:36	12/16/24 22:28	1
d5-NEtFOSAA	69		25 - 150	12/13/24 12:36	12/16/24 22:28	1
d-N-MeFOSA-M	77		10 - 150	12/13/24 12:36	12/16/24 22:28	1
d-N-EtFOSA-M	73		10 - 150	12/13/24 12:36	12/16/24 22:28	1
d7-N-MeFOSE-M	58		10 - 150	12/13/24 12:36	12/16/24 22:28	1
d9-N-EtFOSE-M	67		10 - 150	12/13/24 12:36	12/16/24 22:28	1
M2-4:2 FTS	189	*5+	25 - 150	12/13/24 12:36	12/16/24 22:28	1
M2-6:2 FTS	144		25 - 150	12/13/24 12:36	12/16/24 22:28	1
M2-8:2 FTS	126		25 - 150	12/13/24 12:36	12/16/24 22:28	1
13C3 HFPO-DA	93		25 - 150	12/13/24 12:36	12/16/24 22:28	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.2**	**J**	13	3.1	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluoropentanoic acid (PFPeA)	**12**		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorohexanoic acid (PFHxA)	**14**		5.0	1.5	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorooctanoic acid (PFOA)	**6.9**		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorononanoic acid (PFNA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorodecanoic acid (PFDA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	1.8	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorobutanesulfonic acid (PFBS)	**4.6**	**J I**	5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorohexanesulfonic acid (PFHxS)	**7.3**		5.0	1.4	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorooctanesulfonic acid (PFOS)	**4.2**	**J I**	5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	2.5	ng/L		01/02/25 04:13	01/03/25 19:45	1
NMeFOSAA	ND		13	3.1	ng/L		01/02/25 04:13	01/03/25 19:45	1
NEtFOSAA	ND		13	3.1	ng/L		01/02/25 04:13	01/03/25 19:45	1
4:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
6:2 FTS	ND		13	3.1	ng/L		01/02/25 04:13	01/03/25 19:45	1
8:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
NEtFOSA	ND		5.0	2.2	ng/L		01/02/25 04:13	01/03/25 19:45	1
NMeFOSA	ND	*-	5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
NMeFOSE	ND		10	3.5	ng/L		01/02/25 04:13	01/03/25 19:45	1
NEtFOSE	ND		5.0	2.1	ng/L		01/02/25 04:13	01/03/25 19:45	1

Client Sample ID: Eff-202412

Lab Sample ID: 320-117663-7

Date Collected: 12/10/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA (GenX)	ND		10	2.5	ng/L		01/02/25 04:13	01/03/25 19:45	1
9Cl-PF3ONS	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
11Cl-PF3OUdS	ND		5.0	1.7	ng/L		01/02/25 04:13	01/03/25 19:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*86*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C4 PFBA	*96*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C5 PFPeA	*96*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C2 PFHxA	*102*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C4 PFHpA	*97*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C4 PFOA	*97*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C5 PFNA	*95*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C2 PFDA	*96*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C2 PFUnA	*94*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C2 PFDoA	*96*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C2 PFTeDA	*81*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C3 PFBS	*97*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
18O2 PFHxS	*93*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C4 PFOS	*87*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d3-NMeFOSAA	*104*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d5-NEtFOSAA	*106*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
M2-4:2 FTS	*114*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
M2-6:2 FTS	*112*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
M2-8:2 FTS	*102*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d-N-MeFOSA-M	*89*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d-N-EtFOSA-M	*87*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d7-N-MeFOSE-M	*88*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d9-N-EtFOSE-M	*83*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C3 HFPO-DA	*90*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**25**	**B**	13	3.1	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluoropentanoic acid (PFPeA)	**23**	***+**	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorohexanoic acid (PFHxA)	**19**	***+**	5.0	1.5	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluoroheptanoic acid (PFHpA)	**2.7**	**J**	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorooctanoic acid (PFOA)	**8.9**		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorononanoic acid (PFNA)	**1.3**	**J**	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorodecanoic acid (PFDA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorotridecanoic acid (PFTrDA)	ND	*-	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	1.8	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorobutanesulfonic acid (PFBS)	**3.6**	**J**	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorohexanesulfonic acid (PFHxS)	**7.0**		5.0	1.4	ng/L		01/02/25 04:19	01/04/25 01:08	1

Client Sample ID: Eff-202412

Date Collected: 12/10/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorooctanesulfonic acid (PFOS)	**3.2**	**J**	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorodecanesulfonic acid (PFDS)	ND	*-	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorododecanesulfonic acid (PFDoS)	ND	*-	5.0	2.4	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	2.5	ng/L		01/02/25 04:19	01/04/25 01:08	1
NMeFOSAA	ND		13	3.1	ng/L		01/02/25 04:19	01/04/25 01:08	1
NEtFOSAA	ND		13	3.1	ng/L		01/02/25 04:19	01/04/25 01:08	1
4:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
6:2 FTS	ND		13	3.1	ng/L		01/02/25 04:19	01/04/25 01:08	1
8:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
NEtFOSA	ND		5.0	2.2	ng/L		01/02/25 04:19	01/04/25 01:08	1
NMeFOSA	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
NMeFOSE	ND		10	3.5	ng/L		01/02/25 04:19	01/04/25 01:08	1
NEtFOSE	ND		5.0	2.1	ng/L		01/02/25 04:19	01/04/25 01:08	1
HFPO-DA (GenX)	ND		10	2.5	ng/L		01/02/25 04:19	01/04/25 01:08	1
9Cl-PF3ONS	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
11Cl-PF3OUdS	ND	*-	5.0	1.7	ng/L		01/02/25 04:19	01/04/25 01:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	*1	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*92*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C4 PFBA	*97*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C5 PFPeA	*93*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C2 PFHxA	*101*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C4 PFHpA	*99*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C4 PFOA	*99*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C5 PFNA	*96*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C2 PFDA	*86*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C2 PFUnA	*81*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C2 PFDoA	*74*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C2 PFTeDA	*65*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C3 PFBS	*96*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
18O2 PFHxS	*100*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C4 PFOS	*91*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d5-NEtFOSAA	*95*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
M2-6:2 FTS	*112*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
M2-8:2 FTS	*95*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d-N-MeFOSA-M	*70*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d-N-EtFOSA-M	*64*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d7-N-MeFOSE-M	*72*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d9-N-EtFOSE-M	*62*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Client Sample ID: Eff-202412

Lab Sample ID: 320-117663-7
Date Collected: 12/10/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	7.2		5.0	1.9	mg/L			12/16/24 13:29	1

Client Sample ID: EB01-202412

Lab Sample ID: 320-117663-8
Date Collected: 12/09/24 13:00
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.5	1.1	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.52	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.52	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.88	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.89	ng/L		12/13/24 12:36	12/16/24 22:42	1
NEtFOSA	ND		1.8	0.79	ng/L		12/13/24 12:36	12/16/24 22:42	1
NMeFOSA	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
NMeFOSAA	ND		4.5	1.1	ng/L		12/13/24 12:36	12/16/24 22:42	1
NEtFOSAA	ND		4.5	1.1	ng/L		12/13/24 12:36	12/16/24 22:42	1
NMeFOSE	ND		3.6	1.3	ng/L		12/13/24 12:36	12/16/24 22:42	1
NEtFOSE	ND	*1	1.8	0.77	ng/L		12/13/24 12:36	12/16/24 22:42	1
4:2 FTS	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
6:2 FTS	ND		4.5	1.1	ng/L		12/13/24 12:36	12/16/24 22:42	1
8:2 FTS	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
HFPO-DA (GenX)	ND		3.6	0.90	ng/L		12/13/24 12:36	12/16/24 22:42	1
9Cl-PF3ONS	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
11Cl-PF3OUdS	ND		1.8	0.62	ng/L		12/13/24 12:36	12/16/24 22:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C5 PFPeA	*102*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C2 PFHxA	*109*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C4 PFHpA	*98*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*

Client Sample ID: EB01-202412

Lab Sample ID: 320-117663-8

Date Collected: 12/09/24 13:00
Date Received: 12/12/24 10:00
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*104*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C5 PFNA	*113*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C2 PFDA	*119*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C2 PFUnA	*125*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C2 PFDoA	*105*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C2 PFTeDA	*88*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C3 PFBS	*111*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
18O2 PFHxS	*115*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C4 PFOS	*122*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C8 FOSA	*101*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d3-NMeFOSAA	*94*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d5-NEtFOSAA	*86*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d-N-MeFOSA-M	*106*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d-N-EtFOSA-M	*110*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d7-N-MeFOSE-M	*92*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d9-N-EtFOSE-M	*102*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
M2-4:2 FTS	*117*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
M2-6:2 FTS	*125*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
M2-8:2 FTS	*125*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*

Client Sample ID: BIO-A-22-202412

Lab Sample ID: 320-117663-9

Date Collected: 12/09/24 13:30
Date Received: 12/12/24 10:00
Matrix: Solid
Percent Solids: 27.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.0**		1.7	0.63	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluoropentanoic acid (PFPeA)	**20**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorohexanoic acid (PFHxA)	**28**	**F1**	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluoroheptanoic acid (PFHpA)	**2.2**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorooctanoic acid (PFOA)	**21**	**F1**	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorononanoic acid (PFNA)	**1.6**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorodecanoic acid (PFDA)	**11**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluoroundecanoic acid (PFUnA)	**1.8**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorododecanoic acid (PFDoA)	**4.3**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorotridecanoic acid (PFTrDA)	**0.47**	**J F1**	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorotetradecanoic acid (PFTeA)	**0.94**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorobutanesulfonic acid (PFBS)	**1.8**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorohexanesulfonic acid (PFHxS)	ND	F1	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorooctanesulfonic acid (PFOS)	**14**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorononanesulfonic acid (PFNS)	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1

Client Sample ID: BIO-A-22-202412

Date Collected: 12/09/24 13:30
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-9

Matrix: Solid
Percent Solids: 27.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	**3.4**	**I F1**	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND	F1	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorooctanesulfonamide (FOSA)	**2.1**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NEtFOSA	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NMeFOSA	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NMeFOSAA	**31**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NEtFOSAA	**9.6**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NMeFOSE	**17**	**F1**	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NEtFOSE	**3.5**	**F1**	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
4:2 FTS	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
6:2 FTS	**1.4**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
8:2 FTS	**1.2**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
HFPO-DA (GenX)	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
9Cl-PF3ONS	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
11Cl-PF3OUdS	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*57*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C5 PFPeA	*68*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C2 PFHxA	*81*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C4 PFHpA	*68*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C4 PFOA	*74*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C5 PFNA	*81*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C2 PFDA	*84*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C2 PFUnA	*75*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C2 PFDoA	*44*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C2 PFTeDA	*14*	**5-*	*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C3 PFBS	*71*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
18O2 PFHxS	*69*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C4 PFOS	*76*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C8 FOSA	*64*		*10 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d3-NMeFOSAA	*45*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d5-NEtFOSAA	*57*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d-N-MeFOSA-M	*35*		*10 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d-N-EtFOSA-M	*12*		*10 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d7-N-MeFOSE-M	*41*		*10 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d9-N-EtFOSE-M	*18*		*10 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
M2-4:2 FTS	*191*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
M2-6:2 FTS	*229*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
M2-8:2 FTS	*275*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C3 HFPO-DA	*61*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.5**		3.6	0.84	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluoropentanoic acid (PFPeA)	**21**		3.6	0.75	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1

Client Sample ID: BIO-A-22-202412

Date Collected: 12/09/24 13:30
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-9

Matrix: Solid
Percent Solids: 27.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**21**		3.6	0.56	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluoroheptanoic acid (PFHpA)	**1.5**	**J**	3.6	0.69	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorooctanoic acid (PFOA)	**14**		3.6	0.97	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorononanoic acid (PFNA)	**1.4**	**J**	3.6	0.40	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorodecanoic acid (PFDA)	**7.4**		3.6	0.87	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluoroundecanoic acid (PFUnA)	**1.1**	**J I**	3.6	0.76	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorododecanoic acid (PFDoA)	**2.3**	**J**	3.6	0.55	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.6	0.38	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorotetradecanoic acid (PFTeA)	**0.81**	**J**	3.6	0.67	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorobutanesulfonic acid (PFBS)	**1.7**	**J**	3.6	0.69	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.67	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorohexanesulfonic acid (PFHxS)	**2.4**	**J**	3.6	0.53	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.6	0.89	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorooctanesulfonic acid (PFOS)	**14**		3.6	0.79	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.53	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorodecanesulfonic acid (PFDS)	**1.4**	**J**	3.6	0.95	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.6	0.86	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorooctanesulfonamide (FOSA)	**1.7**	**J**	3.6	0.60	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NMeFOSA	ND		3.6	0.89	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NEtFOSA	ND		3.6	0.86	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NMeFOSAA	**19**		3.6	0.42	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NEtFOSAA	**5.7**		3.6	0.87	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NMeFOSE	**10**		3.6	0.86	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NEtFOSE	**5.8**		3.6	0.51	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
4:2 FTS	ND		3.6	0.93	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
6:2 FTS	**1.4**	**J**	3.6	0.49	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
8:2 FTS	ND		3.6	0.64	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
HFPO-DA (GenX)	ND		3.6	0.75	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
9Cl-PF3ONS	ND		3.6	0.64	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
11Cl-PF3OUdS	ND		3.6	0.56	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.6	0.71	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C5 PFPeA	*94*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C2 PFHxA	*101*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C4 PFHpA	*108*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C4 PFOA	*100*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C5 PFNA	*94*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C2 PFDA	*104*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C2 PFUnA	*116*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*

Client Sample ID: BIO-A-22-202412

Date Collected: 12/09/24 13:30
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-9

Matrix: Solid
Percent Solids: 27.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDoA	*109*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C2 PFTeDA	*49*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C3 PFBS	*97*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
18O2 PFHxS	*96*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C4 PFOS	*74*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C8 FOSA	*95*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
M2-4:2 FTS	*158*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
M2-6:2 FTS	*153*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
M2-8:2 FTS	*127*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C3 HFPO-DA	*93*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d3-NMeFOSAA	*119*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d5-NEtFOSAA	*140*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d-N-MeFOSA-M	*62*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d-N-EtFOSA-M	*64*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d7-N-MeFOSE-M	*59*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d9-N-EtFOSE-M	*71*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**210**	**B**	3.6	0.84	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluoropentanoic acid (PFPeA)	**130**	***+**	3.6	0.75	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorohexanoic acid (PFHxA)	**88**	***+**	3.6	0.56	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluoroheptanoic acid (PFHpA)	**44**		3.6	0.69	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorooctanoic acid (PFOA)	**66**		3.6	0.97	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorononanoic acid (PFNA)	**21**		3.6	0.40	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorodecanoic acid (PFDA)	**18**		3.6	0.87	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluoroundecanoic acid (PFUnA)	**8.1**		3.6	0.76	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorododecanoic acid (PFDoA)	**6.4**		3.6	0.55	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorotridecanoic acid (PFTrDA)	**2.0**	**J**	3.6	0.38	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorotetradecanoic acid (PFTeA)	**2.7**	**J**	3.6	0.67	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorobutanesulfonic acid (PFBS)	**29**		3.6	0.69	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.67	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorohexanesulfonic acid (PFHxS)	**1.8**	**J**	3.6	0.53	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	*+	3.6	0.89	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorooctanesulfonic acid (PFOS)	**13**		3.6	0.79	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.53	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.6	0.95	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorododecanesulfonic acid (PFDoS)	ND	*-	3.6	0.86	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorooctanesulfonamide (FOSA)	ND	*1	3.6	0.60	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NMeFOSAA	ND		3.6	0.42	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NEtFOSAA	ND		3.6	0.87	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
4:2 FTS	ND		3.6	0.93	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1

Client Sample ID: BIO-A-22-202412

Lab Sample ID: 320-117663-9

Date Collected: 12/09/24 13:30
Date Received: 12/12/24 10:00

Matrix: Solid
Percent Solids: 27.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
6:2 FTS	ND		3.6	0.49	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
8:2 FTS	ND		3.6	0.64	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NEtFOSA	ND		3.6	0.86	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NMeFOSA	ND		3.6	0.89	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NMeFOSE	ND		3.6	0.86	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NEtFOSE	ND		3.6	0.51	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
HFPO-DA (GenX)	ND		3.6	0.75	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
9Cl-PF3ONS	ND		3.6	0.64	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
11Cl-PF3OUdS	ND	*-	3.6	0.56	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	*1	3.6	0.71	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*83*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C4 PFBA	*97*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C5 PFPeA	*99*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C2 PFHxA	*96*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C4 PFHpA	*99*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C5 PFNA	*95*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C2 PFDA	*93*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C2 PFUnA	*77*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C2 PFDoA	*79*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C2 PFTeDA	*69*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C3 PFBS	*101*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
18O2 PFHxS	*97*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C4 PFOS	*87*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d3-NMeFOSAA	*83*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d5-NEtFOSAA	*82*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
M2-6:2 FTS	*86*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
M2-8:2 FTS	*84*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d-N-MeFOSA-M	*75*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d-N-EtFOSA-M	*69*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d7-N-MeFOSE-M	*72*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d9-N-EtFOSE-M	*65*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C3 HFPO-DA	*105*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**72.8**		0.1	0.1	%			12/13/24 11:05	1
Percent Solids (ASTM D 2216)	**27.2**		0.1	0.1	%			12/13/24 11:05	1

Client Sample ID: BIO-A-23-202412

Lab Sample ID: 320-117663-10

Date Collected: 12/09/24 14:00
Date Received: 12/12/24 10:00

Matrix: Solid
Percent Solids: 32.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.5**		1.4	0.53	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluoropentanoic acid (PFPeA)	**24**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1

Client Sample ID: BIO-A-23-202412

Date Collected: 12/09/24 14:00
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-10

Matrix: Solid
Percent Solids: 32.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**46**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluoroheptanoic acid (PFHpA)	**4.2**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorooctanoic acid (PFOA)	**51**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorononanoic acid (PFNA)	**2.6**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorodecanoic acid (PFDA)	**17**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluoroundecanoic acid (PFUnA)	**1.9**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorododecanoic acid (PFDoA)	**4.3**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorotridecanoic acid (PFTrDA)	**0.31**	**J**	0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorotetradecanoic acid (PFTeA)	**1.1**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorobutanesulfonic acid (PFBS)	**2.5**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorohexanesulfonic acid (PFHxS)	**1.4**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorooctanesulfonic acid (PFOS)	**15**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorononanesulfonic acid (PFNS)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorodecanesulfonic acid (PFDS)	**1.6**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorooctanesulfonamide (FOSA)	**1.7**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NEtFOSA	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NMeFOSA	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NMeFOSAA	**34**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NEtFOSAA	**10**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NMeFOSE	**9.8**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NEtFOSE	**3.6**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
4:2 FTS	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
6:2 FTS	**2.7**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
8:2 FTS	**1.6**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
HFPO-DA (GenX)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
9Cl-PF3ONS	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
11Cl-PF3OUdS	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*57*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C5 PFPeA	*68*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C2 PFHxA	*80*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C4 PFHpA	*69*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C4 PFOA	*76*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C5 PFNA	*83*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C2 PFDA	*88*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*

Client Sample ID: BIO-A-23-202412

Date Collected: 12/09/24 14:00
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-10

Matrix: Solid
Percent Solids: 32.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	78		25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C2 PFDoA	62		25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C2 PFTeDA	17	*5-	25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C3 PFBS	72		25 - 150	12/17/24 04:08	12/18/24 06:16	1
18O2 PFHxS	72		25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C4 PFOS	75		25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C8 FOSA	67		10 - 150	12/17/24 04:08	12/18/24 06:16	1
d3-NMeFOSAA	52		25 - 150	12/17/24 04:08	12/18/24 06:16	1
d5-NEtFOSAA	65		25 - 150	12/17/24 04:08	12/18/24 06:16	1
d-N-MeFOSA-M	40		10 - 150	12/17/24 04:08	12/18/24 06:16	1
d-N-EtFOSA-M	16		10 - 150	12/17/24 04:08	12/18/24 06:16	1
d7-N-MeFOSE-M	44		10 - 150	12/17/24 04:08	12/18/24 06:16	1
d9-N-EtFOSE-M	18		10 - 150	12/17/24 04:08	12/18/24 06:16	1
M2-4:2 FTS	186	*5+	25 - 150	12/17/24 04:08	12/18/24 06:16	1
M2-6:2 FTS	201	*5+	25 - 150	12/17/24 04:08	12/18/24 06:16	1
M2-8:2 FTS	267	*5+	25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C3 HFPO-DA	61		25 - 150	12/17/24 04:08	12/18/24 06:16	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.4**		3.0	0.69	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluoropentanoic acid (PFPeA)	**18**		3.0	0.62	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorohexanoic acid (PFHxA)	**34**		3.0	0.47	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluoroheptanoic acid (PFHpA)	**2.7**	**J**	3.0	0.57	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorooctanoic acid (PFOA)	**32**		3.0	0.80	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorononanoic acid (PFNA)	**1.9**	**J**	3.0	0.33	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorodecanoic acid (PFDA)	**12**		3.0	0.72	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluoroundecanoic acid (PFUnA)	**1.2**	**J I**	3.0	0.63	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorododecanoic acid (PFDoA)	**2.5**	**J**	3.0	0.45	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.0	0.32	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorotetradecanoic acid (PFTeA)	**0.70**	**J**	3.0	0.56	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorobutanesulfonic acid (PFBS)	**2.0**	**J**	3.0	0.57	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.0	0.56	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorohexanesulfonic acid (PFHxS)	**1.3**	**J**	3.0	0.44	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.0	0.74	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorooctanesulfonic acid (PFOS)	**14**		3.0	0.65	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorononanesulfonic acid (PFNS)	ND		3.0	0.44	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorodecanesulfonic acid (PFDS)	**1.1**	**J**	3.0	0.78	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.0	0.71	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorooctanesulfonamide (FOSA)	**1.2**	**J**	3.0	0.50	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
NMeFOSA	ND		3.0	0.74	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1

Client Sample ID: BIO-A-23-202412

Date Collected: 12/09/24 14:00
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-10

Matrix: Solid
Percent Solids: 32.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		3.0	0.71	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
NMeFOSAA	**23**		3.0	0.35	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
NEtFOSAA	**6.8**		3.0	0.72	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
NMeFOSE	**6.7**		3.0	0.71	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
NEtFOSE	**4.1**		3.0	0.42	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
4:2 FTS	ND		3.0	0.77	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
6:2 FTS	**2.3**	**J**	3.0	0.41	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
8:2 FTS	**1.3**	**J**	3.0	0.53	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
HFPO-DA (GenX)	ND		3.0	0.62	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
9Cl-PF3ONS	ND		3.0	0.53	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
11Cl-PF3OUdS	ND		3.0	0.47	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.0	0.59	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C5 PFPeA	*92*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C2 PFHxA	*97*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C4 PFHpA	*99*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C4 PFOA	*101*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C5 PFNA	*89*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C2 PFDA	*106*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C2 PFUnA	*106*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C2 PFDoA	*104*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C2 PFTeDA	*50*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C3 PFBS	*93*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
18O2 PFHxS	*89*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C4 PFOS	*61*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C8 FOSA	*89*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
M2-4:2 FTS	*143*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
M2-6:2 FTS	*151*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
M2-8:2 FTS	*125*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C3 HFPO-DA	*93*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d3-NMeFOSAA	*104*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d5-NEtFOSAA	*125*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d-N-MeFOSA-M	*60*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d-N-EtFOSA-M	*68*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d7-N-MeFOSE-M	*56*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d9-N-EtFOSE-M	*69*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**110**	**B**	3.1	0.71	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluoropentanoic acid (PFPeA)	**85**	***+**	3.1	0.63	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorohexanoic acid (PFHxA)	**54**	***+**	3.1	0.48	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluoroheptanoic acid (PFHpA)	**27**		3.1	0.58	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorooctanoic acid (PFOA)	**44**		3.1	0.82	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorononanoic acid (PFNA)	**14**		3.1	0.34	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorodecanoic acid (PFDA)	**12**		3.1	0.74	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluoroundecanoic acid (PFUnA)	**5.4**		3.1	0.65	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1

Client Sample ID: BIO-A-23-202412

Date Collected: 12/09/24 14:00
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-10

Matrix: Solid
Percent Solids: 32.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	**4.0**		3.1	0.46	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorotridecanoic acid (PFTrDA)	**1.3**	**J**	3.1	0.32	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorotetradecanoic acid (PFTeA)	**1.9**	**J**	3.1	0.57	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorobutanesulfonic acid (PFBS)	**14**		3.1	0.58	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.1	0.57	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorohexanesulfonic acid (PFHxS)	**0.98**	**J**	3.1	0.45	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	*+	3.1	0.76	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorooctanesulfonic acid (PFOS)	**8.7**		3.1	0.66	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorononanesulfonic acid (PFNS)	ND		3.1	0.45	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.1	0.80	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND	*-	3.1	0.72	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorooctanesulfonamide (FOSA)	ND	*1	3.1	0.51	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NMeFOSAA	ND		3.1	0.35	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NEtFOSAA	ND		3.1	0.74	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
4:2 FTS	ND		3.1	0.79	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
6:2 FTS	ND		3.1	0.41	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
8:2 FTS	ND		3.1	0.54	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NEtFOSA	ND		3.1	0.72	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NMeFOSA	ND		3.1	0.76	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NMeFOSE	ND		3.1	0.72	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NEtFOSE	ND		3.1	0.43	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
HFPO-DA (GenX)	ND		3.1	0.63	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
9Cl-PF3ONS	ND		3.1	0.54	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
11Cl-PF3OUdS	ND	*-	3.1	0.48	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	*1	3.1	0.60	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*73*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C4 PFBA	*103*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C5 PFPeA	*105*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C2 PFHxA	*104*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C4 PFHpA	*99*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C4 PFOA	*100*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C5 PFNA	*97*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C2 PFDA	*91*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C2 PFUnA	*84*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C2 PFDoA	*79*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C2 PFTeDA	*72*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C3 PFBS	*107*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
18O2 PFHxS	*100*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C4 PFOS	*88*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d3-NMeFOSAA	*76*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d5-NEtFOSAA	*82*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*

Client Sample ID: BIO-A-23-202412

Lab Sample ID: 320-117663-10
Date Collected: 12/09/24 14:00
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 32.2

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*0*		*0 - 10*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
M2-6:2 FTS	*82*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
M2-8:2 FTS	*71*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d-N-MeFOSA-M	*74*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d-N-EtFOSA-M	*70*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d7-N-MeFOSE-M	*72*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d9-N-EtFOSE-M	*64*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C3 HFPO-DA	*103*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**67.8**		0.1	0.1	%			12/13/24 11:05	1
Percent Solids (ASTM D 2216)	**32.2**		0.1	0.1	%			12/13/24 11:05	1

Client Sample ID: BIO-A-24-202412

Lab Sample ID: 320-117663-11
Date Collected: 12/10/24 09:07
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 23.6

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.6**		2.0	0.73	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluoropentanoic acid (PFPeA)	**20**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorohexanoic acid (PFHxA)	**19**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluoroheptanoic acid (PFHpA)	**1.8**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorooctanoic acid (PFOA)	**17**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorononanoic acid (PFNA)	**1.5**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorodecanoic acid (PFDA)	**8.3**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluoroundecanoic acid (PFUnA)	**1.5**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorododecanoic acid (PFDoA)	**3.1**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorotridecanoic acid (PFTrDA)	**0.27**	**J**	0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorotetradecanoic acid (PFTeA)	**0.67**	**J**	0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorohexanesulfonic acid (PFHxS)	**1.3**	**I**	0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorooctanesulfonic acid (PFOS)	**11**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorononanesulfonic acid (PFNS)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorodecanesulfonic acid (PFDS)	**1.4**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorooctanesulfonamide (FOSA)	**1.2**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
NEtFOSA	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1

Client Sample ID: BIO-A-24-202412

Date Collected: 12/10/24 09:07
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-11

Matrix: Solid
Percent Solids: 23.6

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
NMeFOSAA	**22**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
NEtFOSAA	**6.6**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
NMeFOSE	**10**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
NEtFOSE	**2.5**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
4:2 FTS	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
6:2 FTS	**0.88**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
8:2 FTS	**0.73**	**J**	0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
HFPO-DA (GenX)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
9Cl-PF3ONS	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
11Cl-PF3OUdS	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C5 PFPeA	*74*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C2 PFHxA	*83*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C4 PFHpA	*76*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C4 PFOA	*81*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C5 PFNA	*87*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C2 PFDA	*95*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C2 PFUnA	*84*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C2 PFDoA	*64*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C2 PFTeDA	*19*	**5-*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C3 PFBS	*77*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
18O2 PFHxS	*77*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C4 PFOS	*82*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C8 FOSA	*75*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d3-NMeFOSAA	*49*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d5-NEtFOSAA	*71*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d-N-MeFOSA-M	*42*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d-N-EtFOSA-M	*18*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d7-N-MeFOSE-M	*42*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d9-N-EtFOSE-M	*21*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
M2-4:2 FTS	*196*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
M2-6:2 FTS	*189*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
M2-8:2 FTS	*283*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C3 HFPO-DA	*63*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.4**		4.2	0.96	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluoropentanoic acid (PFPeA)	**19**		4.2	0.86	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorohexanoic acid (PFHxA)	**19**		4.2	0.64	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluoroheptanoic acid (PFHpA)	**1.8**	**J**	4.2	0.79	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorooctanoic acid (PFOA)	**18**		4.2	1.1	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorononanoic acid (PFNA)	**1.3**	**J**	4.2	0.46	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorodecanoic acid (PFDA)	**7.4**		4.2	1.0	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluoroundecanoic acid (PFUnA)	**0.94**	**J**	4.2	0.87	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1

Client Sample ID: BIO-A-24-202412

Date Collected: 12/10/24 09:07
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-11

Matrix: Solid
Percent Solids: 23.6

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	**2.3**	**J**	4.2	0.62	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.2	0.44	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorotetradecanoic acid (PFTeA)	**0.90**	**J**	4.2	0.77	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorobutanesulfonic acid (PFBS)	**2.6**	**J**	4.2	0.79	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.2	0.77	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorohexanesulfonic acid (PFHxS)	**2.1**	**J**	4.2	0.60	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.2	1.0	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorooctanesulfonic acid (PFOS)	**14**		4.2	0.90	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorononanesulfonic acid (PFNS)	ND		4.2	0.60	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorodecanesulfonic acid (PFDS)	**2.1**	**J**	4.2	1.1	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.2	0.98	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorooctanesulfonamide (FOSA)	**1.3**	**J**	4.2	0.69	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NMeFOSA	ND		4.2	1.0	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NEtFOSA	ND		4.2	0.98	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NMeFOSAA	**18**		4.2	0.48	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NEtFOSAA	**4.5**		4.2	1.0	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NMeFOSE	**6.9**		4.2	0.98	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NEtFOSE	**5.3**		4.2	0.58	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
4:2 FTS	ND		4.2	1.1	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
6:2 FTS	**0.94**	**J**	4.2	0.56	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
8:2 FTS	ND		4.2	0.73	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
HFPO-DA (GenX)	ND		4.2	0.86	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
9Cl-PF3ONS	ND		4.2	0.73	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
11Cl-PF3OUdS	ND		4.2	0.64	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.2	0.81	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C5 PFPeA	*90*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C2 PFHxA	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C4 PFHpA	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C4 PFOA	*88*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C5 PFNA	*87*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C2 PFDA	*107*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C2 PFUnA	*104*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C2 PFDoA	*94*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C2 PFTeDA	*51*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C3 PFBS	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
18O2 PFHxS	*88*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C4 PFOS	*66*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C8 FOSA	*75*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
M2-4:2 FTS	*124*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*

Client Sample ID: BIO-A-24-202412

Lab Sample ID: 320-117663-11

Date Collected: 12/10/24 09:07
Date Received: 12/12/24 10:00

Matrix: Solid
Percent Solids: 23.6

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*127*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
M2-8:2 FTS	*119*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C3 HFPO-DA	*86*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d5-NEtFOSAA	*110*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d-N-MeFOSA-M	*53*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d-N-EtFOSA-M	*66*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d7-N-MeFOSE-M	*53*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d9-N-EtFOSE-M	*73*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**270**	**B**	4.1	0.95	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluoropentanoic acid (PFPeA)	**200**	***+**	4.1	0.85	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorohexanoic acid (PFHxA)	**150**	***+**	4.1	0.64	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluoroheptanoic acid (PFHpA)	**59**		4.1	0.78	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorooctanoic acid (PFOA)	**110**		4.1	1.1	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorononanoic acid (PFNA)	**34**		4.1	0.45	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorodecanoic acid (PFDA)	**32**		4.1	0.99	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluoroundecanoic acid (PFUnA)	**14**		4.1	0.86	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorododecanoic acid (PFDoA)	**14**		4.1	0.62	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorotridecanoic acid (PFTrDA)	**3.3**	**J**	4.1	0.43	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorotetradecanoic acid (PFTeA)	**5.3**		4.1	0.76	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorobutanesulfonic acid (PFBS)	**48**		4.1	0.78	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.1	0.76	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorohexanesulfonic acid (PFHxS)	**1.6**	**J**	4.1	0.60	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	*+	4.1	1.0	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorooctanesulfonic acid (PFOS)	**18**		4.1	0.89	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorononanesulfonic acid (PFNS)	ND		4.1	0.60	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorodecanesulfonic acid (PFDS)	**1.3**	**J**	4.1	1.1	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorododecanesulfonic acid (PFDoS)	ND	*-	4.1	0.97	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorooctanesulfonamide (FOSA)	ND	*1	4.1	0.68	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NMeFOSAA	ND		4.1	0.47	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NEtFOSAA	ND		4.1	0.99	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
4:2 FTS	ND		4.1	1.1	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
6:2 FTS	**15**		4.1	0.56	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
8:2 FTS	ND		4.1	0.72	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NEtFOSA	ND		4.1	0.97	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NMeFOSA	ND		4.1	1.0	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NMeFOSE	ND		4.1	0.97	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NEtFOSE	ND		4.1	0.58	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1

Client Sample ID: BIO-A-24-202412

Lab Sample ID: 320-117663-11

Date Collected: 12/10/24 09:07
Date Received: 12/12/24 10:00

Matrix: Solid
Percent Solids: 23.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA (GenX)	ND		4.1	0.85	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
9Cl-PF3ONS	ND		4.1	0.72	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
11Cl-PF3OUdS	ND	*-	4.1	0.64	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	*1	4.1	0.80	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*65*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C4 PFBA	*110*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C5 PFPeA	*107*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C2 PFHxA	*111*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C4 PFHpA	*118*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C4 PFOA	*109*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C5 PFNA	*104*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C2 PFDA	*94*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C2 PFUnA	*72*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C2 PFDoA	*66*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C2 PFTeDA	*64*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C3 PFBS	*121*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
18O2 PFHxS	*115*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C4 PFOS	*90*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d3-NMeFOSAA	*63*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d5-NEtFOSAA	*66*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
M2-6:2 FTS	*100*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
M2-8:2 FTS	*82*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d-N-MeFOSA-M	*62*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d-N-EtFOSA-M	*60*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d7-N-MeFOSE-M	*66*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d9-N-EtFOSE-M	*58*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C3 HFPO-DA	*120*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**76.4**		0.1	0.1	%			12/13/24 11:05	1
Percent Solids (ASTM D 2216)	**23.6**		0.1	0.1	%			12/13/24 11:05	1

Client Sample ID: EB02-202412

Lab Sample ID: 320-117663-12

Date Collected: 12/10/24 08:40
Date Received: 12/12/24 10:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.6	1.2	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.54	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1

Client Sample ID: EB02-202412

Lab Sample ID: 320-117663-12

Date Collected: 12/10/24 08:40
Date Received: 12/12/24 10:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.51	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.68	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.53	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.90	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.91	ng/L		12/13/24 12:36	12/16/24 22:56	1
NEtFOSA	ND		1.8	0.80	ng/L		12/13/24 12:36	12/16/24 22:56	1
NMeFOSA	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
NMeFOSAA	ND		4.6	1.2	ng/L		12/13/24 12:36	12/16/24 22:56	1
NEtFOSAA	ND		4.6	1.2	ng/L		12/13/24 12:36	12/16/24 22:56	1
NMeFOSE	ND		3.7	1.3	ng/L		12/13/24 12:36	12/16/24 22:56	1
NEtFOSE	ND	*1	1.8	0.79	ng/L		12/13/24 12:36	12/16/24 22:56	1
4:2 FTS	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
6:2 FTS	ND		4.6	1.2	ng/L		12/13/24 12:36	12/16/24 22:56	1
8:2 FTS	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
HFPO-DA (GenX)	ND		3.7	0.92	ng/L		12/13/24 12:36	12/16/24 22:56	1
9Cl-PF3ONS	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
11Cl-PF3OUdS	ND		1.8	0.64	ng/L		12/13/24 12:36	12/16/24 22:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C5 PFPeA	*98*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C2 PFHxA	*108*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C4 PFHpA	*98*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C4 PFOA	*105*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C5 PFNA	*103*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C2 PFDA	*110*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C2 PFUnA	*121*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C2 PFDoA	*101*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C2 PFTeDA	*87*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C3 PFBS	*107*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
18O2 PFHxS	*118*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C4 PFOS	*115*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C8 FOSA	*92*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d3-NMeFOSAA	*90*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d5-NEtFOSAA	*81*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d-N-MeFOSA-M	*98*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d-N-EtFOSA-M	*99*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d7-N-MeFOSE-M	*83*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d9-N-EtFOSE-M	*93*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*

Client Sample ID: EB02-202412

Lab Sample ID: 320-117663-12

Date Collected: 12/10/24 08:40
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*111*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
M2-6:2 FTS	*118*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
M2-8:2 FTS	*126*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C3 HFPO-DA	*94*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*

Client Sample ID: BIO-B-202412

Lab Sample ID: 320-117663-13

Date Collected: 12/10/24 08:20
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 5.3

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		9.1	3.3	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluoropentanoic acid (PFPeA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorohexanoic acid (PFHxA)	**1.6**	**J I**	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluoroheptanoic acid (PFHpA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorooctanoic acid (PFOA)	**1.4**	**J**	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorononanoic acid (PFNA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorodecanoic acid (PFDA)	**2.3**	**J**	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluoroundecanoic acid (PFUnA)	**0.99**	**J**	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorododecanoic acid (PFDoA)	**1.8**	**J**	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorotetradecanoic acid (PFTeA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorohexanesulfonic acid (PFHxS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorooctanesulfonic acid (PFOS)	**14**	**I**	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorooctanesulfonamide (FOSA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NEtFOSA	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NMeFOSA	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NMeFOSAA	**12**		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NEtFOSAA	**4.5**		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NMeFOSE	**7.6**		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NEtFOSE	**1.0**	**J**	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
4:2 FTS	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
6:2 FTS	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
8:2 FTS	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
HFPO-DA (GenX)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
9Cl-PF3ONS	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
11Cl-PF3OUdS	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1

Client Sample ID: BIO-B-202412

Date Collected: 12/10/24 08:20
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-13

Matrix: Solid
Percent Solids: 5.3

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C5 PFPeA	*71*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C2 PFHxA	*92*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C4 PFHpA	*82*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C4 PFOA	*90*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C5 PFNA	*96*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C2 PFDA	*106*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C2 PFUnA	*106*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C2 PFDoA	*92*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C2 PFTeDA	*28*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C3 PFBS	*86*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
18O2 PFHxS	*88*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C4 PFOS	*92*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C8 FOSA	*90*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d3-NMeFOSAA	*69*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d5-NEtFOSAA	*96*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d-N-MeFOSA-M	*62*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d-N-EtFOSA-M	*33*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d7-N-MeFOSE-M	*55*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d9-N-EtFOSE-M	*47*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
M2-4:2 FTS	*170*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
M2-6:2 FTS	*220*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
M2-8:2 FTS	*302*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C3 HFPO-DA	*71*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		19	4.3	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluoropentanoic acid (PFPeA)	ND		19	3.8	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorohexanoic acid (PFHxA)	ND		19	2.9	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluoroheptanoic acid (PFHpA)	ND		19	3.5	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorooctanoic acid (PFOA)	ND		19	4.9	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorononanoic acid (PFNA)	ND		19	2.0	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorodecanoic acid (PFDA)	ND		19	4.5	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluoroundecanoic acid (PFUnA)	ND		19	3.9	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorododecanoic acid (PFDoA)	ND		19	2.8	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorotridecanoic acid (PFTrDA)	ND		19	1.9	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		19	3.4	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorobutanesulfonic acid (PFBS)	ND		19	3.5	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluoropentanesulfonic acid (PFPeS)	ND		19	3.4	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorohexanesulfonic acid (PFHxS)	**11**	**J I**	19	2.7	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		19	4.6	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorooctanesulfonic acid (PFOS)	**23**		19	4.0	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorononanesulfonic acid (PFNS)	ND		19	2.7	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorodecanesulfonic acid (PFDS)	ND		19	4.8	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorododecanesulfonic acid (PFDoS)	ND		19	4.4	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorooctanesulfonamide (FOSA)	ND		19	3.1	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1

Client Sample ID: BIO-B-202412

Date Collected: 12/10/24 08:20
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-13

Matrix: Solid
Percent Solids: 5.3

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		19	4.6	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
NEtFOSA	ND		19	4.4	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
NMeFOSAA	**12**	**J**	19	2.1	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
NEtFOSAA	ND		19	4.5	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
NMeFOSE	**12**	**J**	19	4.4	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
NEtFOSE	**8.2**	**J**	19	2.6	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
4:2 FTS	ND		19	4.8	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
6:2 FTS	ND		19	2.5	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
8:2 FTS	ND		19	3.2	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
HFPO-DA (GenX)	ND		19	3.8	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
9Cl-PF3ONS	ND		19	3.2	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
11Cl-PF3OUdS	ND		19	2.9	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		19	3.6	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C5 PFPeA	*98*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C2 PFHxA	*94*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C4 PFHpA	*105*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C4 PFOA	*96*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C5 PFNA	*103*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C2 PFDA	*113*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C2 PFUnA	*94*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C2 PFDoA	*99*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C2 PFTeDA	*46*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C3 PFBS	*100*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
18O2 PFHxS	*101*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C4 PFOS	*87*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C8 FOSA	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
M2-4:2 FTS	*155*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
M2-6:2 FTS	*158*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
M2-8:2 FTS	*172*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C3 HFPO-DA	*97*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d3-NMeFOSAA	*106*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d5-NEtFOSAA	*103*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d-N-MeFOSA-M	*64*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d-N-EtFOSA-M	*74*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d7-N-MeFOSE-M	*62*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d9-N-EtFOSE-M	*73*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**150**	**B**	18	4.2	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluoropentanoic acid (PFPeA)	**89**	***+**	18	3.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorohexanoic acid (PFHxA)	**39**	***+**	18	2.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluoroheptanoic acid (PFHpA)	**35**		18	3.5	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorooctanoic acid (PFOA)	**41**		18	4.9	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorononanoic acid (PFNA)	**22**		18	2.0	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorodecanoic acid (PFDA)	**11**	**J**	18	4.4	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1

Client Sample ID: BIO-B-202412

Date Collected: 12/10/24 08:20
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-13

Matrix: Solid
Percent Solids: 5.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	**6.9**	**J**	18	3.9	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorododecanoic acid (PFDoA)	**5.0**	**J I**	18	2.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorotridecanoic acid (PFTrDA)	**3.8**	**J I**	18	1.9	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorotetradecanoic acid (PFTeA)	ND		18	3.4	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		18	3.5	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		18	3.4	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		18	2.7	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	*+	18	4.5	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorooctanesulfonic acid (PFOS)	**14**	**J**	18	4.0	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorononanesulfonic acid (PFNS)	ND		18	2.7	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		18	4.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND	*-	18	4.3	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorooctanesulfonamide (FOSA)	ND	*1	18	3.0	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NMeFOSAA	ND		18	2.1	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NEtFOSAA	ND		18	4.4	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
4:2 FTS	ND		18	4.7	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
6:2 FTS	ND		18	2.5	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
8:2 FTS	ND		18	3.2	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NEtFOSA	ND		18	4.3	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NMeFOSA	ND		18	4.5	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NMeFOSE	ND		18	4.3	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NEtFOSE	ND		18	2.6	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
HFPO-DA (GenX)	ND		18	3.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
9Cl-PF3ONS	ND		18	3.2	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
11Cl-PF3OUdS	ND	*-	18	2.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	*1	18	3.6	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*67*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C4 PFBA	*92*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C5 PFPeA	*93*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C2 PFHxA	*92*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C4 PFHpA	*90*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C4 PFOA	*93*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C5 PFNA	*85*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C2 PFDA	*82*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C2 PFUnA	*74*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C2 PFDoA	*65*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C2 PFTeDA	*54*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C3 PFBS	*88*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
18O2 PFHxS	*89*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C4 PFOS	*78*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d3-NMeFOSAA	*66*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d5-NEtFOSAA	*73*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*

Client Sample ID: BIO-B-202412

Lab Sample ID: 320-117663-13

Date Collected: 12/10/24 08:20
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 5.3

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*0*		*0 - 10*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
M2-6:2 FTS	*73*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
M2-8:2 FTS	*76*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d-N-MeFOSA-M	*58*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d-N-EtFOSA-M	*50*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d7-N-MeFOSE-M	*57*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d9-N-EtFOSE-M	*53*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C3 HFPO-DA	*98*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**94.7**		0.1	0.1	%			12/13/24 11:05	1
Percent Solids (ASTM D 2216)	**5.3**		0.1	0.1	%			12/13/24 11:05	1

Total Oxidation Precursors

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

TestAmerica Job ID: 320-117663-1

Client Sample ID: Eff-202412

Lab Sample ID: 320-117663-7
Matrix: Water

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	8.2	J	ng/L	25		ng/L	17	ng/L
Perfluorobutanoic acid (PFBA)	8.2	J	ng/L	25		ng/L	17	ng/L
Perfluoropentanoic acid (PFPeA)	12		ng/L	23		ng/L	12	ng/L
Perfluoropentanoic acid (PFPeA)	12		ng/L	23		ng/L	12	ng/L
Perfluorohexanoic acid (PFHxA)	14		ng/L	19		ng/L	5.2	ng/L
Perfluorohexanoic acid (PFHxA)	14		ng/L	19		ng/L	5.2	ng/L
Perfluoroheptanoic acid (PFHpA)	1.6	J	ng/L	2.7	J	ng/L	1.1	ng/L
Perfluoroheptanoic acid (PFHpA)	1.6	J	ng/L	2.7	J	ng/L	1.1	ng/L
Perfluorooctanoic acid (PFOA)	6.9		ng/L	8.9		ng/L	2.0	ng/L
Perfluorooctanoic acid (PFOA)	6.9		ng/L	8.9		ng/L	2.0	ng/L
Perfluorononanoic acid (PFNA)	ND		ng/L	1.3	J	ng/L	1.3	ng/L
Perfluorononanoic acid (PFNA)	ND		ng/L	1.3	J	ng/L	1.3	ng/L
Total Perfluoroalkyl carboxylic acid	43		ng/L	80		ng/L	37	ng/L

Client Sample ID: BIO-A-22-202412

Lab Sample ID: 320-117663-9
Matrix: Solid

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	5.5		ug/Kg	210		ug/Kg	200	ug/Kg
Perfluoropentanoic acid (PFPeA)	21		ug/Kg	130		ug/Kg	110	ug/Kg
Perfluorohexanoic acid (PFHxA)	21		ug/Kg	88		ug/Kg	66	ug/Kg
Perfluoroheptanoic acid (PFHpA)	1.5	J	ug/Kg	44		ug/Kg	42	ug/Kg
Perfluorooctanoic acid (PFOA)	14		ug/Kg	66		ug/Kg	52	ug/Kg
Perfluorononanoic acid (PFNA)	1.4	J	ug/Kg	21		ug/Kg	19	ug/Kg
Total Perfluoroalkyl carboxylic acid	64		ug/Kg	560		ug/Kg	490	ug/Kg

Client Sample ID: BIO-A-23-202412

Lab Sample ID: 320-117663-10
Matrix: Solid

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	5.4		ug/Kg	110		ug/Kg	100	ug/Kg
Perfluoropentanoic acid (PFPeA)	18		ug/Kg	85		ug/Kg	67	ug/Kg
Perfluorohexanoic acid (PFHxA)	34		ug/Kg	54		ug/Kg	20	ug/Kg
Perfluoroheptanoic acid (PFHpA)	2.7	J	ug/Kg	27		ug/Kg	25	ug/Kg
Perfluorooctanoic acid (PFOA)	32		ug/Kg	44		ug/Kg	12	ug/Kg
Perfluorononanoic acid (PFNA)	1.9	J	ug/Kg	14		ug/Kg	13	ug/Kg
Total Perfluoroalkyl carboxylic acid	94		ug/Kg	330		ug/Kg	240	ug/Kg

[1] Difference = Post-Treatment - Pre-Treament

Total Oxidation Precursors

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

TestAmerica Job ID: 320-117663-1

Client Sample ID: BIO-A-24-202412

Lab Sample ID: 320-117663-11
Matrix: Solid

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	5.4		ug/Kg	270		ug/Kg	260	ug/Kg
Perfluoropentanoic acid (PFPeA)	19		ug/Kg	200		ug/Kg	180	ug/Kg
Perfluorohexanoic acid (PFHxA)	19		ug/Kg	150		ug/Kg	130	ug/Kg
Perfluoroheptanoic acid (PFHpA)	1.8	J	ug/Kg	59		ug/Kg	57	ug/Kg
Perfluorooctanoic acid (PFOA)	18		ug/Kg	110		ug/Kg	95	ug/Kg
Perfluorononanoic acid (PFNA)	1.3	J	ug/Kg	34		ug/Kg	33	ug/Kg
Total Perfluoroalkyl carboxylic acid	65		ug/Kg	820		ug/Kg	760	ug/Kg

Client Sample ID: BIO-B-202412

Lab Sample ID: 320-117663-13
Matrix: Solid

	Pre-Treatment Method			Post-Treatment Method			Difference [1]	
	537 (modified)			537 (modified)				
Analyte	Result	Qualifier	Unit	Result	Qualifier	Unit	Result	Unit
Perfluorobutanoic acid (PFBA)	ND		ug/Kg	150		ug/Kg	150	ug/Kg
Perfluoropentanoic acid (PFPeA)	ND		ug/Kg	89		ug/Kg	89	ug/Kg
Perfluorohexanoic acid (PFHxA)	ND		ug/Kg	39		ug/Kg	39	ug/Kg
Perfluoroheptanoic acid (PFHpA)	ND		ug/Kg	35		ug/Kg	35	ug/Kg
Perfluorooctanoic acid (PFOA)	ND		ug/Kg	41		ug/Kg	41	ug/Kg
Perfluorononanoic acid (PFNA)	ND		ug/Kg	22		ug/Kg	22	ug/Kg
Total Perfluoroalkyl carboxylic acid	0.00		ug/Kg	380		ug/Kg	380	ug/Kg

[1] Difference = Post-Treatment - Pre-Treament

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-117663-9	BIO-A-22-202412	57	68	81	68	74	81	84	75
320-117663-9 MS	BIO-A-22-202412	58	70	82	72	78	83	90	78
320-117663-9 MSD	BIO-A-22-202412	58	71	82	71	77	83	88	74
320-117663-10	BIO-A-23-202412	57	68	80	69	76	83	88	78
320-117663-11	BIO-A-24-202412	64	74	83	76	81	87	95	84
320-117663-13	BIO-B-202412	58	71	92	82	90	96	106	106
LCS 320-822468/3-A	Lab Control Sample	89	88	93	90	92	95	99	94
LLCS 320-822468/2-A	Lab Control Sample	77	79	84	78	80	83	87	86
MB 320-822468/1-A	Method Blank	88	89	96	92	97	97	102	104

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-117663-9	BIO-A-22-202412	44	14 *5-	71	69	76	64	45	57
320-117663-9 MS	BIO-A-22-202412	56	18 *5-	73	73	76	71	51	65
320-117663-9 MSD	BIO-A-22-202412	50	16 *5-	76	71	77	69	48	62
320-117663-10	BIO-A-23-202412	62	17 *5-	72	72	75	67	52	65
320-117663-11	BIO-A-24-202412	64	19 *5-	77	77	82	75	49	71
320-117663-13	BIO-B-202412	92	28	86	88	92	90	69	96
LCS 320-822468/3-A	Lab Control Sample	89	90	100	99	96	92	70	67
LLCS 320-822468/2-A	Lab Control Sample	82	86	84	88	87	86	64	64
MB 320-822468/1-A	Method Blank	102	102	102	102	105	99	79	78

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-117663-9	BIO-A-22-202412	35	12	41	18	191 *5+	229 *5+	275 *5+	61
320-117663-9 MS	BIO-A-22-202412	39	16	42	21	198 *5+	211 *5+	285 *5+	63
320-117663-9 MSD	BIO-A-22-202412	38	15	45	21	210 *5+	232 *5+	289 *5+	63
320-117663-10	BIO-A-23-202412	40	16	44	18	186 *5+	201 *5+	267 *5+	61
320-117663-11	BIO-A-24-202412	42	18	42	21	196 *5+	189 *5+	283 *5+	63
320-117663-13	BIO-B-202412	62	33	55	47	170 *5+	220 *5+	302 *5+	71
LCS 320-822468/3-A	Lab Control Sample	90	92	71	82	94	104	103	82
LLCS 320-822468/2-A	Lab Control Sample	87	85	72	80	81	93	96	71
MB 320-822468/1-A	Method Blank	101	107	84	103	106	109	119	82

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-117663-1
Project/Site: PFAS Sampling

d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA	PFUnA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-117663-9	BIO-A-22-202412	96	94	101	108	100	94	104	116
320-117663-10	BIO-A-23-202412	91	92	97	99	101	89	106	106
320-117663-11	BIO-A-24-202412	91	90	91	91	88	87	107	104
320-117663-13	BIO-B-202412	96	98	94	105	96	103	113	94
LCS 320-822138/2-A	Lab Control Sample	104	104	105	107	102	102	109	95
LCSD 320-822138/3-A	Lab Control Sample Dup	109	109	107	110	105	103	106	99
MB 320-822138/1-A	Method Blank	102	102	105	108	105	97	98	79

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	C3PFBS	PFHxS	PFOS	PFOSA	M242FTS	M262FTS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-117663-9	BIO-A-22-202412	109	49	97	96	74	95	158 *5+	153 *5+
320-117663-10	BIO-A-23-202412	104	50	93	89	61	89	143	151 *5+
320-117663-11	BIO-A-24-202412	94	51	91	88	66	75	124	127
320-117663-13	BIO-B-202412	99	46	100	101	87	91	155 *5+	158 *5+
LCS 320-822138/2-A	Lab Control Sample	97	81	101	98	94	87	87	90
LCSD 320-822138/3-A	Lab Control Sample Dup	94	84	106	105	95	89	85	82
MB 320-822138/1-A	Method Blank	73	67	102	101	92	71	85	86

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M282FTS	HFPODA	d3NMFOS	d5NEFOS	dMeFOSA	dEtFOSA	NMFM	NEFM
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-117663-9	BIO-A-22-202412	127	93	119	140	62	64	59	71
320-117663-10	BIO-A-23-202412	125	93	104	125	60	68	56	69
320-117663-11	BIO-A-24-202412	119	86	98	110	53	66	53	73
320-117663-13	BIO-B-202412	172 *5+	97	106	103	64	74	62	73
LCS 320-822138/2-A	Lab Control Sample	84	109	95	100	78	78	80	80
LCSD 320-822138/3-A	Lab Control Sample Dup	96	111	99	99	74	71	87	84
MB 320-822138/1-A	Method Blank	87	102	64	71	63	58	66	63

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-117663-1
Project/Site: PFAS Sampling

C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOSA (25-150)	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)
320-117663-9	BIO-A-22-202412	83	97	99	96	99	97	95	93
320-117663-10	BIO-A-23-202412	73	103	105	104	99	100	97	91
320-117663-11	BIO-A-24-202412	65	110	107	111	118	109	104	94
320-117663-13	BIO-B-202412	67	92	93	92	90	93	85	82
LCS 320-822142/2-A	Lab Control Sample	86	100	97	99	105	100	92	94
LCS 320-822142/2-A - RA	Lab Control Sample								
LCSD 320-822142/3-A	Lab Control Sample Dup	64	98	103	99	102	96	90	85
LCSD 320-822142/3-A - RA	Lab Control Sample Dup								
MB 320-822142/1-A	Method Blank	88	101	106	100	104	102	97	94

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFUnA (25-150)	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-117663-9	BIO-A-22-202412	77	79	69	101	97	87	83	82
320-117663-10	BIO-A-23-202412	84	79	72	107	100	88	76	82
320-117663-11	BIO-A-24-202412	72	66	64	121	115	90	63	66
320-117663-13	BIO-B-202412	74	65	54	88	89	78	66	73
LCS 320-822142/2-A	Lab Control Sample	83	78	65	102	103	88	80	85
LCS 320-822142/2-A - RA	Lab Control Sample			66					
LCSD 320-822142/3-A	Lab Control Sample Dup	69	57	52	98	94	77	58	61
LCSD 320-822142/3-A - RA	Lab Control Sample Dup			55					
MB 320-822142/1-A	Method Blank	84	86	73	105	104	89	89	91

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (0-10)	M262FTS (25-150)	M282FTS (25-150)	dMeFOSA (25-150)	dEtFOSA (25-150)	NMFM (25-150)	NEFM (25-150)	HFPODA (25-150)
320-117663-9	BIO-A-22-202412	0	86	84	75	69	72	65	105
320-117663-10	BIO-A-23-202412	0	82	71	74	70	72	64	103
320-117663-11	BIO-A-24-202412	0	100	82	62	60	66	58	120
320-117663-13	BIO-B-202412	0	73	76	58	50	57	53	98
LCS 320-822142/2-A	Lab Control Sample	0	83	85	66	60	71	63	105
LCS 320-822142/2-A - RA	Lab Control Sample								
LCSD 320-822142/3-A	Lab Control Sample Dup	0	79	72	53	50	55	51	103
LCSD 320-822142/3-A - RA	Lab Control Sample Dup								
MB 320-822142/1-A	Method Blank	0	82	87	68	60	74	69	100

Surrogate Legend

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-117663-1
Project/Site: PFAS Sampling

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-117663-1	Inf-02-202412	54	73	87	83	89	85	83	71
320-117663-2	Inf-07-202412	57	72	89	84	93	89	85	71
320-117663-3	Inf-08-202412	54	66	74	73	80	78	77	71
320-117663-4	Inf-11-202412	64	75	89	83	89	84	85	73
320-117663-5	Inf-18-202412	66	83	94	90	92	93	94	81
320-117663-6	Inf-Comp-202412	63	70	87	81	86	85	82	69
320-117663-7	Eff-202412	84	101	115	100	101	103	103	92
320-117663-8	EB01-202412	107	102	109	98	104	113	119	125
320-117663-12	EB02-202412	99	98	108	98	105	103	110	121
LCS 320-821951/3-A	Lab Control Sample	101	98	107	100	105	112	112	115
LCSD 320-821951/4-A	Lab Control Sample Dup	99	102	110	100	104	108	112	115
LLCS 320-821951/2-A	Lab Control Sample	98	98	108	101	106	110	113	109
LLCS 320-822908/2-A	Lab Control Sample	101	96	105	97	104	108	109	113
LLCSD 320-822908/3-A	Lab Control Sample Dup	101	99	108	99	103	109	110	110
MB 320-821951/1-A	Method Blank	96	100	108	100	108	111	112	121
MB 320-822908/1-A	Method Blank	101	102	106	103	107	110	109	110

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-117663-1	Inf-02-202412	51	17 *5-	83	80	76	57	44	57
320-117663-2	Inf-07-202412	49	16 *5-	78	83	77	58	43	61
320-117663-3	Inf-08-202412	54	21 *5-	68	69	66	57	44	62
320-117663-4	Inf-11-202412	58	14 *5-	72	80	78	58	41	61
320-117663-5	Inf-18-202412	68	20 *5-	84	88	86	67	47	71
320-117663-6	Inf-Comp-202412	50	16 *5-	75	81	74	58	42	59

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-117663-1
Project/Site: PFAS Sampling

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-117663-7	Eff-202412	68	55	110	111	104	95	70	69
320-117663-8	EB01-202412	105	88	111	115	122	101	94	86
320-117663-12	EB02-202412	101	87	107	118	115	92	90	81
LCS 320-821951/3-A	Lab Control Sample	94	79	110	114	118	86	77	77
LCSD 320-821951/4-A	Lab Control Sample Dup	95	82	106	113	113	85	81	81
LLCS 320-821951/2-A	Lab Control Sample	93	85	107	112	118	91	78	80
LLCS 320-822908/2-A	Lab Control Sample	106	111	105	107	112	99	81	87
LLCSD 320-822908/3-A	Lab Control Sample Dup	102	97	101	106	111	91	79	77
MB 320-821951/1-A	Method Blank	110	98	106	119	120	101	84	91
MB 320-822908/1-A	Method Blank	100	103	106	108	109	97	79	79

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
320-117663-1	Inf-02-202412	47	28	42	35	173 *5+	289 *5+	249 *5+	71
320-117663-2	Inf-07-202412	48	25	43	34	204 *5+	286 *5+	247 *5+	72
320-117663-3	Inf-08-202412	48	33	42	46	142	237 *5+	225 *5+	64
320-117663-4	Inf-11-202412	53	22	49	31	200 *5+	274 *5+	251 *5+	69
320-117663-5	Inf-18-202412	66	32	57	47	167 *5+	299 *5+	282 *5+	79
320-117663-6	Inf-Comp-202412	52	28	45	37	170 *5+	269 *5+	241 *5+	67
320-117663-7	Eff-202412	77	73	58	67	189 *5+	144	126	93
320-117663-8	EB01-202412	106	110	92	102	117	125	125	96
320-117663-12	EB02-202412	98	99	83	93	111	118	126	94
LCS 320-821951/3-A	Lab Control Sample	90	86	77	87	109	121	129	97
LCSD 320-821951/4-A	Lab Control Sample Dup	84	85	76	86	111	117	122	95
LLCS 320-821951/2-A	Lab Control Sample	94	89	83	92	113	127	121	99
LLCS 320-822908/2-A	Lab Control Sample	105	110	90	105	108	114	121	94
LLCSD 320-822908/3-A	Lab Control Sample Dup	97	102	86	106	108	115	121	93
MB 320-821951/1-A	Method Blank	97	99	95	105	116	129	122	95
MB 320-822908/1-A	Method Blank	95	106	91	106	109	116	122	96

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-117663-1
Project/Site: PFAS Sampling

NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	PFBA	PFPeA	PFHxA	C4PFHA	PFOA	PFNA	PFDA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-117663-7	Eff-202412	86	96	96	102	97	97	95	96
LCS 320-825293/2-A	Lab Control Sample	105	109	111	108	111	105	107	105
LCSD 320-825293/3-A	Lab Control Sample Dup	97	100	101	99	101	102	101	97
MB 320-825293/1-A	Method Blank	87	99	91	97	96	97	98	102

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFUnA	PFDoA	PFTDA	C3PFBS	PFHxS	PFOS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-117663-7	Eff-202412	94	96	81	97	93	87	104	106
LCS 320-825293/2-A	Lab Control Sample	102	106	100	106	109	102	120	125
LCSD 320-825293/3-A	Lab Control Sample Dup	100	97	94	104	99	94	117	120
MB 320-825293/1-A	Method Blank	97	107	99	94	93	92	104	114

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M262FTS	M282FTS	dMeFOSA	dEtFOSA	NMFM	NEFM	HFPODA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-117663-7	Eff-202412	114	112	102	89	87	88	83	90
LCS 320-825293/2-A	Lab Control Sample	117	126	104	88	90	89	93	109
LCSD 320-825293/3-A	Lab Control Sample Dup	112	108	100	82	84	86	85	101
MB 320-825293/1-A	Method Blank	103	107	102	81	79	89	90	94

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA

Isotope Dilution Summary

Client: Madison Metropolitan Sewerage District
Job ID: 320-117663-1
Project/Site: PFAS Sampling

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFOSA (25-150)	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)
320-117663-7	Eff-202412	92	97	93	101	99	99	96	86
LCS 320-825295/2-A	Lab Control Sample	66	102	109	109	109	107	103	82
LCSD 320-825295/3-A	Lab Control Sample Dup	63	109	106	105	108	104	99	76
MB 320-825295/1-A	Method Blank	66	99	94	96	101	98	96	91

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFUnA (25-150)	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-117663-7	Eff-202412	81	74	65	96	100	91	98	95
LCS 320-825295/2-A	Lab Control Sample	66	62	58	112	112	91	78	71
LCSD 320-825295/3-A	Lab Control Sample Dup	65	56	55	108	107	87	65	62
MB 320-825295/1-A	Method Blank	76	71	57	99	97	87	94	89

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (0-10)	M262FTS (25-150)	M282FTS (25-150)	dMeFOSA (25-150)	dEtFOSA (25-150)	NMFM (25-150)	NEFM (25-150)	HFPODA (25-150)
320-117663-7	Eff-202412	0	112	95	70	64	72	62	96
LCS 320-825295/2-A	Lab Control Sample	0	124	92	55	50	48	46	107
LCSD 320-825295/3-A	Lab Control Sample Dup	0	116	77	58	54	49	45	110
MB 320-825295/1-A	Method Blank	0	109	95	55	49	51	46	94

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-821951/1-A
Matrix: Water
Analysis Batch: 822223

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 821951

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	1.3	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		12/13/24 12:36	12/16/24 19:40	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		12/13/24 12:36	12/16/24 19:40	1
NEtFOSA	ND		2.0	0.87	ng/L		12/13/24 12:36	12/16/24 19:40	1
NMeFOSA	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
NMeFOSAA	ND		5.0	1.3	ng/L		12/13/24 12:36	12/16/24 19:40	1
NEtFOSAA	ND		5.0	1.3	ng/L		12/13/24 12:36	12/16/24 19:40	1
NMeFOSE	ND		4.0	1.4	ng/L		12/13/24 12:36	12/16/24 19:40	1
NEtFOSE	ND		2.0	0.85	ng/L		12/13/24 12:36	12/16/24 19:40	1
4:2 FTS	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
6:2 FTS	ND		5.0	1.3	ng/L		12/13/24 12:36	12/16/24 19:40	1
8:2 FTS	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
HFPO-DA (GenX)	ND		4.0	1.0	ng/L		12/13/24 12:36	12/16/24 19:40	1
9Cl-PF3ONS	ND		2.0	0.50	ng/L		12/13/24 12:36	12/16/24 19:40	1
11Cl-PF3OUdS	ND		2.0	0.69	ng/L		12/13/24 12:36	12/16/24 19:40	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96*		*25 - 150*	*12/13/24 12:36*	*12/16/24 19:40*	*1*
13C5 PFPeA	*100*		*25 - 150*	*12/13/24 12:36*	*12/16/24 19:40*	*1*
13C2 PFHxA	*108*		*25 - 150*	*12/13/24 12:36*	*12/16/24 19:40*	*1*
13C4 PFHpA	*100*		*25 - 150*	*12/13/24 12:36*	*12/16/24 19:40*	*1*
13C4 PFOA	*108*		*25 - 150*	*12/13/24 12:36*	*12/16/24 19:40*	*1*
13C5 PFNA	*111*		*25 - 150*	*12/13/24 12:36*	*12/16/24 19:40*	*1*
13C2 PFDA	*112*		*25 - 150*	*12/13/24 12:36*	*12/16/24 19:40*	*1*
13C2 PFUnA	*121*		*25 - 150*	*12/13/24 12:36*	*12/16/24 19:40*	*1*
13C2 PFDoA	*110*		*25 - 150*	*12/13/24 12:36*	*12/16/24 19:40*	*1*
13C2 PFTeDA	*98*		*25 - 150*	*12/13/24 12:36*	*12/16/24 19:40*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-821951/1-A
Matrix: Water
Analysis Batch: 822223

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 821951

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	106		25 - 150	12/13/24 12:36	12/16/24 19:40	1
18O2 PFHxS	119		25 - 150	12/13/24 12:36	12/16/24 19:40	1
13C4 PFOS	120		25 - 150	12/13/24 12:36	12/16/24 19:40	1
13C8 FOSA	101		10 - 150	12/13/24 12:36	12/16/24 19:40	1
d3-NMeFOSAA	84		25 - 150	12/13/24 12:36	12/16/24 19:40	1
d5-NEtFOSAA	91		25 - 150	12/13/24 12:36	12/16/24 19:40	1
d-N-MeFOSA-M	97		10 - 150	12/13/24 12:36	12/16/24 19:40	1
d-N-EtFOSA-M	99		10 - 150	12/13/24 12:36	12/16/24 19:40	1
d7-N-MeFOSE-M	95		10 - 150	12/13/24 12:36	12/16/24 19:40	1
d9-N-EtFOSE-M	105		10 - 150	12/13/24 12:36	12/16/24 19:40	1
M2-4:2 FTS	116		25 - 150	12/13/24 12:36	12/16/24 19:40	1
M2-6:2 FTS	129		25 - 150	12/13/24 12:36	12/16/24 19:40	1
M2-8:2 FTS	122		25 - 150	12/13/24 12:36	12/16/24 19:40	1
13C3 HFPO-DA	95		25 - 150	12/13/24 12:36	12/16/24 19:40	1

Lab Sample ID: LCS 320-821951/3-A
Matrix: Water
Analysis Batch: 822223

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 821951

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	40.0	37.7		ng/L		94	60 - 135
Perfluoropentanoic acid (PFPeA)	40.0	40.0		ng/L		100	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	35.5		ng/L		89	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	38.3		ng/L		96	60 - 135
Perfluorooctanoic acid (PFOA)	40.0	38.2		ng/L		96	60 - 135
Perfluorononanoic acid (PFNA)	40.0	38.4		ng/L		96	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	38.8		ng/L		97	60 - 135
Perfluoroundecanoic acid (PFUnA)	40.0	39.3		ng/L		98	60 - 135
Perfluorododecanoic acid (PFDoA)	40.0	37.1		ng/L		93	60 - 135
Perfluorotridecanoic acid (PFTrDA)	40.0	37.6		ng/L		94	60 - 135
Perfluorotetradecanoic acid (PFTeA)	40.0	43.0		ng/L		108	60 - 135
Perfluorobutanesulfonic acid (PFBS)	35.5	33.0		ng/L		93	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	37.6	35.0		ng/L		93	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	36.5	33.1		ng/L		91	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	38.2	35.3		ng/L		92	60 - 135
Perfluorooctanesulfonic acid (PFOS)	37.2	35.1		ng/L		94	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.5	35.4		ng/L		92	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	34.3		ng/L		89	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.8	28.0		ng/L		72	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-821951/3-A
Matrix: Water
Analysis Batch: 822223

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 821951

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	40.0	37.0		ng/L		92	60 - 135
NEtFOSA	40.0	36.0		ng/L		90	60 - 135
NMeFOSA	40.0	33.8		ng/L		84	60 - 135
NMeFOSAA	40.0	39.8		ng/L		99	60 - 135
NEtFOSAA	40.0	35.5		ng/L		89	60 - 135
NMeFOSE	40.0	36.9		ng/L		92	60 - 135
NEtFOSE	40.0	32.7		ng/L		82	60 - 135
4:2 FTS	37.5	36.4		ng/L		97	60 - 135
6:2 FTS	38.1	34.7		ng/L		91	60 - 135
8:2 FTS	38.4	35.0		ng/L		91	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	32.5		ng/L		86	60 - 135
HFPO-DA (GenX)	40.0	35.2		ng/L		88	60 - 135
9Cl-PF3ONS	37.4	32.0		ng/L		86	60 - 135
11Cl-PF3OUdS	37.8	30.7		ng/L		81	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*101*		*25 - 150*
13C5 PFPeA	*98*		*25 - 150*
13C2 PFHxA	*107*		*25 - 150*
13C4 PFHpA	*100*		*25 - 150*
13C4 PFOA	*105*		*25 - 150*
13C5 PFNA	*112*		*25 - 150*
13C2 PFDA	*112*		*25 - 150*
13C2 PFUnA	*115*		*25 - 150*
13C2 PFDoA	*94*		*25 - 150*
13C2 PFTeDA	*79*		*25 - 150*
13C3 PFBS	*110*		*25 - 150*
18O2 PFHxS	*114*		*25 - 150*
13C4 PFOS	*118*		*25 - 150*
13C8 FOSA	*86*		*10 - 150*
d3-NMeFOSAA	*77*		*25 - 150*
d5-NEtFOSAA	*77*		*25 - 150*
d-N-MeFOSA-M	*90*		*10 - 150*
d-N-EtFOSA-M	*86*		*10 - 150*
d7-N-MeFOSE-M	*77*		*10 - 150*
d9-N-EtFOSE-M	*87*		*10 - 150*
M2-4:2 FTS	*109*		*25 - 150*
M2-6:2 FTS	*121*		*25 - 150*
M2-8:2 FTS	*129*		*25 - 150*
13C3 HFPO-DA	*97*		*25 - 150*

Lab Sample ID: LCSD 320-821951/4-A
Matrix: Water
Analysis Batch: 822223

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 821951

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	41.7		ng/L		104	60 - 135	10	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-821951/4-A
Matrix: Water
Analysis Batch: 822223

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 821951

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)			40.0	41.2		ng/L		103	60 - 135	3	30
Perfluorohexanoic acid (PFHxA)			40.0	37.2		ng/L		93	60 - 135	5	30
Perfluoroheptanoic acid (PFHpA)			40.0	41.8		ng/L		104	60 - 135	9	30
Perfluorooctanoic acid (PFOA)			40.0	41.8		ng/L		105	60 - 135	9	30
Perfluorononanoic acid (PFNA)			40.0	42.3		ng/L		106	60 - 135	10	30
Perfluorodecanoic acid (PFDA)			40.0	41.6		ng/L		104	60 - 135	7	30
Perfluoroundecanoic acid (PFUnA)			40.0	43.7		ng/L		109	60 - 135	11	30
Perfluorododecanoic acid (PFDoA)			40.0	43.9		ng/L		110	60 - 135	17	30
Perfluorotridecanoic acid (PFTrDA)			40.0	41.2		ng/L		103	60 - 135	9	30
Perfluorotetradecanoic acid (PFTeA)			40.0	38.3		ng/L		96	60 - 135	12	30
Perfluorobutanesulfonic acid (PFBS)			35.5	34.8		ng/L		98	60 - 135	5	30
Perfluoropentanesulfonic acid (PFPeS)			37.6	38.7		ng/L		103	60 - 135	10	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	35.6		ng/L		98	60 - 135	7	30
Perfluoroheptanesulfonic acid (PFHpS)			38.2	38.1		ng/L		100	60 - 135	8	30
Perfluorooctanesulfonic acid (PFOS)			37.2	37.4		ng/L		101	60 - 135	6	30
Perfluorononanesulfonic acid (PFNS)			38.5	38.4		ng/L		100	60 - 135	8	30
Perfluorodecanesulfonic acid (PFDS)			38.6	37.4		ng/L		97	60 - 135	9	30
Perfluorododecanesulfonic acid (PFDoS)			38.8	33.5		ng/L		86	60 - 135	18	30
Perfluorooctanesulfonamide (FOSA)			40.0	40.0		ng/L		100	60 - 135	8	30
NEtFOSA			40.0	35.9		ng/L		90	60 - 135	0	30
NMeFOSA			40.0	36.8		ng/L		92	60 - 135	9	30
NMeFOSAA			40.0	40.9		ng/L		102	60 - 135	3	30
NEtFOSAA			40.0	38.9		ng/L		97	60 - 135	9	30
NMeFOSE			40.0	39.3		ng/L		98	60 - 135	6	30
NEtFOSE			40.0	48.1	*1	ng/L		120	60 - 135	38	30
4:2 FTS			37.5	39.3		ng/L		105	60 - 135	8	30
6:2 FTS			38.1	36.3		ng/L		95	60 - 135	4	30
8:2 FTS			38.4	37.4		ng/L		97	60 - 135	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	35.5		ng/L		94	60 - 135	9	30
HFPO-DA (GenX)			40.0	38.8		ng/L		97	60 - 135	10	30
9Cl-PF3ONS			37.4	35.6		ng/L		95	60 - 135	11	30
11Cl-PF3OUdS			37.8	36.7		ng/L		97	60 - 135	18	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*99*		*25 - 150*
13C5 PFPeA	*102*		*25 - 150*
13C2 PFHxA	*110*		*25 - 150*
13C4 PFHpA	*100*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-821951/4-A
Matrix: Water
Analysis Batch: 822223

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 821951

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFOA	*104*		*25 - 150*
13C5 PFNA	*108*		*25 - 150*
13C2 PFDA	*112*		*25 - 150*
13C2 PFUnA	*115*		*25 - 150*
13C2 PFDoA	*95*		*25 - 150*
13C2 PFTeDA	*82*		*25 - 150*
13C3 PFBS	*106*		*25 - 150*
18O2 PFHxS	*113*		*25 - 150*
13C4 PFOS	*113*		*25 - 150*
13C8 FOSA	*85*		*10 - 150*
d3-NMeFOSAA	*81*		*25 - 150*
d5-NEtFOSAA	*81*		*25 - 150*
d-N-MeFOSA-M	*84*		*10 - 150*
d-N-EtFOSA-M	*85*		*10 - 150*
d7-N-MeFOSE-M	*76*		*10 - 150*
d9-N-EtFOSE-M	*86*		*10 - 150*
M2-4:2 FTS	*111*		*25 - 150*
M2-6:2 FTS	*117*		*25 - 150*
M2-8:2 FTS	*122*		*25 - 150*
13C3 HFPO-DA	*95*		*25 - 150*

Lab Sample ID: LLCS 320-821951/2-A
Matrix: Water
Analysis Batch: 822223

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 821951

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	7.94		ng/L		99	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	8.13		ng/L		102	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	7.39		ng/L		92	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	7.57		ng/L		95	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	8.13		ng/L		102	50 - 150
Perfluorononanoic acid (PFNA)	8.00	8.02		ng/L		100	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	7.59		ng/L		95	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	7.88		ng/L		99	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	7.93		ng/L		99	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	7.05		ng/L		88	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	6.74		ng/L		84	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	6.56		ng/L		92	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	7.07		ng/L		94	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.28		ng/L		100	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	6.95		ng/L		91	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	7.17		ng/L		96	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-821951/2-A
Matrix: Water
Analysis Batch: 822223

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 821951

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanesulfonic acid (PFNS)	7.70	6.81		ng/L		89	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	6.18		ng/L		80	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	4.65		ng/L		60	50 - 150
Perfluorooctanesulfonamide (FOSA)	8.00	7.51		ng/L		94	50 - 150
NEtFOSA	8.00	6.40		ng/L		80	50 - 150
NMeFOSA	8.00	6.17		ng/L		77	50 - 150
NMeFOSAA	8.00	7.27		ng/L		91	50 - 150
NEtFOSAA	8.00	6.37		ng/L		80	50 - 150
NMeFOSE	8.00	7.03		ng/L		88	50 - 150
NEtFOSE	8.00	5.97		ng/L		75	50 - 150
4:2 FTS	7.50	7.47		ng/L		100	50 - 150
6:2 FTS	7.62	7.04		ng/L		92	50 - 150
8:2 FTS	7.68	7.17		ng/L		93	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	6.67		ng/L		88	50 - 150
HFPO-DA (GenX)	8.00	6.92		ng/L		87	50 - 150
9Cl-PF3ONS	7.47	6.52		ng/L		87	50 - 150
11Cl-PF3OUdS	7.55	5.92		ng/L		78	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*98*		*25 - 150*
13C5 PFPeA	*98*		*25 - 150*
13C2 PFHxA	*108*		*25 - 150*
13C4 PFHpA	*101*		*25 - 150*
13C4 PFOA	*106*		*25 - 150*
13C5 PFNA	*110*		*25 - 150*
13C2 PFDA	*113*		*25 - 150*
13C2 PFUnA	*109*		*25 - 150*
13C2 PFDoA	*93*		*25 - 150*
13C2 PFTeDA	*85*		*25 - 150*
13C3 PFBS	*107*		*25 - 150*
18O2 PFHxS	*112*		*25 - 150*
13C4 PFOS	*118*		*25 - 150*
13C8 FOSA	*91*		*10 - 150*
d3-NMeFOSAA	*78*		*25 - 150*
d5-NEtFOSAA	*80*		*25 - 150*
d-N-MeFOSA-M	*94*		*10 - 150*
d-N-EtFOSA-M	*89*		*10 - 150*
d7-N-MeFOSE-M	*83*		*10 - 150*
d9-N-EtFOSE-M	*92*		*10 - 150*
M2-4:2 FTS	*113*		*25 - 150*
M2-6:2 FTS	*127*		*25 - 150*
M2-8:2 FTS	*121*		*25 - 150*
13C3 HFPO-DA	*99*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-822468/1-A
Matrix: Solid
Analysis Batch: 822653

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 822468

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.50	0.18	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
NEtFOSA	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
NMeFOSA	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
NMeFOSAA	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
NEtFOSAA	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
NMeFOSE	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
NEtFOSE	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
4:2 FTS	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
6:2 FTS	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
8:2 FTS	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
HFPO-DA (GenX)	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
9Cl-PF3ONS	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1
11Cl-PF3OUdS	ND		0.20	0.050	ug/Kg		12/17/24 04:08	12/18/24 04:52	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88*		*25 - 150*	*12/17/24 04:08*	*12/18/24 04:52*	*1*
13C5 PFPeA	*89*		*25 - 150*	*12/17/24 04:08*	*12/18/24 04:52*	*1*
13C2 PFHxA	*96*		*25 - 150*	*12/17/24 04:08*	*12/18/24 04:52*	*1*
13C4 PFHpA	*92*		*25 - 150*	*12/17/24 04:08*	*12/18/24 04:52*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/17/24 04:08*	*12/18/24 04:52*	*1*
13C5 PFNA	*97*		*25 - 150*	*12/17/24 04:08*	*12/18/24 04:52*	*1*
13C2 PFDA	*102*		*25 - 150*	*12/17/24 04:08*	*12/18/24 04:52*	*1*
13C2 PFUnA	*104*		*25 - 150*	*12/17/24 04:08*	*12/18/24 04:52*	*1*
13C2 PFDoA	*102*		*25 - 150*	*12/17/24 04:08*	*12/18/24 04:52*	*1*
13C2 PFTeDA	*102*		*25 - 150*	*12/17/24 04:08*	*12/18/24 04:52*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-822468/1-A
Matrix: Solid
Analysis Batch: 822653

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 822468

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	102		25 - 150	12/17/24 04:08	12/18/24 04:52	1
18O2 PFHxS	102		25 - 150	12/17/24 04:08	12/18/24 04:52	1
13C4 PFOS	105		25 - 150	12/17/24 04:08	12/18/24 04:52	1
13C8 FOSA	99		10 - 150	12/17/24 04:08	12/18/24 04:52	1
d3-NMeFOSAA	79		25 - 150	12/17/24 04:08	12/18/24 04:52	1
d5-NEtFOSAA	78		25 - 150	12/17/24 04:08	12/18/24 04:52	1
d-N-MeFOSA-M	101		10 - 150	12/17/24 04:08	12/18/24 04:52	1
d-N-EtFOSA-M	107		10 - 150	12/17/24 04:08	12/18/24 04:52	1
d7-N-MeFOSE-M	84		10 - 150	12/17/24 04:08	12/18/24 04:52	1
d9-N-EtFOSE-M	103		10 - 150	12/17/24 04:08	12/18/24 04:52	1
M2-4:2 FTS	106		25 - 150	12/17/24 04:08	12/18/24 04:52	1
M2-6:2 FTS	109		25 - 150	12/17/24 04:08	12/18/24 04:52	1
M2-8:2 FTS	119		25 - 150	12/17/24 04:08	12/18/24 04:52	1
13C3 HFPO-DA	82		25 - 150	12/17/24 04:08	12/18/24 04:52	1

Lab Sample ID: LCS 320-822468/3-A
Matrix: Solid
Analysis Batch: 822653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 822468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	2.00	2.14		ug/Kg		107	60 - 135
Perfluoropentanoic acid (PFPeA)	2.00	2.15		ug/Kg		108	60 - 135
Perfluorohexanoic acid (PFHxA)	2.00	1.93		ug/Kg		96	60 - 135
Perfluoroheptanoic acid (PFHpA)	2.00	2.04		ug/Kg		102	60 - 135
Perfluorooctanoic acid (PFOA)	2.00	2.10		ug/Kg		105	60 - 135
Perfluorononanoic acid (PFNA)	2.00	2.22		ug/Kg		111	60 - 135
Perfluorodecanoic acid (PFDA)	2.00	2.03		ug/Kg		101	60 - 135
Perfluoroundecanoic acid (PFUnA)	2.00	2.23		ug/Kg		111	60 - 135
Perfluorododecanoic acid (PFDoA)	2.00	2.14		ug/Kg		107	60 - 135
Perfluorotridecanoic acid (PFTrDA)	2.00	2.18		ug/Kg		109	60 - 135
Perfluorotetradecanoic acid (PFTeA)	2.00	2.12		ug/Kg		106	60 - 135
Perfluorobutanesulfonic acid (PFBS)	1.78	1.69		ug/Kg		95	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.85		ug/Kg		98	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.82		ug/Kg		100	60 - 135
Perfluoroheptanesulfonic acid (PFHpS)	1.91	2.04		ug/Kg		107	60 - 135
Perfluorooctanesulfonic acid (PFOS)	1.86	1.95		ug/Kg		105	60 - 135
Perfluorononanesulfonic acid (PFNS)	1.92	1.96		ug/Kg		102	60 - 135
Perfluorodecanesulfonic acid (PFDS)	1.93	1.86		ug/Kg		96	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	1.94	2.10		ug/Kg		108	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-822468/3-A
Matrix: Solid
Analysis Batch: 822653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 822468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	2.00	2.06		ug/Kg		103	60 - 135
NEtFOSA	2.00	1.94		ug/Kg		97	60 - 135
NMeFOSA	2.00	1.99		ug/Kg		99	60 - 135
NMeFOSAA	2.00	2.03		ug/Kg		102	60 - 135
NEtFOSAA	2.00	1.94		ug/Kg		97	60 - 135
NMeFOSE	2.00	2.19		ug/Kg		109	60 - 135
NEtFOSE	2.00	1.84		ug/Kg		92	60 - 135
4:2 FTS	1.88	2.10		ug/Kg		112	60 - 135
6:2 FTS	1.90	1.92		ug/Kg		101	60 - 135
8:2 FTS	1.92	2.02		ug/Kg		105	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.89	1.85		ug/Kg		98	60 - 135
HFPO-DA (GenX)	2.00	2.00		ug/Kg		100	60 - 135
9Cl-PF3ONS	1.87	1.90		ug/Kg		102	60 - 135
11Cl-PF3OUdS	1.89	1.92		ug/Kg		102	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*89*		*25 - 150*
13C5 PFPeA	*88*		*25 - 150*
13C2 PFHxA	*93*		*25 - 150*
13C4 PFHpA	*90*		*25 - 150*
13C4 PFOA	*92*		*25 - 150*
13C5 PFNA	*95*		*25 - 150*
13C2 PFDA	*99*		*25 - 150*
13C2 PFUnA	*94*		*25 - 150*
13C2 PFDoA	*89*		*25 - 150*
13C2 PFTeDA	*90*		*25 - 150*
13C3 PFBS	*100*		*25 - 150*
18O2 PFHxS	*99*		*25 - 150*
13C4 PFOS	*96*		*25 - 150*
13C8 FOSA	*92*		*10 - 150*
d3-NMeFOSAA	*70*		*25 - 150*
d5-NEtFOSAA	*67*		*25 - 150*
d-N-MeFOSA-M	*90*		*10 - 150*
d-N-EtFOSA-M	*92*		*10 - 150*
d7-N-MeFOSE-M	*71*		*10 - 150*
d9-N-EtFOSE-M	*82*		*10 - 150*
M2-4:2 FTS	*94*		*25 - 150*
M2-6:2 FTS	*104*		*25 - 150*
M2-8:2 FTS	*103*		*25 - 150*
13C3 HFPO-DA	*82*		*25 - 150*

Lab Sample ID: LLCS 320-822468/2-A
Matrix: Solid
Analysis Batch: 822653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 822468

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	0.400	0.422	J	ug/Kg		105	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-822468/2-A
Matrix: Solid
Analysis Batch: 822653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 822468

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid (PFPeA)	0.400	0.443		ug/Kg		111	50 - 150
Perfluorohexanoic acid (PFHxA)	0.400	0.380		ug/Kg		95	50 - 150
Perfluoroheptanoic acid (PFHpA)	0.400	0.401		ug/Kg		100	50 - 150
Perfluorooctanoic acid (PFOA)	0.400	0.437		ug/Kg		109	50 - 150
Perfluorononanoic acid (PFNA)	0.400	0.443		ug/Kg		111	50 - 150
Perfluorodecanoic acid (PFDA)	0.400	0.403		ug/Kg		101	50 - 150
Perfluoroundecanoic acid (PFUnA)	0.400	0.456		ug/Kg		114	50 - 150
Perfluorododecanoic acid (PFDoA)	0.400	0.452		ug/Kg		113	50 - 150
Perfluorotridecanoic acid (PFTrDA)	0.400	0.489		ug/Kg		122	50 - 150
Perfluorotetradecanoic acid (PFTeA)	0.400	0.424		ug/Kg		106	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.355	0.381		ug/Kg		107	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	0.376	0.397		ug/Kg		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	0.365	0.381		ug/Kg		104	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	0.382	0.428		ug/Kg		112	50 - 150
Perfluorooctanesulfonic acid (PFOS)	0.372	0.397		ug/Kg		107	50 - 150
Perfluorononanesulfonic acid (PFNS)	0.385	0.424		ug/Kg		110	50 - 150
Perfluorodecanesulfonic acid (PFDS)	0.386	0.432		ug/Kg		112	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	0.388	0.480		ug/Kg		124	50 - 150
Perfluorooctanesulfonamide (FOSA)	0.400	0.406		ug/Kg		102	50 - 150
NEtFOSA	0.400	0.415		ug/Kg		104	50 - 150
NMeFOSA	0.400	0.404		ug/Kg		101	50 - 150
NMeFOSAA	0.400	0.452		ug/Kg		113	50 - 150
NEtFOSAA	0.400	0.398		ug/Kg		100	50 - 150
NMeFOSE	0.400	0.465		ug/Kg		116	50 - 150
NEtFOSE	0.400	0.378		ug/Kg		95	50 - 150
4:2 FTS	0.375	0.426		ug/Kg		114	50 - 150
6:2 FTS	0.381	0.381		ug/Kg		100	50 - 150
8:2 FTS	0.384	0.389		ug/Kg		101	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.378	0.377		ug/Kg		100	50 - 150
HFPO-DA (GenX)	0.400	0.386		ug/Kg		96	50 - 150
9Cl-PF3ONS	0.374	0.392		ug/Kg		105	50 - 150
11Cl-PF3OUdS	0.378	0.409		ug/Kg		108	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*77*		*25 - 150*
13C5 PFPeA	*79*		*25 - 150*
13C2 PFHxA	*84*		*25 - 150*
13C4 PFHpA	*78*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-822468/2-A
Matrix: Solid
Analysis Batch: 822653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 822468

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFOA	*80*		*25 - 150*
13C5 PFNA	*83*		*25 - 150*
13C2 PFDA	*87*		*25 - 150*
13C2 PFUnA	*86*		*25 - 150*
13C2 PFDoA	*82*		*25 - 150*
13C2 PFTeDA	*86*		*25 - 150*
13C3 PFBS	*84*		*25 - 150*
18O2 PFHxS	*88*		*25 - 150*
13C4 PFOS	*87*		*25 - 150*
13C8 FOSA	*86*		*10 - 150*
d3-NMeFOSAA	*64*		*25 - 150*
d5-NEtFOSAA	*64*		*25 - 150*
d-N-MeFOSA-M	*87*		*10 - 150*
d-N-EtFOSA-M	*85*		*10 - 150*
d7-N-MeFOSE-M	*72*		*10 - 150*
d9-N-EtFOSE-M	*80*		*10 - 150*
M2-4:2 FTS	*81*		*25 - 150*
M2-6:2 FTS	*93*		*25 - 150*
M2-8:2 FTS	*96*		*25 - 150*
13C3 HFPO-DA	*71*		*25 - 150*

Lab Sample ID: 320-117663-9 MS
Matrix: Solid
Analysis Batch: 822653

Client Sample ID: BIO-A-22-202412
Prep Type: Total/NA
Prep Batch: 822468

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.0		7.17	15.0		ug/Kg	☼	97	70 - 130
Perfluoropentanoic acid (PFPeA)	20		7.17	27.3		ug/Kg	☼	102	70 - 130
Perfluorohexanoic acid (PFHxA)	28	F1	7.17	30.8	F1	ug/Kg	☼	36	70 - 130
Perfluoroheptanoic acid (PFHpA)	2.2		7.17	8.98		ug/Kg	☼	95	70 - 130
Perfluorooctanoic acid (PFOA)	21	F1	7.17	25.8		ug/Kg	☼	72	70 - 130
Perfluorononanoic acid (PFNA)	1.6		7.17	9.18		ug/Kg	☼	105	70 - 130
Perfluorodecanoic acid (PFDA)	11		7.17	17.1		ug/Kg	☼	84	70 - 130
Perfluoroundecanoic acid (PFUnA)	1.8		7.17	11.0		ug/Kg	☼	128	70 - 130
Perfluorododecanoic acid (PFDoA)	4.3		7.17	11.7		ug/Kg	☼	104	70 - 130
Perfluorotridecanoic acid (PFTrDA)	0.47	J F1	7.17	5.04	F1	ug/Kg	☼	64	70 - 130
Perfluorotetradecanoic acid (PFTeA)	0.94		7.17	9.12		ug/Kg	☼	114	70 - 130
Perfluorobutanesulfonic acid (PFBS)	1.8		6.37	7.73		ug/Kg	☼	93	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	ND		6.74	7.18		ug/Kg	☼	107	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	ND	F1	6.54	8.43		ug/Kg	☼	129	70 - 130
Perfluoroheptanesulfonic acid (PFHpS)	ND		6.84	7.49		ug/Kg	☼	110	70 - 130
Perfluorooctanesulfonic acid (PFOS)	14		6.67	19.2		ug/Kg	☼	76	70 - 130

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-117663-9 MS
Matrix: Solid
Analysis Batch: 822653

Client Sample ID: BIO-A-22-202412
Prep Type: Total/NA
Prep Batch: 822468

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorononanesulfonic acid (PFNS)	ND		6.90	6.82		ug/Kg	☼	99	70 - 130
Perfluorodecanesulfonic acid (PFDS)	3.4	I F1	6.91	7.78	F1	ug/Kg	☼	63	70 - 130
Perfluorododecanesulfonic acid (PFDoS)	ND	F1	6.96	4.26	F1	ug/Kg	☼	61	70 - 130
Perfluorooctanesulfonamide (FOSA)	2.1		7.17	9.24		ug/Kg	☼	99	70 - 130
NEtFOSA	ND		7.17	9.11		ug/Kg	☼	127	70 - 130
NMeFOSA	ND		7.17	6.81		ug/Kg	☼	95	70 - 130
NMeFOSAA	31		7.17	36.4	4	ug/Kg	☼	73	70 - 130
NEtFOSAA	9.6		7.17	16.2		ug/Kg	☼	93	70 - 130
NMeFOSE	17	F1	7.17	25.9	F1	ug/Kg	☼	131	70 - 130
NEtFOSE	3.5	F1	7.17	9.67		ug/Kg	☼	86	70 - 130
4:2 FTS	ND		6.73	7.46		ug/Kg	☼	111	70 - 130
6:2 FTS	1.4		6.83	8.23		ug/Kg	☼	100	70 - 130
8:2 FTS	1.2		6.89	7.85		ug/Kg	☼	96	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		6.79	5.08		ug/Kg	☼	75	70 - 130
HFPO-DA (GenX)	ND		7.17	7.38		ug/Kg	☼	103	70 - 130
9Cl-PF3ONS	ND		6.70	6.77		ug/Kg	☼	101	70 - 130
11Cl-PF3OUdS	ND		6.77	5.97		ug/Kg	☼	88	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA	*58*		*25 - 150*
13C5 PFPeA	*70*		*25 - 150*
13C2 PFHxA	*82*		*25 - 150*
13C4 PFHpA	*72*		*25 - 150*
13C4 PFOA	*78*		*25 - 150*
13C5 PFNA	*83*		*25 - 150*
13C2 PFDA	*90*		*25 - 150*
13C2 PFUnA	*78*		*25 - 150*
13C2 PFDoA	*56*		*25 - 150*
13C2 PFTeDA	*18*	**5-*	*25 - 150*
13C3 PFBS	*73*		*25 - 150*
18O2 PFHxS	*73*		*25 - 150*
13C4 PFOS	*76*		*25 - 150*
13C8 FOSA	*71*		*10 - 150*
d3-NMeFOSAA	*51*		*25 - 150*
d5-NEtFOSAA	*65*		*25 - 150*
d-N-MeFOSA-M	*39*		*10 - 150*
d-N-EtFOSA-M	*16*		*10 - 150*
d7-N-MeFOSE-M	*42*		*10 - 150*
d9-N-EtFOSE-M	*21*		*10 - 150*
M2-4:2 FTS	*198*	**5+*	*25 - 150*
M2-6:2 FTS	*211*	**5+*	*25 - 150*
M2-8:2 FTS	*285*	**5+*	*25 - 150*
13C3 HFPO-DA	*63*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-117663-9 MSD
Matrix: Solid
Analysis Batch: 822653

Client Sample ID: BIO-A-22-202412
Prep Type: Total/NA
Prep Batch: 822468

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	8.0		6.78	14.5		ug/Kg	☼	97	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	20		6.78	26.0		ug/Kg	☼	89	70 - 130	5	30
Perfluorohexanoic acid (PFHxA)	28	F1	6.78	32.4	4	ug/Kg	☼	63	70 - 130	5	30
Perfluoroheptanoic acid (PFHpA)	2.2		6.78	8.82		ug/Kg	☼	98	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	21	F1	6.78	25.4	F1	ug/Kg	☼	69	70 - 130	2	30
Perfluorononanoic acid (PFNA)	1.6		6.78	8.32		ug/Kg	☼	99	70 - 130	10	30
Perfluorodecanoic acid (PFDA)	11		6.78	16.9		ug/Kg	☼	85	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	1.8		6.78	10.4		ug/Kg	☼	126	70 - 130	6	30
Perfluorododecanoic acid (PFDoA)	4.3		6.78	11.3		ug/Kg	☼	103	70 - 130	4	30
Perfluorotridecanoic acid (PFTrDA)	0.47	J F1	6.78	4.87	F1	ug/Kg	☼	65	70 - 130	3	30
Perfluorotetradecanoic acid (PFTeA)	0.94		6.78	9.10		ug/Kg	☼	120	70 - 130	0	30
Perfluorobutanesulfonic acid (PFBS)	1.8		6.02	7.10		ug/Kg	☼	88	70 - 130	8	30
Perfluoropentanesulfonic acid (PFPeS)	ND		6.37	6.11		ug/Kg	☼	96	70 - 130	16	30
Perfluorohexanesulfonic acid (PFHxS)	ND	F1	6.18	8.20	F1	ug/Kg	☼	133	70 - 130	3	30
Perfluoroheptanesulfonic acid (PFHpS)	ND		6.46	6.96		ug/Kg	☼	108	70 - 130	7	30
Perfluorooctanesulfonic acid (PFOS)	14		6.30	19.0		ug/Kg	☼	77	70 - 130	1	30
Perfluorononanesulfonic acid (PFNS)	ND		6.52	6.59		ug/Kg	☼	101	70 - 130	3	30
Perfluorodecanesulfonic acid (PFDS)	3.4	I F1	6.53	10.5		ug/Kg	☼	109	70 - 130	30	30
Perfluorododecanesulfonic acid (PFDoS)	ND	F1	6.57	4.44	F1	ug/Kg	☼	68	70 - 130	4	30
Perfluorooctanesulfonamide (FOSA)	2.1		6.78	8.44		ug/Kg	☼	93	70 - 130	9	30
NEtFOSA	ND		6.78	7.81		ug/Kg	☼	115	70 - 130	15	30
NMeFOSA	ND		6.78	6.44		ug/Kg	☼	95	70 - 130	6	30
NMeFOSAA	31		6.78	36.5	4	ug/Kg	☼	78	70 - 130	0	30
NEtFOSAA	9.6		6.78	14.9		ug/Kg	☼	79	70 - 130	8	30
NMeFOSE	17	F1	6.78	24.0		ug/Kg	☼	110	70 - 130	8	30
NEtFOSE	3.5	F1	6.78	8.14	F1	ug/Kg	☼	68	70 - 130	17	30
4:2 FTS	ND		6.36	6.18		ug/Kg	☼	97	70 - 130	19	30
6:2 FTS	1.4		6.45	7.51		ug/Kg	☼	94	70 - 130	9	30
8:2 FTS	1.2		6.50	7.50		ug/Kg	☼	96	70 - 130	5	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		6.41	4.49		ug/Kg	☼	70	70 - 130	12	30
HFPO-DA (GenX)	ND		6.78	6.90		ug/Kg	☼	102	70 - 130	7	30
9Cl-PF3ONS	ND		6.33	5.98		ug/Kg	☼	95	70 - 130	12	30
11Cl-PF3OUdS	ND		6.40	5.48		ug/Kg	☼	86	70 - 130	9	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*58*		*25 - 150*
13C5 PFPeA	*71*		*25 - 150*
13C2 PFHxA	*82*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-117663-9 MSD
Matrix: Solid
Analysis Batch: 822653

Client Sample ID: BIO-A-22-202412
Prep Type: Total/NA
Prep Batch: 822468

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFHpA	*71*		*25 - 150*
13C4 PFOA	*77*		*25 - 150*
13C5 PFNA	*83*		*25 - 150*
13C2 PFDA	*88*		*25 - 150*
13C2 PFUnA	*74*		*25 - 150*
13C2 PFDoA	*50*		*25 - 150*
13C2 PFTeDA	*16*	**5-*	*25 - 150*
13C3 PFBS	*76*		*25 - 150*
18O2 PFHxS	*71*		*25 - 150*
13C4 PFOS	*77*		*25 - 150*
13C8 FOSA	*69*		*10 - 150*
d3-NMeFOSAA	*48*		*25 - 150*
d5-NEtFOSAA	*62*		*25 - 150*
d-N-MeFOSA-M	*38*		*10 - 150*
d-N-EtFOSA-M	*15*		*10 - 150*
d7-N-MeFOSE-M	*45*		*10 - 150*
d9-N-EtFOSE-M	*21*		*10 - 150*
M2-4:2 FTS	*210*	**5+*	*25 - 150*
M2-6:2 FTS	*232*	**5+*	*25 - 150*
M2-8:2 FTS	*289*	**5+*	*25 - 150*
13C3 HFPO-DA	*63*		*25 - 150*

Lab Sample ID: MB 320-822908/1-A
Matrix: Water
Analysis Batch: 823300

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 822908

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	1.3	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		12/18/24 11:58	12/19/24 16:53	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		12/18/24 11:58	12/19/24 16:53	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-822908/1-A
Matrix: Water
Analysis Batch: 823300

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 822908

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		2.0	0.87	ng/L		12/18/24 11:58	12/19/24 16:53	1
NMeFOSA	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
NMeFOSAA	ND		5.0	1.3	ng/L		12/18/24 11:58	12/19/24 16:53	1
NEtFOSAA	ND		5.0	1.3	ng/L		12/18/24 11:58	12/19/24 16:53	1
NMeFOSE	ND		4.0	1.4	ng/L		12/18/24 11:58	12/19/24 16:53	1
NEtFOSE	ND		2.0	0.85	ng/L		12/18/24 11:58	12/19/24 16:53	1
4:2 FTS	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
6:2 FTS	ND		5.0	1.3	ng/L		12/18/24 11:58	12/19/24 16:53	1
8:2 FTS	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
HFPO-DA (GenX)	ND		4.0	1.0	ng/L		12/18/24 11:58	12/19/24 16:53	1
9Cl-PF3ONS	ND		2.0	0.50	ng/L		12/18/24 11:58	12/19/24 16:53	1
11Cl-PF3OUdS	ND		2.0	0.69	ng/L		12/18/24 11:58	12/19/24 16:53	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C5 PFPeA	*102*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C2 PFHxA	*106*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C4 PFHpA	*103*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C4 PFOA	*107*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C5 PFNA	*110*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C2 PFDA	*109*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C2 PFUnA	*110*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C2 PFDoA	*100*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C2 PFTeDA	*103*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C3 PFBS	*106*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
18O2 PFHxS	*108*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C4 PFOS	*109*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C8 FOSA	*97*		*10 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
d3-NMeFOSAA	*79*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
d5-NEtFOSAA	*79*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
d-N-MeFOSA-M	*95*		*10 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
d-N-EtFOSA-M	*106*		*10 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
d7-N-MeFOSE-M	*91*		*10 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
d9-N-EtFOSE-M	*106*		*10 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
M2-4:2 FTS	*109*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
M2-6:2 FTS	*116*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
M2-8:2 FTS	*122*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*12/18/24 11:58*	*12/19/24 16:53*	*1*

Lab Sample ID: LLCS 320-822908/2-A
Matrix: Water
Analysis Batch: 823300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 822908

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	7.40		ng/L		92	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	7.77		ng/L		97	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	7.00		ng/L		88	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-822908/2-A
Matrix: Water
Analysis Batch: 823300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 822908

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid (PFHpA)	8.00	7.31		ng/L		91	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	7.41		ng/L		93	50 - 150
Perfluorononanoic acid (PFNA)	8.00	7.57		ng/L		95	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	7.45		ng/L		93	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	7.47		ng/L		93	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	7.76		ng/L		97	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	8.03		ng/L		100	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	6.60		ng/L		82	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	6.36		ng/L		90	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	6.95		ng/L		92	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.44		ng/L		102	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	7.33		ng/L		96	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	7.14		ng/L		96	50 - 150
Perfluorononanesulfonic acid (PFNS)	7.70	6.93		ng/L		90	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	6.86		ng/L		89	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	8.25		ng/L		106	50 - 150
Perfluorooctanesulfonamide (FOSA)	8.00	7.67		ng/L		96	50 - 150
NEtFOSA	8.00	6.15		ng/L		77	50 - 150
NMeFOSA	8.00	6.83		ng/L		85	50 - 150
NMeFOSAA	8.00	7.26		ng/L		91	50 - 150
NEtFOSAA	8.00	7.00		ng/L		87	50 - 150
NMeFOSE	8.00	6.84		ng/L		86	50 - 150
NEtFOSE	8.00	5.74		ng/L		72	50 - 150
4:2 FTS	7.50	6.65		ng/L		89	50 - 150
6:2 FTS	7.62	6.86		ng/L		90	50 - 150
8:2 FTS	7.68	6.02		ng/L		78	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	6.40		ng/L		85	50 - 150
HFPO-DA (GenX)	8.00	7.09		ng/L		89	50 - 150
9Cl-PF3ONS	7.47	6.67		ng/L		89	50 - 150
11Cl-PF3OUdS	7.55	6.67		ng/L		88	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*101*		*25 - 150*
13C5 PFPeA	*96*		*25 - 150*
13C2 PFHxA	*105*		*25 - 150*
13C4 PFHpA	*97*		*25 - 150*
13C4 PFOA	*104*		*25 - 150*
13C5 PFNA	*108*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-822908/2-A
Matrix: Water
Analysis Batch: 823300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 822908

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 PFDA	*109*		*25 - 150*
13C2 PFUnA	*113*		*25 - 150*
13C2 PFDoA	*106*		*25 - 150*
13C2 PFTeDA	*111*		*25 - 150*
13C3 PFBS	*105*		*25 - 150*
18O2 PFHxS	*107*		*25 - 150*
13C4 PFOS	*112*		*25 - 150*
13C8 FOSA	*99*		*10 - 150*
d3-NMeFOSAA	*81*		*25 - 150*
d5-NEtFOSAA	*87*		*25 - 150*
d-N-MeFOSA-M	*105*		*10 - 150*
d-N-EtFOSA-M	*110*		*10 - 150*
d7-N-MeFOSE-M	*90*		*10 - 150*
d9-N-EtFOSE-M	*105*		*10 - 150*
M2-4:2 FTS	*108*		*25 - 150*
M2-6:2 FTS	*114*		*25 - 150*
M2-8:2 FTS	*121*		*25 - 150*
13C3 HFPO-DA	*94*		*25 - 150*

Lab Sample ID: LLCSD 320-822908/3-A
Matrix: Water
Analysis Batch: 823300

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 822908

Analyte	Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	8.00	7.89		ng/L		99	50 - 150	6	30
Perfluoropentanoic acid (PFPeA)	8.00	7.61		ng/L		95	50 - 150	2	30
Perfluorohexanoic acid (PFHxA)	8.00	7.23		ng/L		90	50 - 150	3	30
Perfluoroheptanoic acid (PFHpA)	8.00	7.37		ng/L		92	50 - 150	0.9	30
Perfluorooctanoic acid (PFOA)	8.00	7.57		ng/L		95	50 - 150	2	30
Perfluorononanoic acid (PFNA)	8.00	7.78		ng/L		97	50 - 150	3	30
Perfluorodecanoic acid (PFDA)	8.00	7.41		ng/L		93	50 - 150	0.6	30
Perfluoroundecanoic acid (PFUnA)	8.00	8.01		ng/L		100	50 - 150	7	30
Perfluorododecanoic acid (PFDoA)	8.00	7.39		ng/L		92	50 - 150	5	30
Perfluorotridecanoic acid (PFTrDA)	8.00	7.71		ng/L		96	50 - 150	4	30
Perfluorotetradecanoic acid (PFTeA)	8.00	6.93		ng/L		87	50 - 150	5	30
Perfluorobutanesulfonic acid (PFBS)	7.10	6.64		ng/L		93	50 - 150	4	30
Perfluoropentanesulfonic acid (PFPeS)	7.52	7.37		ng/L		98	50 - 150	6	30
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.27		ng/L		100	50 - 150	2	30
Perfluoroheptanesulfonic acid (PFHpS)	7.63	7.53		ng/L		99	50 - 150	3	30
Perfluorooctanesulfonic acid (PFOS)	7.44	7.30		ng/L		98	50 - 150	2	30
Perfluorononanesulfonic acid (PFNS)	7.70	6.87		ng/L		89	50 - 150	0.8	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCSD 320-822908/3-A
Matrix: Water
Analysis Batch: 823300

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 822908

Analyte			Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorodecanesulfonic acid (PFDS)			7.71	7.22		ng/L		94	50 - 150	5	30
Perfluorododecanesulfonic acid (PFDoS)			7.76	7.70		ng/L		99	50 - 150	7	30
Perfluorooctanesulfonamide (FOSA)			8.00	7.70		ng/L		96	50 - 150	0.4	30
NEtFOSA			8.00	6.14		ng/L		77	50 - 150	0.2	30
NMeFOSA			8.00	7.25		ng/L		91	50 - 150	6	30
NMeFOSAA			8.00	7.56		ng/L		94	50 - 150	4	30
NEtFOSAA			8.00	7.26		ng/L		91	50 - 150	4	30
NMeFOSE			8.00	7.08		ng/L		88	50 - 150	3	30
NEtFOSE			8.00	6.34		ng/L		79	50 - 150	10	30
4:2 FTS			7.50	7.09		ng/L		94	50 - 150	6	30
6:2 FTS			7.62	6.76		ng/L		89	50 - 150	1	30
8:2 FTS			7.68	6.04		ng/L		79	50 - 150	0.3	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			7.57	6.84		ng/L		90	50 - 150	7	30
HFPO-DA (GenX)			8.00	7.86		ng/L		98	50 - 150	10	30
9Cl-PF3ONS			7.47	6.65		ng/L		89	50 - 150	0.2	30
11Cl-PF3OUdS			7.55	6.64		ng/L		88	50 - 150	0.4	30

Isotope Dilution	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
13C4 PFBA	*101*		*25 - 150*
13C5 PFPeA	*99*		*25 - 150*
13C2 PFHxA	*108*		*25 - 150*
13C4 PFHpA	*99*		*25 - 150*
13C4 PFOA	*103*		*25 - 150*
13C5 PFNA	*109*		*25 - 150*
13C2 PFDA	*110*		*25 - 150*
13C2 PFUnA	*110*		*25 - 150*
13C2 PFDoA	*102*		*25 - 150*
13C2 PFTeDA	*97*		*25 - 150*
13C3 PFBS	*101*		*25 - 150*
18O2 PFHxS	*106*		*25 - 150*
13C4 PFOS	*111*		*25 - 150*
13C8 FOSA	*91*		*10 - 150*
d3-NMeFOSAA	*79*		*25 - 150*
d5-NEtFOSAA	*77*		*25 - 150*
d-N-MeFOSA-M	*97*		*10 - 150*
d-N-EtFOSA-M	*102*		*10 - 150*
d7-N-MeFOSE-M	*86*		*10 - 150*
d9-N-EtFOSE-M	*106*		*10 - 150*
M2-4:2 FTS	*108*		*25 - 150*
M2-6:2 FTS	*115*		*25 - 150*
M2-8:2 FTS	*121*		*25 - 150*
13C3 HFPO-DA	*93*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-822138/1-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 822138

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.0	0.23	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluoropentanoic acid (PFPeA)	ND		1.0	0.21	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorohexanoic acid (PFHxA)	ND		1.0	0.16	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluoroheptanoic acid (PFHpA)	ND		1.0	0.19	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorooctanoic acid (PFOA)	ND		1.0	0.27	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorononanoic acid (PFNA)	ND		1.0	0.11	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorodecanoic acid (PFDA)	ND		1.0	0.24	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluoroundecanoic acid (PFUnA)	ND		1.0	0.21	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorododecanoic acid (PFDoA)	ND		1.0	0.15	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.0	0.11	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.0	0.19	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.0	0.19	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.0	0.19	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.0	0.15	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.0	0.25	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.0	0.22	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorononanesulfonic acid (PFNS)	ND		1.0	0.15	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.0	0.26	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.0	0.24	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
Perfluorooctanesulfonamide (FOSA)	ND		1.0	0.17	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
NMeFOSAA	ND		1.0	0.12	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
NEtFOSAA	ND		1.0	0.24	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
4:2 FTS	ND		1.0	0.26	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
6:2 FTS	ND		1.0	0.14	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
8:2 FTS	ND		1.0	0.18	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
NEtFOSA	ND		1.0	0.24	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
NMeFOSA	ND		1.0	0.25	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
NMeFOSE	ND		1.0	0.24	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
NEtFOSE	ND		1.0	0.14	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
HFPO-DA (GenX)	ND		1.0	0.21	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
9Cl-PF3ONS	ND		1.0	0.18	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
11Cl-PF3OUdS	ND		1.0	0.16	ug/Kg		12/16/24 04:15	12/19/24 19:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.0	0.20	ug/Kg		12/16/24 04:15	12/19/24 19:44	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*25 - 150*	*12/16/24 04:15*	*12/19/24 19:44*	*1*
13C5 PFPeA	*102*		*25 - 150*	*12/16/24 04:15*	*12/19/24 19:44*	*1*
13C2 PFHxA	*105*		*25 - 150*	*12/16/24 04:15*	*12/19/24 19:44*	*1*
13C4 PFHpA	*108*		*25 - 150*	*12/16/24 04:15*	*12/19/24 19:44*	*1*
13C4 PFOA	*105*		*25 - 150*	*12/16/24 04:15*	*12/19/24 19:44*	*1*
13C5 PFNA	*97*		*25 - 150*	*12/16/24 04:15*	*12/19/24 19:44*	*1*
13C2 PFDA	*98*		*25 - 150*	*12/16/24 04:15*	*12/19/24 19:44*	*1*
13C2 PFUnA	*79*		*25 - 150*	*12/16/24 04:15*	*12/19/24 19:44*	*1*
13C2 PFDoA	*73*		*25 - 150*	*12/16/24 04:15*	*12/19/24 19:44*	*1*
13C2 PFTeDA	*67*		*25 - 150*	*12/16/24 04:15*	*12/19/24 19:44*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-822138/1-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 822138

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	102		25 - 150	12/16/24 04:15	12/19/24 19:44	1
18O2 PFHxS	101		25 - 150	12/16/24 04:15	12/19/24 19:44	1
13C4 PFOS	92		25 - 150	12/16/24 04:15	12/19/24 19:44	1
13C8 FOSA	71		25 - 150	12/16/24 04:15	12/19/24 19:44	1
M2-4:2 FTS	85		25 - 150	12/16/24 04:15	12/19/24 19:44	1
M2-6:2 FTS	86		25 - 150	12/16/24 04:15	12/19/24 19:44	1
M2-8:2 FTS	87		25 - 150	12/16/24 04:15	12/19/24 19:44	1
d3-NMeFOSAA	64		25 - 150	12/16/24 04:15	12/19/24 19:44	1
d5-NEtFOSAA	71		25 - 150	12/16/24 04:15	12/19/24 19:44	1
d-N-MeFOSA-M	63		25 - 150	12/16/24 04:15	12/19/24 19:44	1
d-N-EtFOSA-M	58		25 - 150	12/16/24 04:15	12/19/24 19:44	1
d7-N-MeFOSE-M	66		25 - 150	12/16/24 04:15	12/19/24 19:44	1
13C3 HFPO-DA	102		25 - 150	12/16/24 04:15	12/19/24 19:44	1
d9-N-EtFOSE-M	63		25 - 150	12/16/24 04:15	12/19/24 19:44	1

Lab Sample ID: LCS 320-822138/2-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 822138

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	4.00	4.39		ug/Kg		110	76 - 136
Perfluoropentanoic acid (PFPeA)	4.00	4.51		ug/Kg		113	69 - 129
Perfluorohexanoic acid (PFHxA)	4.00	4.35		ug/Kg		109	71 - 131
Perfluoroheptanoic acid (PFHpA)	4.00	4.29		ug/Kg		107	71 - 131
Perfluorooctanoic acid (PFOA)	4.00	4.44		ug/Kg		111	72 - 132
Perfluorononanoic acid (PFNA)	4.00	4.32		ug/Kg		108	73 - 133
Perfluorodecanoic acid (PFDA)	4.00	4.62		ug/Kg		116	72 - 132
Perfluoroundecanoic acid (PFUnA)	4.00	4.50		ug/Kg		113	66 - 126
Perfluorododecanoic acid (PFDoA)	4.00	4.01		ug/Kg		100	71 - 131
Perfluorotridecanoic acid (PFTrDA)	4.00	3.76		ug/Kg		94	71 - 131
Perfluorotetradecanoic acid (PFTeA)	4.00	3.98		ug/Kg		100	67 - 127
Perfluorobutanesulfonic acid (PFBS)	3.55	3.55		ug/Kg		100	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.09		ug/Kg		109	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.80		ug/Kg		104	62 - 122
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.60		ug/Kg		121	76 - 136
Perfluorooctanesulfonic acid (PFOS)	3.72	4.19		ug/Kg		113	68 - 141
Perfluorononanesulfonic acid (PFNS)	3.85	4.67		ug/Kg		121	72 - 132
Perfluorodecanesulfonic acid (PFDS)	3.86	3.84		ug/Kg		100	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.24		ug/Kg		84	70 - 130

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-822138/2-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 822138

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	4.00	4.62		ug/Kg		115	77 - 137
NMeFOSAA	4.00	4.27		ug/Kg		107	72 - 132
NEtFOSAA	4.00	3.59		ug/Kg		90	72 - 132
4:2 FTS	3.75	3.47		ug/Kg		93	68 - 143
6:2 FTS	3.81	4.37		ug/Kg		115	73 - 139
8:2 FTS	3.84	4.40		ug/Kg		114	75 - 135
NEtFOSA	4.00	3.93		ug/Kg		98	47 - 161
NMeFOSA	4.00	3.75		ug/Kg		94	63 - 148
NMeFOSE	4.00	4.33		ug/Kg		108	43 - 153
NEtFOSE	4.00	3.83		ug/Kg		96	44 - 155
HFPO-DA (GenX)	4.00	4.48		ug/Kg		112	53 - 158
9Cl-PF3ONS	3.74	4.38		ug/Kg		117	74 - 134
11Cl-PF3OUdS	3.78	2.94		ug/Kg		78	66 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.67		ug/Kg		123	79 - 139

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*104*		*25 - 150*
13C5 PFPeA	*104*		*25 - 150*
13C2 PFHxA	*105*		*25 - 150*
13C4 PFHpA	*107*		*25 - 150*
13C4 PFOA	*102*		*25 - 150*
13C5 PFNA	*102*		*25 - 150*
13C2 PFDA	*109*		*25 - 150*
13C2 PFUnA	*95*		*25 - 150*
13C2 PFDoA	*97*		*25 - 150*
13C2 PFTeDA	*81*		*25 - 150*
13C3 PFBS	*101*		*25 - 150*
18O2 PFHxS	*98*		*25 - 150*
13C4 PFOS	*94*		*25 - 150*
13C8 FOSA	*87*		*25 - 150*
M2-4:2 FTS	*87*		*25 - 150*
M2-6:2 FTS	*90*		*25 - 150*
M2-8:2 FTS	*84*		*25 - 150*
d3-NMeFOSAA	*95*		*25 - 150*
d5-NEtFOSAA	*100*		*25 - 150*
d-N-MeFOSA-M	*78*		*25 - 150*
d-N-EtFOSA-M	*78*		*25 - 150*
d7-N-MeFOSE-M	*80*		*25 - 150*
13C3 HFPO-DA	*109*		*25 - 150*
d9-N-EtFOSE-M	*80*		*25 - 150*

Lab Sample ID: LCSD 320-822138/3-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 822138

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	4.00	4.25		ug/Kg		106	76 - 136	3	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-822138/3-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 822138

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid (PFPeA)	4.00	4.30		ug/Kg		107	69 - 129	5	30
Perfluorohexanoic acid (PFHxA)	4.00	4.26		ug/Kg		107	71 - 131	2	30
Perfluoroheptanoic acid (PFHpA)	4.00	4.35		ug/Kg		109	71 - 131	1	30
Perfluorooctanoic acid (PFOA)	4.00	4.32		ug/Kg		108	72 - 132	3	30
Perfluorononanoic acid (PFNA)	4.00	4.37		ug/Kg		109	73 - 133	1	30
Perfluorodecanoic acid (PFDA)	4.00	4.52		ug/Kg		113	72 - 132	2	30
Perfluoroundecanoic acid (PFUnA)	4.00	4.44		ug/Kg		111	66 - 126	1	30
Perfluorododecanoic acid (PFDoA)	4.00	3.82		ug/Kg		96	71 - 131	5	30
Perfluorotridecanoic acid (PFTrDA)	4.00	3.84		ug/Kg		96	71 - 131	2	30
Perfluorotetradecanoic acid (PFTeA)	4.00	4.06		ug/Kg		101	67 - 127	2	30
Perfluorobutanesulfonic acid (PFBS)	3.55	3.47		ug/Kg		98	69 - 129	2	30
Perfluoropentanesulfonic acid (PFPeS)	3.76	3.79		ug/Kg		101	66 - 126	8	30
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.55		ug/Kg		97	62 - 122	7	30
Perfluoroheptanesulfonic acid (PFHpS)	3.82	4.72		ug/Kg		124	76 - 136	3	30
Perfluorooctanesulfonic acid (PFOS)	3.72	3.99		ug/Kg		107	68 - 141	5	30
Perfluorononanesulfonic acid (PFNS)	3.85	4.30		ug/Kg		112	72 - 132	8	30
Perfluorodecanesulfonic acid (PFDS)	3.86	3.87		ug/Kg		100	71 - 131	1	30
Perfluorododecanesulfonic acid (PFDoS)	3.88	3.94		ug/Kg		102	70 - 130	19	30
Perfluorooctanesulfonamide (FOSA)	4.00	4.44		ug/Kg		111	77 - 137	4	30
NMeFOSAA	4.00	3.95		ug/Kg		99	72 - 132	8	30
NEtFOSAA	4.00	4.05		ug/Kg		101	72 - 132	12	30
4:2 FTS	3.75	3.54		ug/Kg		94	68 - 143	2	30
6:2 FTS	3.81	4.38		ug/Kg		115	73 - 139	0	30
8:2 FTS	3.84	4.20		ug/Kg		109	75 - 135	5	30
NEtFOSA	4.00	4.01		ug/Kg		100	47 - 161	2	30
NMeFOSA	4.00	3.82		ug/Kg		95	63 - 148	2	30
NMeFOSE	4.00	3.75		ug/Kg		94	43 - 153	14	30
NEtFOSE	4.00	3.85		ug/Kg		96	44 - 155	1	30
HFPO-DA (GenX)	4.00	4.49		ug/Kg		112	53 - 158	0	30
9Cl-PF3ONS	3.74	4.04		ug/Kg		108	74 - 134	8	30
11Cl-PF3OUdS	3.78	2.94		ug/Kg		78	66 - 136	0	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	4.70		ug/Kg		124	79 - 139	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*109*		*25 - 150*
13C5 PFPeA	*109*		*25 - 150*
13C2 PFHxA	*107*		*25 - 150*
13C4 PFHpA	*110*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-822138/3-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 822138

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFOA	*105*		*25 - 150*
13C5 PFNA	*103*		*25 - 150*
13C2 PFDA	*106*		*25 - 150*
13C2 PFUnA	*99*		*25 - 150*
13C2 PFDoA	*94*		*25 - 150*
13C2 PFTeDA	*84*		*25 - 150*
13C3 PFBS	*106*		*25 - 150*
18O2 PFHxS	*105*		*25 - 150*
13C4 PFOS	*95*		*25 - 150*
13C8 FOSA	*89*		*25 - 150*
M2-4:2 FTS	*85*		*25 - 150*
M2-6:2 FTS	*82*		*25 - 150*
M2-8:2 FTS	*96*		*25 - 150*
d3-NMeFOSAA	*99*		*25 - 150*
d5-NEtFOSAA	*99*		*25 - 150*
d-N-MeFOSA-M	*74*		*25 - 150*
d-N-EtFOSA-M	*71*		*25 - 150*
d7-N-MeFOSE-M	*87*		*25 - 150*
13C3 HFPO-DA	*111*		*25 - 150*
d9-N-EtFOSE-M	*84*		*25 - 150*

Lab Sample ID: MB 320-825293/1-A
Matrix: Water
Analysis Batch: 826341

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 825293

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		13	3.1	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluoropentanoic acid (PFPeA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorohexanoic acid (PFHxA)	ND		5.0	1.5	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluoroheptanoic acid (PFHpA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorooctanoic acid (PFOA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorononanoic acid (PFNA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorodecanoic acid (PFDA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	1.8	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorobutanesulfonic acid (PFBS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorohexanesulfonic acid (PFHxS)	ND		5.0	1.4	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorooctanesulfonic acid (PFOS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		01/02/25 04:13	01/03/25 19:03	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	2.5	ng/L		01/02/25 04:13	01/03/25 19:03	1
NMeFOSAA	ND		13	3.1	ng/L		01/02/25 04:13	01/03/25 19:03	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-825293/1-A
Matrix: Water
Analysis Batch: 826341

Client Sample ID: Method Blank
Prep Type: Pre-Treatment
Prep Batch: 825293

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	ND		13	3.1	ng/L		01/02/25 04:13	01/03/25 19:03	1
4:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
6:2 FTS	ND		13	3.1	ng/L		01/02/25 04:13	01/03/25 19:03	1
8:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
NEtFOSA	ND		5.0	2.2	ng/L		01/02/25 04:13	01/03/25 19:03	1
NMeFOSA	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
NMeFOSE	ND		10	3.5	ng/L		01/02/25 04:13	01/03/25 19:03	1
NEtFOSE	ND		5.0	2.1	ng/L		01/02/25 04:13	01/03/25 19:03	1
HFPO-DA (GenX)	ND		10	2.5	ng/L		01/02/25 04:13	01/03/25 19:03	1
9Cl-PF3ONS	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1
11Cl-PF3OUdS	ND		5.0	1.7	ng/L		01/02/25 04:13	01/03/25 19:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:03	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C5 PFPeA	*91*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C2 PFHxA	*97*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C4 PFHpA	*96*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C4 PFOA	*97*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C5 PFNA	*98*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C2 PFDA	*102*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C2 PFUnA	*97*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C2 PFDoA	*107*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C2 PFTeDA	*99*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C3 PFBS	*94*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
18O2 PFHxS	*93*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C4 PFOS	*92*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C8 FOSA	*87*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
M2-4:2 FTS	*103*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
M2-6:2 FTS	*107*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
M2-8:2 FTS	*102*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
d3-NMeFOSAA	*104*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
d5-NEtFOSAA	*114*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
d-N-MeFOSA-M	*81*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
d-N-EtFOSA-M	*79*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
d7-N-MeFOSE-M	*89*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
13C3 HFPO-DA	*94*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*
d9-N-EtFOSE-M	*90*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:03*	*1*

Lab Sample ID: LCS 320-825293/2-A
Matrix: Water
Analysis Batch: 826802

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 825293

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	40.0	42.9		ng/L		107	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	45.7		ng/L		114	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	42.7		ng/L		107	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	42.3		ng/L		106	72 - 132

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-825293/2-A
Matrix: Water
Analysis Batch: 826802

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 825293

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid (PFOA)	40.0	44.6		ng/L		111	70 - 130
Perfluorononanoic acid (PFNA)	40.0	43.5		ng/L		109	68 - 135
Perfluorodecanoic acid (PFDA)	40.0	42.6		ng/L		107	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	45.6		ng/L		114	75 - 135
Perfluorododecanoic acid (PFDoA)	40.0	42.4		ng/L		106	76 - 136
Perfluorotridecanoic acid (PFTrDA)	40.0	46.2		ng/L		116	70 - 130
Perfluorotetradecanoic acid (PFTeA)	40.0	41.7		ng/L		104	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.5	38.2		ng/L		107	76 - 136
Perfluoropentanesulfonic acid (PFPeS)	37.6	41.2		ng/L		110	75 - 135
Perfluorohexanesulfonic acid (PFHxS)	36.5	38.6		ng/L		106	68 - 128
Perfluoroheptanesulfonic acid (PFHpS)	38.2	41.8		ng/L		109	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.2	41.3		ng/L		111	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.5	42.9		ng/L		112	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	42.8		ng/L		111	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	38.8	39.8		ng/L		103	59 - 142
Perfluorooctanesulfonamide (FOSA)	40.0	43.4		ng/L		108	73 - 133
NMeFOSAA	40.0	43.3		ng/L		108	71 - 131
NEtFOSAA	40.0	43.2		ng/L		108	71 - 129
4:2 FTS	37.5	43.9		ng/L		117	71 - 131
6:2 FTS	38.1	36.8		ng/L		97	71 - 131
8:2 FTS	38.4	43.8		ng/L		114	75 - 135
NEtFOSA	40.0	26.4		ng/L		66	65 - 127
NMeFOSA	40.0	26.1	*-	ng/L		65	72 - 132
NMeFOSE	40.0	42.8		ng/L		107	70 - 130
NEtFOSE	40.0	39.8		ng/L		100	71 - 131
HFPO-DA (GenX)	40.0	43.5		ng/L		109	74 - 134
9Cl-PF3ONS	37.4	44.5		ng/L		119	75 - 135
11Cl-PF3OUdS	37.8	41.6		ng/L		110	70 - 142
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	46.8		ng/L		124	66 - 146

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*109*		*25 - 150*
13C5 PFPeA	*111*		*25 - 150*
13C2 PFHxA	*108*		*25 - 150*
13C4 PFHpA	*111*		*25 - 150*
13C4 PFOA	*105*		*25 - 150*
13C5 PFNA	*107*		*25 - 150*
13C2 PFDA	*105*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-825293/2-A
Matrix: Water
Analysis Batch: 826802

Client Sample ID: Lab Control Sample
Prep Type: Pre-Treatment
Prep Batch: 825293

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFUnA	*102*		*25 - 150*
13C2 PFDoA	*106*		*25 - 150*
13C2 PFTeDA	*100*		*25 - 150*
13C3 PFBS	*106*		*25 - 150*
18O2 PFHxS	*109*		*25 - 150*
13C4 PFOS	*102*		*25 - 150*
13C8 FOSA	*105*		*25 - 150*
M2-4:2 FTS	*117*		*25 - 150*
M2-6:2 FTS	*126*		*25 - 150*
M2-8:2 FTS	*104*		*25 - 150*
d3-NMeFOSAA	*120*		*25 - 150*
d5-NEtFOSAA	*125*		*25 - 150*
d-N-MeFOSA-M	*88*		*25 - 150*
d-N-EtFOSA-M	*90*		*25 - 150*
d7-N-MeFOSE-M	*89*		*25 - 150*
13C3 HFPO-DA	*109*		*25 - 150*
d9-N-EtFOSE-M	*93*		*25 - 150*

Lab Sample ID: LCSD 320-825293/3-A
Matrix: Water
Analysis Batch: 826802

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 825293

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	43.7		ng/L		109	76 - 136	2	30
Perfluoropentanoic acid (PFPeA)	40.0	43.2		ng/L		108	71 - 131	6	30
Perfluorohexanoic acid (PFHxA)	40.0	44.4		ng/L		111	73 - 133	4	30
Perfluoroheptanoic acid (PFHpA)	40.0	42.9		ng/L		107	72 - 132	1	30
Perfluorooctanoic acid (PFOA)	40.0	43.6		ng/L		109	70 - 130	2	30
Perfluorononanoic acid (PFNA)	40.0	44.6		ng/L		111	68 - 135	2	30
Perfluorodecanoic acid (PFDA)	40.0	42.9		ng/L		107	76 - 136	1	30
Perfluoroundecanoic acid (PFUnA)	40.0	42.6		ng/L		106	75 - 135	7	30
Perfluorododecanoic acid (PFDoA)	40.0	44.5		ng/L		111	76 - 136	5	30
Perfluorotridecanoic acid (PFTrDA)	40.0	45.2		ng/L		113	70 - 130	2	30
Perfluorotetradecanoic acid (PFTeA)	40.0	41.1		ng/L		103	70 - 130	1	30
Perfluorobutanesulfonic acid (PFBS)	35.5	35.2		ng/L		99	76 - 136	8	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	39.1		ng/L		104	75 - 135	5	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	38.5		ng/L		105	68 - 128	0	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	44.3		ng/L		116	76 - 136	6	30
Perfluorooctanesulfonic acid (PFOS)	37.2	42.5		ng/L		114	70 - 130	3	30
Perfluorononanesulfonic acid (PFNS)	38.5	43.2		ng/L		112	75 - 135	1	30
Perfluorodecanesulfonic acid (PFDS)	38.6	42.6		ng/L		110	71 - 131	0	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-825293/3-A
Matrix: Water
Analysis Batch: 826802

Client Sample ID: Lab Control Sample Dup
Prep Type: Pre-Treatment
Prep Batch: 825293

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorododecanesulfonic acid (PFDoS)			38.8	42.0		ng/L		108	59 - 142	5	30
Perfluorooctanesulfonamide (FOSA)			40.0	41.7		ng/L		104	73 - 133	4	30
NMeFOSAA			40.0	41.7		ng/L		104	71 - 131	4	30
NEtFOSAA			40.0	43.5		ng/L		109	71 - 129	1	30
4:2 FTS			37.5	44.0		ng/L		117	71 - 131	0	30
6:2 FTS			38.1	37.9		ng/L		100	71 - 131	3	30
8:2 FTS			38.4	42.0		ng/L		109	75 - 135	4	30
NEtFOSA			40.0	27.1		ng/L		68	65 - 127	3	30
NMeFOSA			40.0	26.8	*-	ng/L		67	72 - 132	3	30
NMeFOSE			40.0	39.8		ng/L		100	70 - 130	7	30
NEtFOSE			40.0	41.6		ng/L		104	71 - 131	4	30
HFPO-DA (GenX)			40.0	43.9		ng/L		110	74 - 134	1	30
9Cl-PF3ONS			37.4	44.7		ng/L		120	75 - 135	1	30
11Cl-PF3OUdS			37.8	42.0		ng/L		111	70 - 142	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	46.8		ng/L		124	66 - 146	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*100*		*25 - 150*
13C5 PFPeA	*101*		*25 - 150*
13C2 PFHxA	*99*		*25 - 150*
13C4 PFHpA	*101*		*25 - 150*
13C4 PFOA	*102*		*25 - 150*
13C5 PFNA	*101*		*25 - 150*
13C2 PFDA	*97*		*25 - 150*
13C2 PFUnA	*100*		*25 - 150*
13C2 PFDoA	*97*		*25 - 150*
13C2 PFTeDA	*94*		*25 - 150*
13C3 PFBS	*104*		*25 - 150*
18O2 PFHxS	*99*		*25 - 150*
13C4 PFOS	*94*		*25 - 150*
13C8 FOSA	*97*		*25 - 150*
M2-4:2 FTS	*112*		*25 - 150*
M2-6:2 FTS	*108*		*25 - 150*
M2-8:2 FTS	*100*		*25 - 150*
d3-NMeFOSAA	*117*		*25 - 150*
d5-NEtFOSAA	*120*		*25 - 150*
d-N-MeFOSA-M	*82*		*25 - 150*
d-N-EtFOSA-M	*84*		*25 - 150*
d7-N-MeFOSE-M	*86*		*25 - 150*
13C3 HFPO-DA	*101*		*25 - 150*
d9-N-EtFOSE-M	*85*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-822142/1-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 822142

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.639	J	1.0	0.23	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluoropentanoic acid (PFPeA)	ND		1.0	0.21	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorohexanoic acid (PFHxA)	ND		1.0	0.16	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluoroheptanoic acid (PFHpA)	ND		1.0	0.19	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorooctanoic acid (PFOA)	ND		1.0	0.27	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorononanoic acid (PFNA)	ND		1.0	0.11	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorodecanoic acid (PFDA)	ND		1.0	0.24	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluoroundecanoic acid (PFUnA)	ND		1.0	0.21	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorododecanoic acid (PFDoA)	ND		1.0	0.15	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.0	0.11	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.0	0.19	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.0	0.19	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.0	0.19	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.0	0.15	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.0	0.25	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.0	0.22	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorononanesulfonic acid (PFNS)	ND		1.0	0.15	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.0	0.26	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.0	0.24	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
Perfluorooctanesulfonamide (FOSA)	ND		1.0	0.17	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
NMeFOSAA	ND		1.0	0.12	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
NEtFOSAA	ND		1.0	0.24	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
4:2 FTS	ND		1.0	0.26	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
6:2 FTS	ND		1.0	0.14	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
8:2 FTS	ND		1.0	0.18	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
NEtFOSA	ND		1.0	0.24	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
NMeFOSA	ND		1.0	0.25	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
NMeFOSE	ND		1.0	0.24	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
NEtFOSE	ND		1.0	0.14	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
HFPO-DA (GenX)	ND		1.0	0.21	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
9Cl-PF3ONS	ND		1.0	0.18	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
11Cl-PF3OUdS	ND		1.0	0.16	ug/Kg		12/16/24 05:18	12/19/24 21:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.0	0.20	ug/Kg		12/16/24 05:18	12/19/24 21:36	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*25 - 150*	*12/16/24 05:18*	*12/19/24 21:36*	*1*
13C5 PFPeA	*106*		*25 - 150*	*12/16/24 05:18*	*12/19/24 21:36*	*1*
13C2 PFHxA	*100*		*25 - 150*	*12/16/24 05:18*	*12/19/24 21:36*	*1*
13C4 PFHpA	*104*		*25 - 150*	*12/16/24 05:18*	*12/19/24 21:36*	*1*
13C4 PFOA	*102*		*25 - 150*	*12/16/24 05:18*	*12/19/24 21:36*	*1*
13C5 PFNA	*97*		*25 - 150*	*12/16/24 05:18*	*12/19/24 21:36*	*1*
13C2 PFDA	*94*		*25 - 150*	*12/16/24 05:18*	*12/19/24 21:36*	*1*
13C2 PFUnA	*84*		*25 - 150*	*12/16/24 05:18*	*12/19/24 21:36*	*1*
13C2 PFDoA	*86*		*25 - 150*	*12/16/24 05:18*	*12/19/24 21:36*	*1*
13C2 PFTeDA	*73*		*25 - 150*	*12/16/24 05:18*	*12/19/24 21:36*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-822142/1-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 822142

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	105		25 - 150	12/16/24 05:18	12/19/24 21:36	1
18O2 PFHxS	104		25 - 150	12/16/24 05:18	12/19/24 21:36	1
13C4 PFOS	89		25 - 150	12/16/24 05:18	12/19/24 21:36	1
13C8 FOSA	88		25 - 150	12/16/24 05:18	12/19/24 21:36	1
M2-4:2 FTS	0		0 - 10	12/16/24 05:18	12/19/24 21:36	1
M2-6:2 FTS	82		25 - 150	12/16/24 05:18	12/19/24 21:36	1
M2-8:2 FTS	87		25 - 150	12/16/24 05:18	12/19/24 21:36	1
d3-NMeFOSAA	89		25 - 150	12/16/24 05:18	12/19/24 21:36	1
d5-NEtFOSAA	91		25 - 150	12/16/24 05:18	12/19/24 21:36	1
d-N-MeFOSA-M	68		25 - 150	12/16/24 05:18	12/19/24 21:36	1
d-N-EtFOSA-M	60		25 - 150	12/16/24 05:18	12/19/24 21:36	1
d7-N-MeFOSE-M	74		25 - 150	12/16/24 05:18	12/19/24 21:36	1
13C3 HFPO-DA	100		25 - 150	12/16/24 05:18	12/19/24 21:36	1
d9-N-EtFOSE-M	69		25 - 150	12/16/24 05:18	12/19/24 21:36	1

Lab Sample ID: LCS 320-822142/2-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 822142

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	4.00	9.86		ug/Kg		247	167 - 261
Perfluoropentanoic acid (PFPeA)	4.00	11.0	*+	ug/Kg		276	159 - 221
Perfluorohexanoic acid (PFHxA)	4.00	11.3	*+	ug/Kg		283	208 - 257
Perfluoroheptanoic acid (PFHpA)	4.00	9.28		ug/Kg		232	189 - 267
Perfluorooctanoic acid (PFOA)	4.00	18.9		ug/Kg		472	372 - 496
Perfluorononanoic acid (PFNA)	4.00	7.92		ug/Kg		198	154 - 205
Perfluorodecanoic acid (PFDA)	4.00	6.37		ug/Kg		159	130 - 190
Perfluoroundecanoic acid (PFUnA)	4.00	4.49		ug/Kg		112	81 - 141
Perfluorododecanoic acid (PFDoA)	4.00	4.07		ug/Kg		102	84 - 144
Perfluorotridecanoic acid (PFTrDA)	4.00	3.24		ug/Kg		81	78 - 138
Perfluorobutanesulfonic acid (PFBS)	3.55	3.87		ug/Kg		109	89 - 149
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.13		ug/Kg		110	94 - 154
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.78		ug/Kg		104	73 - 133
Perfluoroheptanesulfonic acid (PFHpS)	3.82	5.10	*+	ug/Kg		134	68 - 128
Perfluorooctanesulfonic acid (PFOS)	3.72	4.30		ug/Kg		116	70 - 138
Perfluorononanesulfonic acid (PFNS)	3.85	4.07		ug/Kg		106	66 - 126
Perfluorodecanesulfonic acid (PFDS)	3.86	3.54		ug/Kg		92	66 - 126
Perfluorododecanesulfonic acid (PFDoS)	3.88	2.31		ug/Kg		59	47 - 107
Perfluorooctanesulfonamide (FOSA)	4.00	ND		ug/Kg		1	0 - 10
NMeFOSAA	4.00	ND		ug/Kg		0	0 - 10

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-822142/2-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 822142

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
NEtFOSAA	4.00	ND		ug/Kg		0	0 - 10
4:2 FTS	3.75	ND		ug/Kg		0	0 - 10
6:2 FTS	3.81	ND		ug/Kg		0	0 - 10
8:2 FTS	3.84	ND		ug/Kg		0	0 - 12
NEtFOSA	4.00	ND		ug/Kg		0	0 - 10
NMeFOSA	4.00	ND		ug/Kg		0	0 - 10
NMeFOSE	4.00	ND		ug/Kg		0	0 - 10
NEtFOSE	4.00	ND		ug/Kg		0	0 - 10
HFPO-DA (GenX)	4.00	4.25		ug/Kg		106	53 - 158
9Cl-PF3ONS	3.74	3.81		ug/Kg		102	74 - 134
11Cl-PF3OUdS	3.78	1.75		ug/Kg		46	46 - 106
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	ND		ug/Kg		0.4	0 - 10

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*100*		*25 - 150*
13C5 PFPeA	*97*		*25 - 150*
13C2 PFHxA	*99*		*25 - 150*
13C4 PFHpA	*105*		*25 - 150*
13C4 PFOA	*100*		*25 - 150*
13C5 PFNA	*92*		*25 - 150*
13C2 PFDA	*94*		*25 - 150*
13C2 PFUnA	*83*		*25 - 150*
13C2 PFDoA	*78*		*25 - 150*
13C2 PFTeDA	*65*		*25 - 150*
13C3 PFBS	*102*		*25 - 150*
18O2 PFHxS	*103*		*25 - 150*
13C4 PFOS	*88*		*25 - 150*
13C8 FOSA	*86*		*25 - 150*
M2-4:2 FTS	*0*		*0 - 10*
M2-6:2 FTS	*83*		*25 - 150*
M2-8:2 FTS	*85*		*25 - 150*
d3-NMeFOSAA	*80*		*25 - 150*
d5-NEtFOSAA	*85*		*25 - 150*
d-N-MeFOSA-M	*66*		*25 - 150*
d-N-EtFOSA-M	*60*		*25 - 150*
d7-N-MeFOSE-M	*71*		*25 - 150*
13C3 HFPO-DA	*105*		*25 - 150*
d9-N-EtFOSE-M	*63*		*25 - 150*

Lab Sample ID: LCSD 320-822142/3-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 822142

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	4.00	9.97		ug/Kg		249	167 - 261	1	30
Perfluoropentanoic acid (PFPeA)	4.00	9.52	*+	ug/Kg		238	159 - 221	15	30
Perfluorohexanoic acid (PFHxA)	4.00	10.9	*+	ug/Kg		273	208 - 257	4	30
Perfluoroheptanoic acid (PFHpA)	4.00	9.09		ug/Kg		227	189 - 267	2	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-822142/3-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 822142

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorooctanoic acid (PFOA)	4.00	19.2		ug/Kg		481	372 - 496	2	30
Perfluorononanoic acid (PFNA)	4.00	7.62		ug/Kg		190	154 - 205	4	30
Perfluorodecanoic acid (PFDA)	4.00	6.44		ug/Kg		161	130 - 190	1	30
Perfluoroundecanoic acid (PFUnA)	4.00	4.25		ug/Kg		106	81 - 141	5	30
Perfluorododecanoic acid (PFDoA)	4.00	3.78		ug/Kg		94	84 - 144	7	30
Perfluorotridecanoic acid (PFTrDA)	4.00	2.59	*-	ug/Kg		65	78 - 138	22	30
Perfluorobutanesulfonic acid (PFBS)	3.55	3.89		ug/Kg		110	89 - 149	0	30
Perfluoropentanesulfonic acid (PFPeS)	3.76	4.18		ug/Kg		111	94 - 154	1	30
Perfluorohexanesulfonic acid (PFHxS)	3.65	3.84		ug/Kg		105	73 - 133	2	30
Perfluoroheptanesulfonic acid (PFHpS)	3.82	5.39	*+	ug/Kg		141	68 - 128	6	30
Perfluorooctanesulfonic acid (PFOS)	3.72	4.31		ug/Kg		116	70 - 138	0	30
Perfluorononanesulfonic acid (PFNS)	3.85	3.43		ug/Kg		89	66 - 126	17	30
Perfluorodecanesulfonic acid (PFDS)	3.86	2.81		ug/Kg		73	66 - 126	23	30
Perfluorododecanesulfonic acid (PFDoS)	3.88	1.73	*-	ug/Kg		45	47 - 107	28	30
Perfluorooctanesulfonamide (FOSA)	4.00	ND	*1	ug/Kg		0.8	0 - 10	52	30
NMeFOSAA	4.00	ND		ug/Kg		0	0 - 10	NC	30
NEtFOSAA	4.00	ND		ug/Kg		0	0 - 10	NC	30
4:2 FTS	3.75	ND		ug/Kg		0	0 - 10	NC	30
6:2 FTS	3.81	ND		ug/Kg		0	0 - 10	NC	30
8:2 FTS	3.84	ND		ug/Kg		0	0 - 12	NC	30
NEtFOSA	4.00	ND		ug/Kg		0	0 - 10	NC	30
NMeFOSA	4.00	ND		ug/Kg		0	0 - 10	NC	30
NMeFOSE	4.00	ND		ug/Kg		0	0 - 10	NC	30
NEtFOSE	4.00	ND		ug/Kg		0	0 - 10	NC	30
HFPO-DA (GenX)	4.00	4.22		ug/Kg		105	53 - 158	1	30
9Cl-PF3ONS	3.74	3.63		ug/Kg		97	74 - 134	5	30
11Cl-PF3OUdS	3.78	1.45	*-	ug/Kg		38	46 - 106	19	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	3.78	ND	*1	ug/Kg		0.6	0 - 10	43	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*98*		*25 - 150*
13C5 PFPeA	*103*		*25 - 150*
13C2 PFHxA	*99*		*25 - 150*
13C4 PFHpA	*102*		*25 - 150*
13C4 PFOA	*96*		*25 - 150*
13C5 PFNA	*90*		*25 - 150*
13C2 PFDA	*85*		*25 - 150*
13C2 PFUnA	*69*		*25 - 150*
13C2 PFDoA	*57*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-822142/3-A
Matrix: Solid
Analysis Batch: 823588

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 822142

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFTeDA	*52*		*25 - 150*
13C3 PFBS	*98*		*25 - 150*
18O2 PFHxS	*94*		*25 - 150*
13C4 PFOS	*77*		*25 - 150*
13C8 FOSA	*64*		*25 - 150*
M2-4:2 FTS	*0*		*0 - 10*
M2-6:2 FTS	*79*		*25 - 150*
M2-8:2 FTS	*72*		*25 - 150*
d3-NMeFOSAA	*58*		*25 - 150*
d5-NEtFOSAA	*61*		*25 - 150*
d-N-MeFOSA-M	*53*		*25 - 150*
d-N-EtFOSA-M	*50*		*25 - 150*
d7-N-MeFOSE-M	*55*		*25 - 150*
13C3 HFPO-DA	*103*		*25 - 150*
d9-N-EtFOSE-M	*51*		*25 - 150*

Lab Sample ID: MB 320-825295/1-A
Matrix: Water
Analysis Batch: 826342

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 825295

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	5.11	J	13	3.1	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluoropentanoic acid (PFPeA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorohexanoic acid (PFHxA)	ND		5.0	1.5	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluoroheptanoic acid (PFHpA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorooctanoic acid (PFOA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorononanoic acid (PFNA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorodecanoic acid (PFDA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	1.8	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorobutanesulfonic acid (PFBS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorohexanesulfonic acid (PFHxS)	ND		5.0	1.4	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorooctanesulfonic acid (PFOS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		01/02/25 04:19	01/04/25 00:26	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	2.5	ng/L		01/02/25 04:19	01/04/25 00:26	1
NMeFOSAA	ND		13	3.1	ng/L		01/02/25 04:19	01/04/25 00:26	1
NEtFOSAA	ND		13	3.1	ng/L		01/02/25 04:19	01/04/25 00:26	1
4:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
6:2 FTS	ND		13	3.1	ng/L		01/02/25 04:19	01/04/25 00:26	1
8:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
NEtFOSA	ND		5.0	2.2	ng/L		01/02/25 04:19	01/04/25 00:26	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-825295/1-A
Matrix: Water
Analysis Batch: 826342

Client Sample ID: Method Blank
Prep Type: Post-Treatment
Prep Batch: 825295

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
NMeFOSE	ND		10	3.5	ng/L		01/02/25 04:19	01/04/25 00:26	1
NEtFOSE	ND		5.0	2.1	ng/L		01/02/25 04:19	01/04/25 00:26	1
HFPO-DA (GenX)	ND		10	2.5	ng/L		01/02/25 04:19	01/04/25 00:26	1
9Cl-PF3ONS	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1
11Cl-PF3OUdS	ND		5.0	1.7	ng/L		01/02/25 04:19	01/04/25 00:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 00:26	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C5 PFPeA	*94*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C2 PFHxA	*96*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C4 PFHpA	*101*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C4 PFOA	*98*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C5 PFNA	*96*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C2 PFDA	*91*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C2 PFUnA	*76*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C2 PFDoA	*71*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C2 PFTeDA	*57*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C3 PFBS	*99*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
18O2 PFHxS	*97*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C4 PFOS	*87*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C8 FOSA	*66*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
M2-6:2 FTS	*109*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
M2-8:2 FTS	*95*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
d3-NMeFOSAA	*94*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
d5-NEtFOSAA	*89*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
d-N-MeFOSA-M	*55*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
d-N-EtFOSA-M	*49*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
d7-N-MeFOSE-M	*51*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
13C3 HFPO-DA	*94*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*
d9-N-EtFOSE-M	*46*		*25 - 150*	*01/02/25 04:19*	*01/04/25 00:26*	*1*

Lab Sample ID: LCS 320-825295/2-A
Matrix: Water
Analysis Batch: 826802

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 825295

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	40.0	92.2		ng/L		230	157 - 278
Perfluoropentanoic acid (PFPeA)	40.0	87.4	*+	ng/L		218	151 - 208
Perfluorohexanoic acid (PFHxA)	40.0	108	*+	ng/L		270	194 - 269
Perfluoroheptanoic acid (PFHpA)	40.0	87.2		ng/L		218	199 - 252
Perfluorooctanoic acid (PFOA)	40.0	188		ng/L		471	351 - 490
Perfluorononanoic acid (PFNA)	40.0	73.3		ng/L		183	145 - 205
Perfluorodecanoic acid (PFDA)	40.0	58.5		ng/L		146	130 - 190
Perfluoroundecanoic acid (PFUnA)	40.0	41.3		ng/L		103	82 - 142

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-825295/2-A
Matrix: Water
Analysis Batch: 826802

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 825295

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorododecanoic acid (PFDoA)	40.0	35.9		ng/L		90	82 - 142
Perfluorotridecanoic acid (PFTrDA)	40.0	35.2		ng/L		88	85 - 145
Perfluorotetradecanoic acid (PFTeA)	40.0	32.4		ng/L		81	72 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	34.6		ng/L		97	84 - 144
Perfluoropentanesulfonic acid (PFPeS)	37.6	37.6		ng/L		100	83 - 143
Perfluorohexanesulfonic acid (PFHxS)	36.5	34.9		ng/L		96	73 - 133
Perfluoroheptanesulfonic acid (PFHpS)	38.2	45.6		ng/L		120	80 - 140
Perfluorooctanesulfonic acid (PFOS)	37.2	40.1		ng/L		108	82 - 142
Perfluorononanesulfonic acid (PFNS)	38.5	30.4		ng/L		79	79 - 139
Perfluorodecanesulfonic acid (PFDS)	38.6	22.8	*-	ng/L		59	71 - 131
Perfluorododecanesulfonic acid (PFDoS)	38.8	20.4		ng/L		53	52 - 139
Perfluorooctanesulfonamide (FOSA)	40.0	ND		ng/L		1	0 - 10
NMeFOSAA	40.0	ND		ng/L		0	0 - 10
NEtFOSAA	40.0	ND		ng/L		0	0 - 10
4:2 FTS	37.5	ND		ng/L		0	0 - 10
6:2 FTS	38.1	ND		ng/L		0	0 - 10
8:2 FTS	38.4	ND		ng/L		0	0 - 10
NEtFOSA	40.0	ND		ng/L		0	0 - 10
NMeFOSA	40.0	ND		ng/L		0	0 - 10
NMeFOSE	40.0	ND		ng/L		0	0 - 10
NEtFOSE	40.0	ND		ng/L		0	0 - 10
HFPO-DA (GenX)	40.0	38.6		ng/L		97	52 - 112
9Cl-PF3ONS	37.4	29.0		ng/L		78	66 - 126
11Cl-PF3OUdS	37.8	9.37	*-	ng/L		25	45 - 105
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	ND		ng/L		0.4	0 - 10

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*102*		*25 - 150*
13C5 PFPeA	*109*		*25 - 150*
13C2 PFHxA	*109*		*25 - 150*
13C4 PFHpA	*109*		*25 - 150*
13C4 PFOA	*107*		*25 - 150*
13C5 PFNA	*103*		*25 - 150*
13C2 PFDA	*82*		*25 - 150*
13C2 PFUnA	*66*		*25 - 150*
13C2 PFDoA	*62*		*25 - 150*
13C2 PFTeDA	*58*		*25 - 150*
13C3 PFBS	*112*		*25 - 150*
18O2 PFHxS	*112*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-825295/2-A
Matrix: Water
Analysis Batch: 826802

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 825295

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFOS	*91*		*25 - 150*
13C8 FOSA	*66*		*25 - 150*
M2-4:2 FTS	*0*		*0 - 10*
M2-6:2 FTS	*124*		*25 - 150*
M2-8:2 FTS	*92*		*25 - 150*
d3-NMeFOSAA	*78*		*25 - 150*
d5-NEtFOSAA	*71*		*25 - 150*
d-N-MeFOSA-M	*55*		*25 - 150*
d-N-EtFOSA-M	*50*		*25 - 150*
d7-N-MeFOSE-M	*48*		*25 - 150*
13C3 HFPO-DA	*107*		*25 - 150*
d9-N-EtFOSE-M	*46*		*25 - 150*

Lab Sample ID: LCSD 320-825295/3-A
Matrix: Water
Analysis Batch: 826802

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 825295

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	40.0	91.8		ng/L		229	157 - 278	0	30
Perfluoropentanoic acid (PFPeA)	40.0	90.7	*+	ng/L		227	151 - 208	4	30
Perfluorohexanoic acid (PFHxA)	40.0	112	*+	ng/L		279	194 - 269	3	30
Perfluoroheptanoic acid (PFHpA)	40.0	93.3		ng/L		233	199 - 252	7	30
Perfluorooctanoic acid (PFOA)	40.0	194		ng/L		486	351 - 490	3	30
Perfluorononanoic acid (PFNA)	40.0	78.5		ng/L		196	145 - 205	7	30
Perfluorodecanoic acid (PFDA)	40.0	61.1		ng/L		153	130 - 190	4	30
Perfluoroundecanoic acid (PFUnA)	40.0	41.2		ng/L		103	82 - 142	0	30
Perfluorododecanoic acid (PFDoA)	40.0	37.0		ng/L		93	82 - 142	3	30
Perfluorotridecanoic acid (PFTrDA)	40.0	33.4	*-	ng/L		84	85 - 145	5	30
Perfluorotetradecanoic acid (PFTeA)	40.0	33.0		ng/L		83	72 - 132	2	30
Perfluorobutanesulfonic acid (PFBS)	35.5	35.3		ng/L		99	84 - 144	2	30
Perfluoropentanesulfonic acid (PFPeS)	37.6	39.8		ng/L		106	83 - 143	6	30
Perfluorohexanesulfonic acid (PFHxS)	36.5	37.3		ng/L		102	73 - 133	7	30
Perfluoroheptanesulfonic acid (PFHpS)	38.2	47.3		ng/L		124	80 - 140	4	30
Perfluorooctanesulfonic acid (PFOS)	37.2	41.8		ng/L		112	82 - 142	4	30
Perfluorononanesulfonic acid (PFNS)	38.5	33.2		ng/L		86	79 - 139	9	30
Perfluorodecanesulfonic acid (PFDS)	38.6	23.6	*-	ng/L		61	71 - 131	3	30
Perfluorododecanesulfonic acid (PFDoS)	38.8	18.9	*-	ng/L		49	52 - 139	8	30
Perfluorooctanesulfonamide (FOSA)	40.0	ND		ng/L		2	0 - 10	29	30
NMeFOSAA	40.0	ND		ng/L		0	0 - 10	NC	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-825295/3-A
Matrix: Water
Analysis Batch: 826802

Client Sample ID: Lab Control Sample Dup
Prep Type: Post-Treatment
Prep Batch: 825295

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
NEtFOSAA			40.0	ND		ng/L		0	0 - 10	NC	30
4:2 FTS			37.5	ND		ng/L		0	0 - 10	NC	30
6:2 FTS			38.1	ND		ng/L		0	0 - 10	NC	30
8:2 FTS			38.4	ND		ng/L		0	0 - 10	NC	30
NEtFOSA			40.0	ND		ng/L		0	0 - 10	NC	30
NMeFOSA			40.0	ND		ng/L		0	0 - 10	NC	30
NMeFOSE			40.0	ND		ng/L		0	0 - 10	NC	30
NEtFOSE			40.0	ND		ng/L		0	0 - 10	NC	30
HFPO-DA (GenX)			40.0	38.7		ng/L		97	52 - 112	0	30
9Cl-PF3ONS			37.4	31.5		ng/L		84	66 - 126	8	30
11Cl-PF3OUdS			37.8	9.47	*-	ng/L		25	45 - 105	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	ND	*1	ng/L		0.7	0 - 10	62	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*109*		*25 - 150*
13C5 PFPeA	*106*		*25 - 150*
13C2 PFHxA	*105*		*25 - 150*
13C4 PFHpA	*108*		*25 - 150*
13C4 PFOA	*104*		*25 - 150*
13C5 PFNA	*99*		*25 - 150*
13C2 PFDA	*76*		*25 - 150*
13C2 PFUnA	*65*		*25 - 150*
13C2 PFDoA	*56*		*25 - 150*
13C2 PFTeDA	*55*		*25 - 150*
13C3 PFBS	*108*		*25 - 150*
18O2 PFHxS	*107*		*25 - 150*
13C4 PFOS	*87*		*25 - 150*
13C8 FOSA	*63*		*25 - 150*
M2-4:2 FTS	*0*		*0 - 10*
M2-6:2 FTS	*116*		*25 - 150*
M2-8:2 FTS	*77*		*25 - 150*
d3-NMeFOSAA	*65*		*25 - 150*
d5-NEtFOSAA	*62*		*25 - 150*
d-N-MeFOSA-M	*58*		*25 - 150*
d-N-EtFOSA-M	*54*		*25 - 150*
d7-N-MeFOSE-M	*49*		*25 - 150*
13C3 HFPO-DA	*110*		*25 - 150*
d9-N-EtFOSE-M	*45*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances - RA

Lab Sample ID: LCS 320-822142/2-A
Matrix: Solid
Analysis Batch: 823590

Client Sample ID: Lab Control Sample
Prep Type: Post-Treatment
Prep Batch: 822142

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluorotetradecanoic acid (PFTeA) - RA			4.00	3.76		ug/Kg		94	72 - 132		

Method: 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C2 PFTeDA - RA	66		25 - 150

Lab Sample ID: LCSD 320-822142/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Post-Treatment**
Analysis Batch: 823590 — **Prep Batch: 822142**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorotetradecanoic acid (PFTeA) - RA			4.00	3.02		ug/Kg		76	72 - 132	22	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C2 PFTeDA - RA	55		25 - 150

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-799379/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 799379

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			12/13/24 16:09	1

Lab Sample ID: LCS 500-799379/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 799379

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			200	174		mg/L		87	80 - 120		

Lab Sample ID: MB 500-799572/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 799572

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		5.0	1.9	mg/L			12/16/24 12:50	1

Lab Sample ID: LCS 500-799572/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 799572

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Suspended Solids			200	186		mg/L		93	80 - 120		

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

LCMS

Prep Batch: 821951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-7	Eff-202412	Total/NA	Water	3535	
320-117663-8	EB01-202412	Total/NA	Water	3535	
320-117663-12	EB02-202412	Total/NA	Water	3535	
MB 320-821951/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-821951/3-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-821951/4-A	Lab Control Sample Dup	Total/NA	Water	3535	
LLCS 320-821951/2-A	Lab Control Sample	Total/NA	Water	3535	

Prep Batch: 822138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-9	BIO-A-22-202412	Pre-Treatment	Solid	TOP Pre-Prep	
320-117663-10	BIO-A-23-202412	Pre-Treatment	Solid	TOP Pre-Prep	
320-117663-11	BIO-A-24-202412	Pre-Treatment	Solid	TOP Pre-Prep	
320-117663-13	BIO-B-202412	Pre-Treatment	Solid	TOP Pre-Prep	
MB 320-822138/1-A	Method Blank	Pre-Treatment	Solid	TOP Pre-Prep	
LCS 320-822138/2-A	Lab Control Sample	Pre-Treatment	Solid	TOP Pre-Prep	
LCSD 320-822138/3-A	Lab Control Sample Dup	Pre-Treatment	Solid	TOP Pre-Prep	

Prep Batch: 822142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-9	BIO-A-22-202412	Post-Treatment	Solid	TOP Post-Prep	
320-117663-10	BIO-A-23-202412	Post-Treatment	Solid	TOP Post-Prep	
320-117663-11	BIO-A-24-202412	Post-Treatment	Solid	TOP Post-Prep	
320-117663-13	BIO-B-202412	Post-Treatment	Solid	TOP Post-Prep	
MB 320-822142/1-A	Method Blank	Post-Treatment	Solid	TOP Post-Prep	
LCS 320-822142/2-A	Lab Control Sample	Post-Treatment	Solid	TOP Post-Prep	
LCS 320-822142/2-A - RA	Lab Control Sample	Post-Treatment	Solid	TOP Post-Prep	
LCSD 320-822142/3-A - RA	Lab Control Sample Dup	Post-Treatment	Solid	TOP Post-Prep	
LCSD 320-822142/3-A	Lab Control Sample Dup	Post-Treatment	Solid	TOP Post-Prep	

Analysis Batch: 822223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-7	Eff-202412	Total/NA	Water	537 (modified)	821951
320-117663-8	EB01-202412	Total/NA	Water	537 (modified)	821951
320-117663-12	EB02-202412	Total/NA	Water	537 (modified)	821951
MB 320-821951/1-A	Method Blank	Total/NA	Water	537 (modified)	821951
LCS 320-821951/3-A	Lab Control Sample	Total/NA	Water	537 (modified)	821951
LCSD 320-821951/4-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	821951
LLCS 320-821951/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	821951

Prep Batch: 822468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-9	BIO-A-22-202412	Total/NA	Solid	SHAKE	
320-117663-10	BIO-A-23-202412	Total/NA	Solid	SHAKE	
320-117663-11	BIO-A-24-202412	Total/NA	Solid	SHAKE	
320-117663-13	BIO-B-202412	Total/NA	Solid	SHAKE	
MB 320-822468/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-822468/3-A	Lab Control Sample	Total/NA	Solid	SHAKE	
LLCS 320-822468/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-117663-9 MS	BIO-A-22-202412	Total/NA	Solid	SHAKE	
320-117663-9 MSD	BIO-A-22-202412	Total/NA	Solid	SHAKE	

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

LCMS

Analysis Batch: 822653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-9	BIO-A-22-202412	Total/NA	Solid	537 (modified)	822468
320-117663-10	BIO-A-23-202412	Total/NA	Solid	537 (modified)	822468
320-117663-11	BIO-A-24-202412	Total/NA	Solid	537 (modified)	822468
320-117663-13	BIO-B-202412	Total/NA	Solid	537 (modified)	822468
MB 320-822468/1-A	Method Blank	Total/NA	Solid	537 (modified)	822468
LCS 320-822468/3-A	Lab Control Sample	Total/NA	Solid	537 (modified)	822468
LLCS 320-822468/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	822468
320-117663-9 MS	BIO-A-22-202412	Total/NA	Solid	537 (modified)	822468
320-117663-9 MSD	BIO-A-22-202412	Total/NA	Solid	537 (modified)	822468

Prep Batch: 822908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-1	Inf-02-202412	Total/NA	Water	3535	
320-117663-2	Inf-07-202412	Total/NA	Water	3535	
320-117663-3	Inf-08-202412	Total/NA	Water	3535	
320-117663-4	Inf-11-202412	Total/NA	Water	3535	
320-117663-5	Inf-18-202412	Total/NA	Water	3535	
320-117663-6	Inf-Comp-202412	Total/NA	Water	3535	
MB 320-822908/1-A	Method Blank	Total/NA	Water	3535	
LLCS 320-822908/2-A	Lab Control Sample	Total/NA	Water	3535	
LLCSD 320-822908/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 823300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-1	Inf-02-202412	Total/NA	Water	537 (modified)	822908
320-117663-2	Inf-07-202412	Total/NA	Water	537 (modified)	822908
320-117663-3	Inf-08-202412	Total/NA	Water	537 (modified)	822908
320-117663-4	Inf-11-202412	Total/NA	Water	537 (modified)	822908
320-117663-5	Inf-18-202412	Total/NA	Water	537 (modified)	822908
320-117663-6	Inf-Comp-202412	Total/NA	Water	537 (modified)	822908
MB 320-822908/1-A	Method Blank	Total/NA	Water	537 (modified)	822908
LLCS 320-822908/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	822908
LLCSD 320-822908/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	822908

Analysis Batch: 823588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-9	BIO-A-22-202412	Post-Treatment	Solid	537 (modified)	822142
320-117663-9	BIO-A-22-202412	Pre-Treatment	Solid	537 (modified)	822138
320-117663-10	BIO-A-23-202412	Post-Treatment	Solid	537 (modified)	822142
320-117663-10	BIO-A-23-202412	Pre-Treatment	Solid	537 (modified)	822138
320-117663-11	BIO-A-24-202412	Post-Treatment	Solid	537 (modified)	822142
320-117663-11	BIO-A-24-202412	Pre-Treatment	Solid	537 (modified)	822138
320-117663-13	BIO-B-202412	Post-Treatment	Solid	537 (modified)	822142
320-117663-13	BIO-B-202412	Pre-Treatment	Solid	537 (modified)	822138
MB 320-822138/1-A	Method Blank	Pre-Treatment	Solid	537 (modified)	822138
MB 320-822142/1-A	Method Blank	Post-Treatment	Solid	537 (modified)	822142
LCS 320-822138/2-A	Lab Control Sample	Pre-Treatment	Solid	537 (modified)	822138
LCS 320-822142/2-A	Lab Control Sample	Post-Treatment	Solid	537 (modified)	822142
LCSD 320-822138/3-A	Lab Control Sample Dup	Pre-Treatment	Solid	537 (modified)	822138
LCSD 320-822142/3-A	Lab Control Sample Dup	Post-Treatment	Solid	537 (modified)	822142

QC Association Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

LCMS

Analysis Batch: 823590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-822142/2-A - RA	Lab Control Sample	Post-Treatment	Solid	537 (modified)	822142
LCSD 320-822142/3-A - RA	Lab Control Sample Dup	Post-Treatment	Solid	537 (modified)	822142

Prep Batch: 825293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-7	Eff-202412	Pre-Treatment	Water	TOP Pre - Prep	
MB 320-825293/1-A	Method Blank	Pre-Treatment	Water	TOP Pre - Prep	
LCS 320-825293/2-A	Lab Control Sample	Pre-Treatment	Water	TOP Pre - Prep	
LCSD 320-825293/3-A	Lab Control Sample Dup	Pre-Treatment	Water	TOP Pre - Prep	

Prep Batch: 825295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-7	Eff-202412	Post-Treatment	Water	TOP Post Prep	
MB 320-825295/1-A	Method Blank	Post-Treatment	Water	TOP Post Prep	
LCS 320-825295/2-A	Lab Control Sample	Post-Treatment	Water	TOP Post Prep	
LCSD 320-825295/3-A	Lab Control Sample Dup	Post-Treatment	Water	TOP Post Prep	

Analysis Batch: 826341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-7	Eff-202412	Pre-Treatment	Water	537 (modified)	825293
MB 320-825293/1-A	Method Blank	Pre-Treatment	Water	537 (modified)	825293

Analysis Batch: 826342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-7	Eff-202412	Post-Treatment	Water	537 (modified)	825295
MB 320-825295/1-A	Method Blank	Post-Treatment	Water	537 (modified)	825295

Analysis Batch: 826802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-825293/2-A	Lab Control Sample	Pre-Treatment	Water	537 (modified)	825293
LCS 320-825295/2-A	Lab Control Sample	Post-Treatment	Water	537 (modified)	825295
LCSD 320-825293/3-A	Lab Control Sample Dup	Pre-Treatment	Water	537 (modified)	825293
LCSD 320-825295/3-A	Lab Control Sample Dup	Post-Treatment	Water	537 (modified)	825295

General Chemistry

Analysis Batch: 799379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-1	Inf-02-202412	Total/NA	Water	SM 2540D	
320-117663-2	Inf-07-202412	Total/NA	Water	SM 2540D	
320-117663-3	Inf-08-202412	Total/NA	Water	SM 2540D	
320-117663-4	Inf-11-202412	Total/NA	Water	SM 2540D	
320-117663-5	Inf-18-202412	Total/NA	Water	SM 2540D	
320-117663-6	Inf-Comp-202412	Total/NA	Water	SM 2540D	
MB 500-799379/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-799379/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 799572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-7	Eff-202412	Total/NA	Water	SM 2540D	
MB 500-799572/1	Method Blank	Total/NA	Water	SM 2540D	

General Chemistry (Continued)

Analysis Batch: 799572 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-799572/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 821927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-117663-9	BIO-A-22-202412	Total/NA	Solid	D 2216	
320-117663-10	BIO-A-23-202412	Total/NA	Solid	D 2216	
320-117663-11	BIO-A-24-202412	Total/NA	Solid	D 2216	
320-117663-13	BIO-B-202412	Total/NA	Solid	D 2216	

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Client Sample ID: Inf-02-202412
Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287.8 mL	10.0 mL	822908	12/18/24 11:58	ERR	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	823300	12/19/24 17:35	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	799379	12/13/24 16:38	SO	EET CHI
							Completed:	12/13/24 16:40 [1]		

Client Sample ID: Inf-07-202412
Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			294.1 mL	10.0 mL	822908	12/18/24 11:58	ERR	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	823300	12/19/24 17:49	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	60 mL	500 mL	799379	12/13/24 16:40	SO	EET CHI
							Completed:	12/13/24 16:41 [1]		

Client Sample ID: Inf-08-202412
Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			303.1 mL	10.0 mL	822908	12/18/24 11:58	ERR	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	823300	12/19/24 18:03	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	799379	12/13/24 16:41	SO	EET CHI
							Completed:	12/13/24 16:43 [1]		

Client Sample ID: Inf-11-202412
Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			274.1 mL	10.0 mL	822908	12/18/24 11:58	ERR	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	823300	12/19/24 18:17	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	799379	12/13/24 16:43	SO	EET CHI
							Completed:	12/13/24 16:45 [1]		

Client Sample ID: Inf-18-202412
Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			299.2 mL	10.0 mL	822908	12/18/24 11:58	ERR	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	823300	12/19/24 18:31	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	799379	12/13/24 16:45	SO	EET CHI
							Completed:	12/13/24 16:46 [1]		

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Client Sample ID: Inf-Comp-202412
Lab Sample ID: 320-117663-6
Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			261.1 mL	10.0 mL	822908	12/18/24 11:58	ERR	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	823300	12/19/24 18:45	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	50 mL	500 mL	799379	12/13/24 16:46	SO	EET CHI
							Completed:	12/13/24 16:48 [1]		

Client Sample ID: Eff-202412
Lab Sample ID: 320-117663-7
Date Collected: 12/10/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post Prep			100.0 mL	10.0 mL	825295	01/02/25 04:19	F1D	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	826342	01/04/25 01:08	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre - Prep			100.0 mL	10.0 mL	825293	01/02/25 04:13	F1D	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	826341	01/03/25 19:45	P1P	EET SAC
Total/NA	Prep	3535			302.6 mL	10.0 mL	821951	12/13/24 12:36	KMG	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	822223	12/16/24 22:28	P1R	EET SAC
Total/NA	Analysis	SM 2540D		1	500 mL	500 mL	799572	12/16/24 13:29	SO	EET CHI
							Completed:	12/16/24 13:31 [1]		

Client Sample ID: EB01-202412
Lab Sample ID: 320-117663-8
Date Collected: 12/09/24 13:00
Matrix: Water
Date Received: 12/12/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			276.4 mL	10.0 mL	821951	12/13/24 12:36	KMG	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	822223	12/16/24 22:42	P1R	EET SAC

Client Sample ID: BIO-A-22-202412
Lab Sample ID: 320-117663-9
Date Collected: 12/09/24 13:30
Matrix: Solid
Date Received: 12/12/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			821927	12/13/24 11:05	JCB	EET SAC

Client Sample ID: BIO-A-22-202412
Lab Sample ID: 320-117663-9
Date Collected: 12/09/24 13:30
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 27.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post-Prep			1.01 g	10.0 mL	822142	12/16/24 05:18	F1D	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	823588	12/19/24 22:18	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep			1.01 g	10.0 mL	822138	12/16/24 04:15	F1D	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	823588	12/19/24 20:26	P1P	EET SAC
Total/NA	Prep	SHAKE			5.27 g	10.0 mL	822468	12/17/24 04:08	R1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	822653	12/18/24 05:34	N1K	EET SAC

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Client Sample ID: BIO-A-23-202412
Lab Sample ID: 320-117663-10
Date Collected: 12/09/24 14:00
Matrix: Solid
Date Received: 12/12/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			821927	12/13/24 11:05	JCB	EET SAC

Client Sample ID: BIO-A-23-202412
Lab Sample ID: 320-117663-10
Date Collected: 12/09/24 14:00
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 32.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post-Prep			1.01 g	10.0 mL	822142	12/16/24 05:18	F1D	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	823588	12/19/24 22:32	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep			1.03 g	10.0 mL	822138	12/16/24 04:15	F1D	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	823588	12/19/24 20:40	P1P	EET SAC
Total/NA	Prep	SHAKE			5.37 g	10.0 mL	822468	12/17/24 04:08	R1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	822653	12/18/24 06:16	N1K	EET SAC

Client Sample ID: BIO-A-24-202412
Lab Sample ID: 320-117663-11
Date Collected: 12/10/24 09:07
Matrix: Solid
Date Received: 12/12/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			821927	12/13/24 11:05	JCB	EET SAC

Client Sample ID: BIO-A-24-202412
Lab Sample ID: 320-117663-11
Date Collected: 12/10/24 09:07
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 23.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post-Prep			1.03 g	10.0 mL	822142	12/16/24 05:18	F1D	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	823588	12/19/24 22:46	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep			1.02 g	10.0 mL	822138	12/16/24 04:15	F1D	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	823588	12/19/24 20:54	P1P	EET SAC
Total/NA	Prep	SHAKE			5.32 g	10.0 mL	822468	12/17/24 04:08	R1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	822653	12/18/24 06:30	N1K	EET SAC

Client Sample ID: EB02-202412
Lab Sample ID: 320-117663-12
Date Collected: 12/10/24 08:40
Matrix: Water
Date Received: 12/12/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			270.3 mL	10.0 mL	821951	12/13/24 12:36	KMG	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	822223	12/16/24 22:56	P1R	EET SAC

Lab Chronicle

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Client Sample ID: BIO-B-202412

Lab Sample ID: 320-117663-13
Date Collected: 12/10/24 08:20
Matrix: Solid
Date Received: 12/12/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			821927	12/13/24 11:05	JCB	EET SAC

Client Sample ID: BIO-B-202412

Lab Sample ID: 320-117663-13
Date Collected: 12/10/24 08:20
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 5.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Post-Treatment	Prep	TOP Post-Prep			1.03 g	10.0 mL	822142	12/16/24 05:18	F1D	EET SAC
Post-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	823588	12/19/24 23:00	P1P	EET SAC
Pre-Treatment	Prep	TOP Pre-Prep			1.02 g	10.0 mL	822138	12/16/24 04:15	F1D	EET SAC
Pre-Treatment	Analysis	537 (modified)		1	1 mL	1 mL	823588	12/19/24 21:08	P1P	EET SAC
Total/NA	Prep	SHAKE			5.23 g	10.0 mL	822468	12/17/24 04:08	R1T	EET SAC
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	822653	12/18/24 06:44	N1K	EET SAC

[1] This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Laboratory: Eurofins Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-29-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Wisconsin	State	998204680	08-31-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-25

Method Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
D 2216	Percent Moisture	ASTM	EET SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	EET CHI
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC
TOP Post Prep	Solid-Phase Extraction (SPE)	SW846	EET SAC
TOP Post-Prep	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC
TOP Pre - Prep	Solid-Phase Extraction (SPE)	SW846	EET SAC
TOP Pre-Prep	Shake Extraction with Ultrasonic Bath Extraction	SW846	EET SAC

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200
EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-117663-1	Inf-02-202412	Water	12/09/24 23:59	12/12/24 10:00
320-117663-2	Inf-07-202412	Water	12/09/24 23:59	12/12/24 10:00
320-117663-3	Inf-08-202412	Water	12/09/24 23:59	12/12/24 10:00
320-117663-4	Inf-11-202412	Water	12/09/24 23:59	12/12/24 10:00
320-117663-5	Inf-18-202412	Water	12/09/24 23:59	12/12/24 10:00
320-117663-6	Inf-Comp-202412	Water	12/09/24 23:59	12/12/24 10:00
320-117663-7	Eff-202412	Water	12/10/24 23:59	12/12/24 10:00
320-117663-8	EB01-202412	Water	12/09/24 13:00	12/12/24 10:00
320-117663-9	BIO-A-22-202412	Solid	12/09/24 13:30	12/12/24 10:00
320-117663-10	BIO-A-23-202412	Solid	12/09/24 14:00	12/12/24 10:00
320-117663-11	BIO-A-24-202412	Solid	12/10/24 09:07	12/12/24 10:00
320-117663-12	EB02-202412	Water	12/10/24 08:40	12/12/24 10:00
320-117663-13	BIO-B-202412	Solid	12/10/24 08:20	12/12/24 10:00

Results to
Attn Mike Ursin
Address TRC
999 Fourier Dr Suite 101
Madison, WI 53717

Chain of Custody Record 725675

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Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TAL-8210

Client Contact	Project Manager: Jessica McCummins	Site Contact:	Date: 12/11/24	COC No 725675
Company Name Madison Metro Sewerage Dist	Tel/Email: jess.com@madsewer	Lab Contact: Jenny Faust	Carrier: Fed Ex	1 of 2 COCs
Address 1610 Maryland	Analysis Turnaround Time: CS			Sampler:
City/State/Zip Madison, WI 53713	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only
Phone 608-222-1201	TAT if different from Below 20 business days			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name PFAS Phase III	☐ 1 week			
Site Madison Metro Sewerage Dist	☐ 2 days			Job / SDG No
PO # 2400419	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PFAS	TSS	TOP ASSAY	Sample Specific Notes
Inf-02-202412	12/9/24	23:59	C	WW	3	N	N	X	X		
Inf-07-202412	12/9/24	23:59	C	WW	3			X	X		
Inf-08-202412	12/9/24	23:59	C	WW	3			X	X		
Inf-11-202412	12/9/24	23:59	C	WW	3			X	X		
Inf-18-202412	12/9/24	23:59	C	WW	3			X	X		
Inf-Comp-202412	12/9/24	23:59	C	WW	3			X	X		
Eff-202412	12/10/24	23:59	C	WW	7			X	X	X	
EB01-202412	12/9/24	13:00	G	SW	2			X			
B10-A-22-202412	12/9/24	13:30	G	SL	1			X		X	
B10-A-23-202412	12/9/24	14:00	G	SL	1			X		X	
B10-A-24-202412	12/10/24	9:07	G	SL	1			X		X	
EB02-202412	12/10/24	8:40	G	W	2			X			

320-117663 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other 1

Possible Hazard Identification.
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:
For Influent Samples follow EPA 1901 (WI PFAS method expectations) Sec V13 Procedure for particulates in aqueous samples. Centrifuge as needed.

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No | Cooler Temp (°C) Obs'd 4.8 Corr'd 4.8 | Therm ID No

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Jennifer Faust	MMSD	12/11/24 700	[signature]	FEISAC	12/12/24 1000

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2/7/2025 (Rev. 2)

Reports to: Mike Ursin
Address TRC
999 Fourier Dr Suite 101
Madison, WI 53717

Chain of Custody Record 725676

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Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TAL-8210

Client Contact		Project Manager: Jessica McCammon	Site Contact.	Date. 12/11/24	COC No 725676
Company Name	Madison Metro Sewerage Dist	Tel/Email: jessicam@madsewer.org	Lab Contact: Jenny Faust	Carrier: Fed Ex	2 of 2 COCs
Address	1610 Moorland Rd	Analysis Turnaround Time			Sampler:
City/State/Zip	Madison, WI 53713	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only.
Phone	608 222-1201	TAT if different from Below 20 business days			Walk-in Client.
Fax:		☐ 2 weeks			Lab Sampling
Project Name	PFAS Phase III	☐ 1 week			
Site	Madison Metro Sewerage Dist	☐ 2 days			Job / SDG No
P O #	2400419	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	PFAS	TOP	Sample Specific Notes
B10-B-202412	12/10/24	8.20	G	SL	1	N	N	X	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No | Cooler Temp (°C) Obs'd 4.8 Corr'd 4.8 | Therm ID No

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Jenny Faust	MMSD	12/11/24 706 am	[illegible]	EETSAC	12/12/24 1000
Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time

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Sacramento Sample Receiving Notes (SSRN)

Loc: 320
117663

Tracking # 7407 9454 0529

Job _____

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID L09 Corr Factor (+ / -) _____ °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 25156316, 25156317

Cooler ID _____

Temp Observed: 3.2 °C Corrected: 3.2 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials FSH Date: 12/12/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☐	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 12/12/24

Notes: COC and sample #7 do not match:
EFF-COMP-202412
" " #8
EB-1-202412
DM 12/12/24
" " #12
EB-2-202412

Trizma Lot #(s) _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 12/12/24

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Sacramento Sample Receiving Notes (SSRN)

Tracking # 7407 9454 0540

Job 320-117663

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSL / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations
File in the job folder with the COC

Therm ID 1-09 Corr Factor (+ / -) _____°C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal 25156034, 25156035

Cooler ID _____

Temp Observed 48 °C Corrected 48 °C

From Temp Blank ☐ Sandwich ☑ Sidewall ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials FSH Date 12/12/24

Unpacking/Labeling The Samples	Yes	No	NA
Containers are not broken or leaking?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
COC is complete w/o discrepancies	☑	☐	☐
Sample custody seal?	☐	☐	☑
Sample containers have legible labels?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Is the Field Sampler's name on COC?	☐	☐	☑
Samples w/o discrepancies?	☐	☑	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials DM Date 12/12/24

Notes: _____

Trizma Lot #(s): _____

Ammonium Acetate Lot #(s) _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
NCM Filed?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
Log Release checked in TALS?	☑	☐	☐

Initials DM Date 12/12/24

Custody Seal

DATE 12/11/24

SIGNATURE

eurofins | Environment Testing TestAmerica

2515637

Part # 159470-434 MTW EXP 11/24

eurofins | Environment Testing TestAmerica

ORIGIN ID:BLUA (608) 222-1201
JENNY FAUST
MADISON METROPOLITAN SEWERAGE DISTR
1610 MOORLAND ROAD

MADISON, WI 53713
UNITED STATES US

SHIP DATE: 04DEC24
ACTWGT: 10.00 LB MAN
CAD: 0575589/CAFE3855

TO SAMPLE RECEIVING
TESTAMERICA WEST SACRAMENTO
880 RIVERSIDE PARKWAY

WEST SACRAMENTO CA 95605
(916) 373-5600
REF: S320-61430

RMA:

FedEx Express

THU - 12 DEC AA
PRIORITY OVERNIGHT

FedEx TRK# 0221 7407 9454 0529

XW BLUA

95605
CA-US
SMF

Custody Seal

DATE 12/11/24

SIGNATURE

eurofins | Environment Testing TestAmerica

2515636

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916-373-5600 Fax 916 372-1059

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler	Lab PM	Carrier Tracking No(s)	COC No.
	N/A	Smith, Micah	N/A	320-356925 1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Micah Smith@et eurofinsus com	State of Origin: Wisconsin	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note): NELAP - Oregon, State - Wisconsin		Job #: 320-117663-1
Address: 2417 Bond Street, ,	Due Date Requested: 12/30/2024			Preservation Codes: -
City: University Park	TAT Requested (days): N/A			
State, Zip: IL, 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: PFAS Sampling	Project #: 32021779			
Site: N/A	SSOW#: N/A			Other: N/A

320-117663 COC

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Inf-02-202412 (320-117663 1)	12/9/24	23.59 Central	G	Water			X	1	
Inf-07 202412 (320-117663-2)	12/9/24	23 59 Central	G	Water			X	1	
Inf-08-202412 (320-117663-3)	12/9/24	23 59 Central	G	Water			X	1	
Inf 11 202412 (320 117663-4)	12/9/24	23 59 Central	G	Water			X	1	
Inf-18-202412 (320 117663-5)	12/9/24	23 59 Central	G	Water			X	1	
Inf-Comp 202412 (320-117663-6)	12/9/24	23 59 Central	G	Water			X	1	
Eff-202412 (320 117663-7)	12/10/24	23 59 Central	G	Water			X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northern California, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northern California, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northern California, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northern California, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
DSM	12/12/24 1430	EEOSac	[illegible]	12/13/24 0920	[illegible]

Custody Seals Intact:	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks.
Δ Yes Δ No		2.5-72.4

Ver: 10/10/2024

Login Sample Receipt Checklist

Client: Madison Metropolitan Sewerage District

Job Number: 320-117663-1

Login Number: 117663
List Number: 2
Creator: Scott, Sherri L

List Source: Eurofins Chicago
List Creation: 12/13/24 02:13 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Appendix B: Data Quality and Usability Reviews

January 2024

Data Quality and Usability Review – January 2024

Data Reviewer: Kristen Morin
Peer Reviewer: Jeff Ramey
Date: 2/8/2024, Updated 5/9/24

Madison Metropolitan Sewerage District (MMSD) collected influent and effluent samples at the Nine Springs wastewater treatment plant on January 15 and 16, 2024 as part of ongoing monitoring activities conducted by TRC. Samples were analyzed for the standard list of Wisconsin's 33 per- and polyfluoroalkyl substances (PFAS) and total suspended solids (TSS) by Eurofins in West Sacramento, California. The laboratory analytical results were reported in laboratory SDG 320-108876-1.

Samples included in this review are listed below:

- Inf Comp 20240115
- Eff 20240116

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
Total Suspended Solids (TSS)*	Standard Method (SM) 2540D

Notes:
*The laboratory does not hold accreditations/certifications for TSS.

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or

analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;

- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The data package was found to be complete as received from the laboratory.
- The cooler temperatures upon receipt at the laboratory was within the acceptance criteria (< 10°C).
  - Samples were not shipped to the laboratory until one to two days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the laboratory. No validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the laboratory and were received at acceptable temperatures by the laboratory.

- A method blank was analyzed with each analytical batch for PFAS and TSS. Target analytes were not detected in the method blanks.
- No field blank samples were collected with this sample set.
- All samples were extracted and/or prepared and analyzed within the holding time.
- The LCS and/or LCSD percent recoveries (%Rs) and relative percent differences, where applicable, for all analytes were within the laboratory's acceptance limits.
- MS/MSD analyses were not performed on a sample from this data set.
- The isotopically labeled surrogate %Rs were within the laboratory's acceptance limits.
- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was performed on sample Inf Comp 20240115 for TSS; all criteria were met.
- The laboratory noted the following observations in the case narrative. No validation actions were taken on this basis.
  - Samples Inf Comp 20240115 and Eff 20240116 were yellow before and after extraction/final volume and contained particulates in the bottles prior to extraction.
  - During the solid phase extraction (SPE) process, sample Inf Comp 20240115 contained non-settable particulates which clogged the SPE column. The lab also stated that approximately 64.1% of the sample container was filtered through the SPE column at which point the SPE column became clogged. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged it were then extracted using the elution solvent. The laboratory confirmed during previous reviews that samples are spiked with extracted internal standards (or isotopically labeled surrogates) prior to filtration through the SPE column; thus, no validation actions were taken on this basis.
- The QLs met or were below the ranges of QLs suggested in the SAB of 2-5 ng/L for individual PFAS.
- No dilutions were performed on the samples in this data set for PFAS.
- The QL for TSS in sample Inf Comp 20240115 was approximately 3.4x higher than the associated method blank due to a reduced volume (75 mLs versus the typical 250 mL) used in the sample analysis. Further, the QL for TSS in sample Eff 20240116 was approximately 3.84x lower than the associated method blank due to an elevated volume (1,000 mLs versus the typical 250 mL) used in the sample analysis. There is no adverse impact on the data usability due to this issue since TSS was detected above the QL in both samples. No validation action was required on this basis.
- The results for the following PFAS in the samples listed below were flagged with an "I" by the laboratory indicating that the ion transition ratio did not meet the acceptance limits; thus, the positive results for the listed PFAS in the samples listed below were qualified as estimated (J).
  - PFHxA in sample Inf Comp 20240115; and
  - PFBS in sample Eff 20240116.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-108876-1

Client Sample ID: Inf Comp 20240115

Date Collected: 01/15/24 23:59
Date Received: 01/22/24 09:50

Lab Sample ID: 320-108876-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.2**		4.6	2.2	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluoropentanoic acid (PFPeA)	**2.5**		1.9	0.45	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorohexanoic acid (PFHxA)	**5.0**	**I J**	1.9	0.54	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluoroheptanoic acid (PFHpA)	**0.91**	**J**	1.9	0.23	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorooctanoic acid (PFOA)	**3.1**		1.9	0.79	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorononanoic acid (PFNA)	**0.35**	**J**	1.9	0.25	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorodecanoic acid (PFDA)	**0.39**	**J**	1.9	0.29	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.68	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	**J**	1.9	0.19	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.28	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorohexanesulfonic acid (PFHxS)	**5.4**		1.9	0.53	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorooctanesulfonic acid (PFOS)	**2.8**		1.9	0.50	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.34	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.90	ng/L		01/23/24 04:51	01/26/24 16:40	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.91	ng/L		01/23/24 04:51	01/26/24 16:40	1
NEtFOSA	ND		1.9	0.81	ng/L		01/23/24 04:51	01/26/24 16:40	1
NMeFOSA	ND		1.9	0.40	ng/L		01/23/24 04:51	01/26/24 16:40	1
NMeFOSAA	ND		4.6	1.1	ng/L		01/23/24 04:51	01/26/24 16:40	1
NEtFOSAA	ND		4.6	1.2	ng/L		01/23/24 04:51	01/26/24 16:40	1
NMeFOSE	**1.5**	**J**	3.7	1.3	ng/L		01/23/24 04:51	01/26/24 16:40	1
NEtFOSE	ND		1.9	0.79	ng/L		01/23/24 04:51	01/26/24 16:40	1
4:2 FTS	ND		1.9	0.22	ng/L		01/23/24 04:51	01/26/24 16:40	1
6:2 FTS	ND		4.6	2.3	ng/L		01/23/24 04:51	01/26/24 16:40	1
8:2 FTS	ND		1.9	0.43	ng/L		01/23/24 04:51	01/26/24 16:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.37	ng/L		01/23/24 04:51	01/26/24 16:40	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		01/23/24 04:51	01/26/24 16:40	1
9Cl-PF3ONS	ND		1.9	0.22	ng/L		01/23/24 04:51	01/26/24 16:40	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		01/23/24 04:51	01/26/24 16:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C5 PFPeA	*87*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C2 PFHxA	*88*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C4 PFHpA	*89*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C4 PFOA	*86*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C5 PFNA	*74*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C2 PFDA	*56*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C2 PFUnA	*46*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C2 PFDoA	*28*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C2 PFTeDA	*29*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*

Client Sample ID: Inf Comp 20240115

Lab Sample ID: 320-108876-1
Matrix: Water

Date Collected: 01/15/24 23:59
Date Received: 01/22/24 09:50

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*65*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
18O2 PFHxS	*73*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C4 PFOS	*64*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C8 FOSA	*45*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d3-NMeFOSAA	*32*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d5-NEtFOSAA	*27*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d-N-MeFOSA-M	*23*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d-N-EtFOSA-M	*31*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d7-N-MeFOSE-M	*24*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
d9-N-EtFOSE-M	*27*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
M2-4:2 FTS	*87*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
M2-6:2 FTS	*130*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
M2-8:2 FTS	*64*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*
13C3 HFPO-DA	*89*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:40*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**230**		17	17	mg/L			01/22/24 12:44	1

Client Sample ID: Eff 20240116

Lab Sample ID: 320-108876-2
Matrix: Water

Date Collected: 01/16/24 23:59
Date Received: 01/22/24 09:50

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.9**		4.7	2.3	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluoropentanoic acid (PFPeA)	**7.3**		1.9	0.46	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorohexanoic acid (PFHxA)	**13**		1.9	0.55	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluoroheptanoic acid (PFHpA)	**1.7**	**J**	1.9	0.24	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorooctanoic acid (PFOA)	**6.5**		1.9	0.80	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorononanoic acid (PFNA)	**6.9**		1.9	0.25	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorodecanoic acid (PFDA)	**1.1**	**J**	1.9	0.29	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorobutanesulfonic acid (PFBS)	**4.4**	**I J**	1.9	0.19	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluoropentanesulfonic acid (PFPeS)	**0.56**	**J**	1.9	0.28	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorohexanesulfonic acid (PFHxS)	**6.2**		1.9	0.54	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorooctanesulfonic acid (PFOS)	**3.4**		1.9	0.51	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.91	ng/L		01/23/24 04:51	01/26/24 16:51	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.92	ng/L		01/23/24 04:51	01/26/24 16:51	1

Client Sample ID: Eff 20240116

Lab Sample ID: 320-108876-2

Date Collected: 01/16/24 23:59

Matrix: Water

Date Received: 01/22/24 09:50

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.82	ng/L		01/23/24 04:51	01/26/24 16:51	1
NMeFOSA	ND		1.9	0.41	ng/L		01/23/24 04:51	01/26/24 16:51	1
NMeFOSAA	ND		4.7	1.1	ng/L		01/23/24 04:51	01/26/24 16:51	1
NEtFOSAA	ND		4.7	1.2	ng/L		01/23/24 04:51	01/26/24 16:51	1
NMeFOSE	ND		3.8	1.3	ng/L		01/23/24 04:51	01/26/24 16:51	1
NEtFOSE	ND		1.9	0.80	ng/L		01/23/24 04:51	01/26/24 16:51	1
4:2 FTS	ND		1.9	0.23	ng/L		01/23/24 04:51	01/26/24 16:51	1
6:2 FTS	ND		4.7	2.4	ng/L		01/23/24 04:51	01/26/24 16:51	1
8:2 FTS	ND		1.9	0.43	ng/L		01/23/24 04:51	01/26/24 16:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		01/23/24 04:51	01/26/24 16:51	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		01/23/24 04:51	01/26/24 16:51	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		01/23/24 04:51	01/26/24 16:51	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		01/23/24 04:51	01/26/24 16:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C5 PFPeA	*86*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C2 PFHxA	*107*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C4 PFHpA	*100*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C4 PFOA	*98*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C5 PFNA	*79*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C2 PFDA	*78*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C2 PFUnA	*93*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C2 PFDoA	*83*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C2 PFTeDA	*58*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C3 PFBS	*75*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
18O2 PFHxS	*87*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C4 PFOS	*80*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C8 FOSA	*77*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d-N-MeFOSA-M	*68*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d-N-EtFOSA-M	*69*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d7-N-MeFOSE-M	*68*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
d9-N-EtFOSE-M	*63*		*10 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
M2-4:2 FTS	*83*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
M2-6:2 FTS	*101*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
M2-8:2 FTS	*78*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*
13C3 HFPO-DA	*104*		*25 - 150*	*01/23/24 04:51*	*01/26/24 16:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**4.9**		1.3	1.3	mg/L			01/22/24 12:44	1

February 2024

Data Quality and Usability Review – February 2024

Data Reviewer: Kristen Morin
Peer Reviewer: Jeff Ramey
Date: 3/15/2024, Updated 5/9/24

Madison Metropolitan Sewerage District (MMSD) collected influent and effluent samples at the Nine Springs wastewater treatment plant on February 12 and 13, 2024 as part of ongoing monitoring activities conducted by TRC. Samples were analyzed for the standard list of Wisconsin's 33 per- and polyfluoroalkyl substances (PFAS) by Eurofins in West Sacramento, California and for total suspended solids (TSS) by Eurofins in Chicago, Illinois. The laboratory analytical results were reported in laboratory SDG 320-109678-1.

Samples included in this review are listed below:

- Inf Comp20240212
- Eff 20240213

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
Total Suspended Solids (TSS)	Standard Method (SM) 2540D

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;

- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The data package was found to be complete as received from the laboratory.
- The cooler temperatures upon receipt at both laboratories were within the acceptance criteria (< 10°C).
  - Samples were not shipped to the main laboratory, West Sacramento, CA, until one to two days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the main laboratory. No validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the main laboratory and were received at acceptable temperatures by the laboratory.
- A method blank was analyzed with each analytical batch for PFAS and TSS. Target analytes were not detected in the method blanks.

- No field blank samples were collected with this sample set.
- All samples were extracted and/or prepared and analyzed within the holding time.
- The LCS percent recoveries (%Rs) for all analytes were within the laboratory's acceptance limits.
- MS/MSD analyses were not performed on a sample from this data set.
- The isotopically labeled surrogate %Rs were within the laboratory's acceptance limits with the following exception.
  - The %R for 13C2 PFTeDA (24%) was below the laboratory's acceptance limits (25-150%) in sample Inf Comp20240212. Therefore, the associated nondetect result, PFTeA, was qualified as estimated (UJ) in sample Inf Comp20240212.
- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was not performed on a sample from this data set.
- The laboratory noted the following observations in the case narrative. No validation actions were taken on this basis.
  - Samples Inf Comp20240212 and Eff 20240213 were light green before and after extraction, and were observed to have floating particulates present in the sample bottles.
  - During the solid phase extraction (SPE) process, sample Inf Comp20240212 contained non-settable particulates which clogged the SPE column. The lab also stated that approximately 88.7% of the sample container was filtered through the SPE column at which point the SPE column became clogged. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged it were then extracted using the elution solvent. The laboratory confirmed during previous reviews that samples are spiked with extracted internal standards (or isotopically labeled surrogates) prior to filtration through the SPE column; thus, no validation actions were taken on this basis.
- The QLs met or were below the ranges of QLs suggested in the SAB of 2-5 ng/L for individual PFAS.
- No dilutions were performed on the samples in this data set for PFAS.
- The QL for TSS in sample Inf Comp20240212 was 10x higher than the associated method blank due to a reduced volume (50 mLs versus the typical 500 mL) used in the sample analysis. There is no adverse impact on the data usability due to this issue since TSS was detected above the QL in this sample. No validation action was required on this basis.
- The results for the following PFAS in the samples listed below were flagged with an "I" by the laboratory indicating that the ion transition ratio did not meet the acceptance limits; thus, the positive results for the listed PFAS in the samples listed below were qualified as estimated (J).
  - PFBS and PFHxS in sample Inf Comp20240212; and
  - PFNA* and PFBS in sample Eff 20240213.

  * This result was also qualified as estimated (J) by the laboratory due to detection < the QL.

  It should be noted that the case narrative also indicated that ion transition ratios were not met in a continuing calibration blank and in a low level LCS; no validation actions were required on this basis.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-109678-1

Client Sample ID: Inf Comp20240212

Date Collected: 02/12/24 23:59
Date Received: 02/15/24 09:40

Lab Sample ID: 320-109678-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.6**		4.3	2.1	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluoropentanoic acid (PFPeA)	**5.3**		1.7	0.42	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorohexanoic acid (PFHxA)	**11**		1.7	0.50	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluoroheptanoic acid (PFHpA)	**1.8**		1.7	0.22	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorooctanoic acid (PFOA)	**4.6**		1.7	0.74	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorononanoic acid (PFNA)	**0.37**	**J**	1.7	0.23	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.95	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.7	0.63	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorobutanesulfonic acid (PFBS)	**3.6**	**I** J	1.7	0.17	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.26	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorohexanesulfonic acid (PFHxS)	**7.6**	**I** J	1.7	0.49	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorooctanesulfonic acid (PFOS)	**6.6**		1.7	0.47	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.32	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.28	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.84	ng/L		02/28/24 05:00	03/03/24 12:20	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.85	ng/L		02/28/24 05:00	03/03/24 12:20	1
NEtFOSA	ND		1.7	0.75	ng/L		02/28/24 05:00	03/03/24 12:20	1
NMeFOSA	ND		1.7	0.37	ng/L		02/28/24 05:00	03/03/24 12:20	1
NMeFOSAA	ND		4.3	1.0	ng/L		02/28/24 05:00	03/03/24 12:20	1
NEtFOSAA	ND		4.3	1.1	ng/L		02/28/24 05:00	03/03/24 12:20	1
NMeFOSE	ND		3.5	1.2	ng/L		02/28/24 05:00	03/03/24 12:20	1
NEtFOSE	ND		1.7	0.74	ng/L		02/28/24 05:00	03/03/24 12:20	1
4:2 FTS	ND		1.7	0.21	ng/L		02/28/24 05:00	03/03/24 12:20	1
6:2 FTS	ND		4.3	2.2	ng/L		02/28/24 05:00	03/03/24 12:20	1
8:2 FTS	ND		1.7	0.40	ng/L		02/28/24 05:00	03/03/24 12:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.35	ng/L		02/28/24 05:00	03/03/24 12:20	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		02/28/24 05:00	03/03/24 12:20	1
9Cl-PF3ONS	ND		1.7	0.21	ng/L		02/28/24 05:00	03/03/24 12:20	1
11Cl-PF3OUdS	ND		1.7	0.28	ng/L		02/28/24 05:00	03/03/24 12:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C5 PFPeA	*112*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C2 PFHxA	*101*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C4 PFHpA	*100*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C4 PFOA	*103*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C5 PFNA	*93*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C2 PFDA	*85*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C2 PFUnA	*63*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C2 PFDoA	*39*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C2 PFTeDA	*24*	**5-*	*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*

Client Sample ID: Inf Comp20240212

Lab Sample ID: 320-109678-1
Matrix: Water

Date Collected: 02/12/24 23:59
Date Received: 02/15/24 09:40

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*102*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
18O2 PFHxS	*109*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C4 PFOS	*92*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C8 FOSA	*53*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d3-NMeFOSAA	*26*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d5-NEtFOSAA	*52*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d-N-MeFOSA-M	*37*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d-N-EtFOSA-M	*35*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d7-N-MeFOSE-M	*30*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
d9-N-EtFOSE-M	*40*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
M2-4:2 FTS	*68*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
M2-6:2 FTS	*144*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
M2-8:2 FTS	*114*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*
13C3 HFPO-DA	*91*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:20*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**240**		50	19	mg/L			02/19/24 14:29	1

Client Sample ID: Eff 20240213

Lab Sample ID: 320-109678-2
Matrix: Water

Date Collected: 02/13/24 23:59
Date Received: 02/15/24 09:40

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.7**		4.4	2.1	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluoropentanoic acid (PFPeA)	**9.6**		1.8	0.43	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorohexanoic acid (PFHxA)	**20**		1.8	0.51	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluoroheptanoic acid (PFHpA)	**2.2**		1.8	0.22	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorooctanoic acid (PFOA)	**8.4**		1.8	0.75	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorononanoic acid (PFNA)	**0.41**	~~J~~ I J	1.8	0.24	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorodecanoic acid (PFDA)	**0.93**	J	1.8	0.27	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.1	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.64	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorobutanesulfonic acid (PFBS)	**4.5**	I J	1.8	0.18	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluoropentanesulfonic acid (PFPeS)	**0.58**	J	1.8	0.26	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorohexanesulfonic acid (PFHxS)	**7.4**		1.8	0.50	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorooctanesulfonic acid (PFOS)	**3.4**		1.8	0.47	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.85	ng/L		02/28/24 05:00	03/03/24 12:50	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.86	ng/L		02/28/24 05:00	03/03/24 12:50	1

Client Sample ID: Eff 20240213

Lab Sample ID: 320-109678-2

Date Collected: 02/13/24 23:59

Matrix: Water

Date Received: 02/15/24 09:40

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.8	0.76	ng/L		02/28/24 05:00	03/03/24 12:50	1
NMeFOSA	ND		1.8	0.38	ng/L		02/28/24 05:00	03/03/24 12:50	1
NMeFOSAA	**1.1**	**J**	4.4	1.1	ng/L		02/28/24 05:00	03/03/24 12:50	1
NEtFOSAA	ND		4.4	1.1	ng/L		02/28/24 05:00	03/03/24 12:50	1
NMeFOSE	ND		3.5	1.2	ng/L		02/28/24 05:00	03/03/24 12:50	1
NEtFOSE	ND		1.8	0.75	ng/L		02/28/24 05:00	03/03/24 12:50	1
4:2 FTS	ND		1.8	0.21	ng/L		02/28/24 05:00	03/03/24 12:50	1
6:2 FTS	ND		4.4	2.2	ng/L		02/28/24 05:00	03/03/24 12:50	1
8:2 FTS	ND		1.8	0.40	ng/L		02/28/24 05:00	03/03/24 12:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		02/28/24 05:00	03/03/24 12:50	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		02/28/24 05:00	03/03/24 12:50	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		02/28/24 05:00	03/03/24 12:50	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		02/28/24 05:00	03/03/24 12:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C5 PFPeA	*101*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C2 PFHxA	*104*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C4 PFHpA	*100*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C4 PFOA	*103*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C5 PFNA	*98*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C2 PFDA	*104*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C2 PFUnA	*90*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C2 PFDoA	*83*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C2 PFTeDA	*56*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C3 PFBS	*99*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
18O2 PFHxS	*107*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C4 PFOS	*104*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C8 FOSA	*101*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d3-NMeFOSAA	*100*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d5-NEtFOSAA	*110*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d-N-MeFOSA-M	*94*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d-N-EtFOSA-M	*91*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d7-N-MeFOSE-M	*81*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
d9-N-EtFOSE-M	*80*		*10 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
M2-4:2 FTS	*93*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
M2-6:2 FTS	*103*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
M2-8:2 FTS	*94*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*
13C3 HFPO-DA	*92*		*25 - 150*	*02/28/24 05:00*	*03/03/24 12:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**8.4**		5.0	1.9	mg/L			02/20/24 13:32	1

March 2024

Data Quality and Usability Review – March 2024

Data Reviewer: Kristen Morin
Peer Reviewer: Jeff Ramey
Date: 5/14/2024

Madison Metropolitan Sewerage District (MMSD) collected influent, effluent, and biosolids samples at the Nine Springs wastewater treatment plant on March 18-20, 2024 as part of ongoing monitoring activities conducted by TRC. Samples were analyzed for the standard list of Wisconsin's 33 per- and polyfluoroalkyl substances (PFAS) and total oxidizable precursor (TOP) assay PFAS by Eurofins in West Sacramento, California and total suspended solids (TSS) by Eurofins in Chicago, Illinois. The laboratory analytical results were reported in laboratory SDG 320-110655-1 (Revision 1, dated 5/2/24).

Samples included in this review are listed below:

- BIO-A-22-20240319
- BIO-B-20240320
- Eff-G-20240319
- Inf-02 20240318
- Inf-08 20240318
- Inf-18 20240318
- BIO-A-23-20240319
- Eff-20240319
- EB-01-20240319
- Inf-07 20240318
- Inf-11 20240318
- Inf-Comp 20240318

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
PFAS TOP Assay (33 Analytes)	Laboratory SOP using Isotope Dilution/WI Method Criteria
Total Suspended Solids (TSS)	Standard Method (SM) 2540D
Total Solids*	ASTM D 2216*

Notes:

* The laboratory does not hold NELAP accreditation for total solids.

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data

in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The revised data package was found to be complete as received from the laboratory with the following exception. The laboratory misidentified sample Eff-**G**-20240319 as Eff-**6**-20240319 in several comments throughout the case narrative. However, the correct laboratory ID (320-110655-8) was referenced. Since the laboratory updated the sample ID on the Client Sample results pages and in the associated electronic data deliverable, the laboratory was not contacted to further revise the case narrative to fix this issue.
- The cooler temperatures upon receipt at the laboratories were within the acceptance criteria (< 10°C).
  - Select samples were not shipped to the main laboratory, West Sacramento, CA, until one to two days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the main laboratory. No validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the main laboratory and were received at acceptable temperatures by the laboratory.
- A method blank was analyzed with each analytical batch for PFAS (total and TOP assay) and TSS. The following table summarizes the compounds detected in the method blanks, the associated samples, and the validation actions.

Blank ID	Compound	Blank Concentration	Validation **Action**
MB 320-749270/1-A (post-TOP assay)	PFBA	1.56 µg/Kg	The positive post-TOP assay result for PFBA in sample BIO-B-20240320 was qualified as a nondetect (U) at the reported concentration since the result was > the QL and <10x the blank concentration. No validation actions were required on this basis for the remaining associated samples since the post-TOP assay results for PFBA were > the QL and > 10x the blank concentration in these samples.
Associated samples: BIO-A-22-20240319, BIO-A-23-20240319, BIO-B-20240320			
MB 320-749751/1-A (post-TOP assay)	PFTeA	0.918 J ng/L	No validation actions were required on this basis since PFTeA was not detected in post-TOP assay analysis of the associated sample.
Associated sample: Eff-20240319			

- One equipment blank (EB-01-20240319) was collected and analyzed for total PFAS. No target compounds were detected in the equipment blank.
- All samples were extracted and/or prepared and analyzed within the holding time with the following exception. Sample Eff-G-20240319 was analyzed for TSS approximately 4 hours outside of the 7-day holding time. No validation actions were taken on this basis since the sample was analyzed on the 7th day after collection.
- The LCS and LCSD percent recoveries (%Rs) and relative percent differences (RPDs), as applicable, for all analytes were within the laboratory's acceptance limits except as noted in the table below. Note that the laboratory's acceptance limits for TOP assay LCS/LCSDs were different than those specified in the WI Method Criteria; the laboratory's acceptance limits are listed below but the WI Method Criteria (60-135%) were also used in the evaluation of the data.

LCS/LCSD ID	Compound	LCS/ LCSD %Rs	RPD (%)	LCS/LCSD %R/RPD Limits	Validation Actions
LCS 320-749269/2-A/ LCSD 320-749269/3-A (pre-TOP assay)	NEtFOSA	27/20	-	47-161/-	The nondetect results for pre-TOP assay NEtFOSA and pre-TOP assay NMeFOSA were qualified as estimated (UJ) in samples BIO-A-22-20240319, BIO-A-23-20240319, BIO-B-20240320.
	NMeFOSA	13/10	-	63-148/-	
Associated samples: BIO-A-22-20240319, BIO-A-23-20240319, BIO-B-20240320					
LCS 320-749750/2-A/ LCSD 320-749750/3-A (pre-TOP assay)	4:2 FTS	-/149	-	79-139/-	No validation action was required on this basis since 4:2 FTS was not detected in the pre-TOP assay analysis of the associated sample.
	NEtFOSA	74/64	-	78-138/-	Professional judgement was used and no validation actions were taken on this basis since this compound recovered within the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%.
	NMeFOSA	58/50	-	67-154/-	The nondetect result for pre-TOP assay NMeFOSA was qualified as estimated (UJ) in sample Eff-20240319.
Associated sample: Eff-20240319					
LCS 320-749270/2-A/ LCSD 320-749270/3-A (post-TOP assay)	PFHxA	161/-	-	92-152/-	The laboratory stated in the case narrative that the enhanced post-TOP assay LCS/LCSD %Rs for PFHxA, PFNA, and PFHpA (also known as perfluoroalkyl carboxylic acids [PFCAs]) were due to an increase in the number of precursor analytes (i.e., non-target compounds) included in the laboratory's spiking solution which transform to PFCAs during the TOP assay procedure (i.e., the results are consistent with the expected oxidation of the precursor analytes). Although the %Rs for the listed PFCAs were above the laboratory's acceptance criteria, the post-TOP LCS/LCSD %Rs were still considered to be in control as a result of the additional precursors added to the spiking solution. It should also be noted that the laboratory stated in the case narrative that zero %R of precursor analytes (i.e., ADONA, 4:2 FTS, 6:2 FTS, 8:2 FTS, FOSA, NMeFOSAA, NEtFOSAA, NEtFOSA, NMeFOSA, NMeFOSE, and NEtFOSE) is also expected due to the oxidation of these compounds during the TOP Assay procedure; 0 %R was observed for the listed precursors. No validation actions were taken on this basis.
	PFNA	-/153	-	82-142/-	
	PFHpA	161/172	-	100-160/-	
	NMeFOSAA	-/-	52	-/30	No validation action was required on this basis since the listed compounds were not detected in the post-TOP assay analyses of the associated samples.
	4:2 FTS	-/-	44	-/30	
	NMeFOSE	-/-	200	-/30	
	NEtFOSE	-/-	125	-/30	
	ADONA	-/-	34	-/30	
Associated samples: BIO-A-22-20240319, BIO-A-23-20240319, BIO-B-20240320					

LCS/LCSD ID	Compound	LCS/ LCSD %Rs	RPD (%)	LCS/LCSD %R/RPD Limits	Validation Actions
LCS 320-749751/2-A/ LCSD 320-749751/3-A (post-TOP assay)	PFBA	193/184	-	93-153/-	The laboratory stated in the case narrative that the enhanced post-TOP assay LCS/LCSD %Rs for the listed compounds (also known as perfluoroalkyl carboxylic acids [PFCAs]) were due to an increase in the number of precursor analytes (i.e., non-target compounds) included in the laboratory's spiking solution which transform to PFCAs during the TOP assay procedure (i.e., the results are consistent with the expected oxidation of the precursor analytes). Although the %Rs for the listed PFCAs were above the laboratory's acceptance criteria, the post-TOP LCS/LCSD %Rs were still considered to be in control as a result of the additional precursors added to the spiking solution. It should also be noted that the laboratory stated in the case narrative that zero %R of precursor analytes (i.e., ADONA, 4:2 FTS, 6:2 FTS, 8:2 FTS, FOSA, NMeFOSAA, NEtFOSAA, NEtFOSA, NMeFOSA, NMeFOSE, and NEtFOSE) is also expected due to the oxidation of these compounds during the TOP Assay procedure; 0 %R was observed for the listed precursors. No validation actions were taken on this basis.
	PFPeA	199/196	-	85-145/-	
	PFHxA	235/231	-	81-141/-	
	PFHpA	248/231	-	104-171/-	
	PFNA	161/160	-	66-126/-	
	PFDA	133/127	-	65-125/-	
	NMeFOSAA	-/-	34	-/30	No validation action was required on this basis since the listed compounds were not detected in the post-TOP assay analyses of the associated sample.
	NEtFOSAA	-/-	95	-/30	
	NMeFOSE	-/-	200	-/30	
	NEtFOSE	-/-	200	-/30	
Associated sample: Eff-20240319					
-: Met criteria					

- MS/MSD analyses were not performed on a sample from this data set.
- The reverse surrogate (M2-4:2 FTS) was within the laboratory's acceptance limits (0-10%) in the post-TOP assay analyses. The following table summarizes the remaining isotopically labeled surrogate %Rs that were outside of the laboratory's acceptance limits, the associated samples, and the validation actions.

Sample ID	Surrogate	%R	%R Acceptance Limits	Validation Action*
Inf-02 20240318 (total PFAS)	13C2 PFTeDA	21	25-150	The nondetect results for total PFTeA were qualified as estimated (UJ) in samples Inf-02 20240318, Inf-07 20240318, Inf-08 20240318, Inf-11 20240318, and Inf-Comp 20240318.
Inf-07 20240318 (total PFAS)		24		
Inf-08 20240318 (total PFAS)		18		
Inf-11 20240318 (total PFAS)		22		
Inf-Comp 20240318 (total PFAS)		23		

Sample ID	Surrogate	%R	%R Acceptance Limits	Validation Action*
Inf-11 20240318 (total PFAS)	d3-NMeFOSAA	24	25-150	The nondetect result for total NMeFOSAA was qualified as estimated (UJ) in sample Inf-11 20240318.
Eff-20240319 (pre-TOP assay)	M2-6:2 FTS	151		No validation action was required on this basis since 6:2 FTS was not detected in the pre-TOP assay analysis of this sample.
Eff-20240319 (post-TOP assay)	d-N-EtFOSA-M	23		Professional judgement was used and no validation actions were taken on this basis since the surrogates recovered within the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 10-150%.
	d9-N-EtFOSE-M	24		
BIO-A-22-20240319 (pre-TOP assay)	M2-4:2 FTS	252		No validation action was required on this basis since 4:2 FTS was not detected in the pre-TOP assay analysis of this sample.
	M2-6:2 FTS	168		The positive result for pre-TOP assay 6:2 FTS was qualified as estimated (J) in sample BIO-A-22-20240319.
	d-N-MeFOSA-M	22		Professional judgement was used and no validation actions were taken on this basis since the surrogates recovered within the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 10-150%.
	d-N-EtFOSA-M	23		
BIO-A-22-20240319 (post-TOP assay)	M2-6:2 FTS	153		No validation action was required on this basis since 6:2 FTS was not detected in the post-TOP assay analysis of this sample.
BIO-A-23-20240319 (pre-TOP assay)	13C2 PFTeDA	23		The positive results for pre-TOP assay PFTeA and pre-TOP assay 6:2 FTS were qualified as estimated (J) in sample BIO-A-23-20240319.
	M2-6:2 FTS	161		
	M2-4:2 FTS	210		No validation action was required on this basis since 4:2 FTS was not detected in the pre-TOP assay analysis of this sample.
	d-N-MeFOSA-M	19		Professional judgement was used and no validation actions were taken on this basis since the surrogates recovered within the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 10-150%.
	d-N-EtFOSA-M	11		
	d7-N-MeFOSE-M	24		
	d9-N-EtFOSE-M	21		
BIO-A-23-20240319 (post-TOP assay)	M2-6:2 FTS	155		No validation action was required on this basis since 6:2 FTS was not detected in the post-TOP assay analysis of this sample.
BIO-B-20240320 (pre-TOP assay)	M2-4:2 FTS	219		No validation action was required on this basis since 4:2 FTS, 6:2 FTS, and 8:2 FTS were not detected in the pre-TOP assay analysis of this sample.
	M2-6:2 FTS	153		
	M2-8:2 FTS	176		

* Note that select results were also qualified as estimated (J) by the laboratory due to detection between the method detection limit (MDL) and QL.

It should be noted that additional isotopically labeled surrogate %Rs were outside of the acceptance limits in one or more of the method blanks and LCS/LCSDs. However, no validation actions were required on this basis so these nonconformances are not summarized in the table above.

- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was not performed on a sample from this data set.
- The laboratory noted the following observations in the case narrative. No validation actions were taken on this basis.
  - Samples Inf-02 20240318, Inf-07 20240318, Inf-08 20240318, Inf-11 20240318, Inf-18 20240318, Inf-Comp 20240318, Eff-20240319, and Eff-G-20240319 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction for total PFAS and were yellow in color following extraction for total PFAS.
  - During the solid phase extraction (SPE) process, the following samples contained non-settable particulates which clogged the SPE column for total PFAS: Inf-02 20240318, Inf-07 20240318, Inf-08 20240318, Inf-11 20240318, Inf-18 20240318, and Inf-Comp 20240318. The volumes of the samples that was extracted via SPE prior to the clogging of the SPE cartridge are as follows: 46.6%, 68.5%, 73.3%, 78.1%, 75.2%, and 75.4%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent. The laboratory confirmed during previous reviews that samples are spiked with extracted internal standards (or isotopically labeled surrogates) prior to filtration through the SPE column; thus, no validation actions were taken on this basis.
  - Sample Eff-20240319 was yellow in color following extraction for pre- and post-TOP assay.
  - Samples BIOA-22-20240319 and BIO-A-23-20240319 were yellow in color following original and/or re-extraction for pre- and post-TOP assay.
  - Samples BIO-A-22-20240319, BIO-A-23-20240319, and BIO-B-20240320 were observed to have a yellow color after extraction/final volume for total PFAS.
  - Sample BIO-B-20240320 was light yellow in color following re-extraction for pre- and post-TOP assay.
- Select sample QLs were outside of the ranges of QLs suggested in the SAB of 2-5 ng/L and 1-5 ug/kg per individual PFAS due to sample volume and/or low total solids.
- No analytical dilutions were performed on the samples in this data set for PFAS.
- The QLs for TSS in samples Inf-02 20240318, Inf-07 20240318, Inf-08 20240318, Inf-11 20240318, Inf-18 20240318, and Inf-Comp 20240318 were 10x higher than the associated method blank due to a reduced volume (50 mLs versus the typical 500 mL) used in the sample analyses. There is no adverse impact on the data usability due to this issue since TSS was detected above the QL in these samples. No validation action was required on this basis.
- The results for the following PFAS in the samples listed below were flagged with an “I” by the laboratory indicating that the ion transition ratio did not meet the acceptance limits; thus, the positive results for the listed PFAS in the samples listed below were qualified as estimated (J).
  - Total PFHxS, pre-TOP assay PFHxS, and total PFOS in sample BIO-A-22-20240319;

- Pre-TOP assay PFHxA*, total PFHxS, and pre-TOP assay PFOS in sample BIOB-20240320;
- Pre-TOP assay PFHpA*, total PFNA*, and total PFBS in sample Eff-20240319;
- Total PFBS in sample Eff-G-20240319;
- Total PFHpA*, total PFHxS, and total PFBS in sample Inf-02 20240318;
- Total NEtFOSAA* in sample Inf-07 20240318;
- Total PFHxA, total PFHxS, and total PFBS* in sample Inf-08 20240318;
- Total PFHxA, total PFNA*, total PFHxS, total PFOS, and total PFBS* in sample Inf-11 20240318; and
- Total PFNA* in sample Inf-18 20240318.

* This result was also qualified as estimated (J) by the laboratory due to detection < the QL.

- The percent moisture for all biosolids samples in this data set was high (>70% moisture). The laboratory has been contacted during previous rounds of validation review regarding this issue and stated that the biosolids samples were agitated and then immediately aliquoted for extraction after agitation, indicating that a representative sample was extracted for PFAS analysis. No validation actions were taken on this basis.
- The laboratory noted select continuing calibration verification (CCV) nonconformances in the case narrative. No validation actions were taken on this basis since the actual CCV results were not provided for review.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Inf-02 20240318

Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.5**	**J**	4.9	2.3	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluoropentanoic acid (PFPeA)	**2.5**		2.0	0.48	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorohexanoic acid (PFHxA)	**4.5**		2.0	0.57	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluoroheptanoic acid (PFHpA)	**0.64**	~~J~~ I J	2.0	0.24	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorooctanoic acid (PFOA)	**2.0**		2.0	0.83	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorononanoic acid (PFNA)	**0.41**	**J**	2.0	0.26	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.30	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	2.0	0.71	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorobutanesulfonic acid (PFBS)	**2.7**	I J	2.0	0.20	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.29	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorohexanesulfonic acid (PFHxS)	**4.5**	I J	2.0	0.56	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorooctanesulfonic acid (PFOS)	**3.8**		2.0	0.53	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.36	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.31	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.95	ng/L		03/22/24 05:19	03/24/24 01:35	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.96	ng/L		03/22/24 05:19	03/24/24 01:35	1
NEtFOSA	ND		2.0	0.85	ng/L		03/22/24 05:19	03/24/24 01:35	1
NMeFOSA	ND		2.0	0.42	ng/L		03/22/24 05:19	03/24/24 01:35	1
NMeFOSAA	ND		4.9	1.2	ng/L		03/22/24 05:19	03/24/24 01:35	1
NEtFOSAA	ND		4.9	1.3	ng/L		03/22/24 05:19	03/24/24 01:35	1
NMeFOSE	ND		3.9	1.4	ng/L		03/22/24 05:19	03/24/24 01:35	1
NEtFOSE	ND		2.0	0.83	ng/L		03/22/24 05:19	03/24/24 01:35	1
4:2 FTS	ND		2.0	0.23	ng/L		03/22/24 05:19	03/24/24 01:35	1
6:2 FTS	ND		4.9	2.4	ng/L		03/22/24 05:19	03/24/24 01:35	1
8:2 FTS	ND		2.0	0.45	ng/L		03/22/24 05:19	03/24/24 01:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.39	ng/L		03/22/24 05:19	03/24/24 01:35	1
HFPO-DA (GenX)	ND		3.9	1.5	ng/L		03/22/24 05:19	03/24/24 01:35	1
9Cl-PF3ONS	ND		2.0	0.23	ng/L		03/22/24 05:19	03/24/24 01:35	1
11Cl-PF3OUdS	ND		2.0	0.31	ng/L		03/22/24 05:19	03/24/24 01:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*51*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C5 PFPeA	*59*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C2 PFHxA	*63*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C4 PFHpA	*58*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C4 PFOA	*61*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C5 PFNA	*56*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C2 PFDA	*46*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C2 PFUnA	*45*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C2 PFDoA	*32*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C2 PFTeDA	*21*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*

Client Sample ID: Inf-02 20240318

Lab Sample ID: 320-110655-1

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
18O2 PFHxS	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C4 PFOS	*49*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C8 FOSA	*40*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d3-NMeFOSAA	*30*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d5-NEtFOSAA	*43*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d-N-MeFOSA-M	*26*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d-N-EtFOSA-M	*27*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d7-N-MeFOSE-M	*23*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
d9-N-EtFOSE-M	*24*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
M2-4:2 FTS	*60*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
M2-6:2 FTS	*96*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
M2-8:2 FTS	*58*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*
13C3 HFPO-DA	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:35*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		50	19	mg/L			03/25/24 16:37	1

Client Sample ID: Inf-07 20240318

Lab Sample ID: 320-110655-2

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**16**		4.7	2.3	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluoropentanoic acid (PFPeA)	**8.0**		1.9	0.46	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorohexanoic acid (PFHxA)	**14**		1.9	0.55	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluoroheptanoic acid (PFHpA)	**2.6**		1.9	0.24	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorooctanoic acid (PFOA)	**7.6**		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorononanoic acid (PFNA)	**0.67**	**J**	1.9	0.25	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorodecanoic acid (PFDA)	**0.55**	**J**	1.9	0.29	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.9	0.69	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorobutanesulfonic acid (PFBS)	**7.1**		1.9	0.19	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluoropentanesulfonic acid (PFPeS)	**0.85**	**J**	1.9	0.28	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorohexanesulfonic acid (PFHxS)	**15**		1.9	0.54	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorooctanesulfonic acid (PFOS)	**7.0**		1.9	0.51	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.91	ng/L		03/22/24 05:19	03/24/24 01:45	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 01:45	1

Client Sample ID: Inf-07 20240318

Lab Sample ID: 320-110655-2

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.82	ng/L		03/22/24 05:19	03/24/24 01:45	1
NMeFOSA	ND		1.9	0.41	ng/L		03/22/24 05:19	03/24/24 01:45	1
NMeFOSAA	**1.1**	**J**	4.7	1.1	ng/L		03/22/24 05:19	03/24/24 01:45	1
NEtFOSAA	**1.4**	**~~J~~ I J**	4.7	1.2	ng/L		03/22/24 05:19	03/24/24 01:45	1
NMeFOSE	**1.8**	**J**	3.8	1.3	ng/L		03/22/24 05:19	03/24/24 01:45	1
NEtFOSE	ND		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 01:45	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 01:45	1
6:2 FTS	**2.7**	**J**	4.7	2.4	ng/L		03/22/24 05:19	03/24/24 01:45	1
8:2 FTS	ND		1.9	0.43	ng/L		03/22/24 05:19	03/24/24 01:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 01:45	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 01:45	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 01:45	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 01:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*74*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C5 PFPeA	*89*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C2 PFHxA	*89*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C4 PFHpA	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C4 PFOA	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C5 PFNA	*75*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C2 PFDA	*61*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C2 PFUnA	*56*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C2 PFDoA	*39*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C2 PFTeDA	*24*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C3 PFBS	*79*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
18O2 PFHxS	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C4 PFOS	*67*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C8 FOSA	*48*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d3-NMeFOSAA	*29*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d5-NEtFOSAA	*49*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d-N-MeFOSA-M	*39*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d-N-EtFOSA-M	*27*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d7-N-MeFOSE-M	*35*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
d9-N-EtFOSE-M	*25*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
M2-4:2 FTS	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
M2-6:2 FTS	*124*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
M2-8:2 FTS	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*
13C3 HFPO-DA	*78*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:45*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**210**		50	19	mg/L			03/25/24 16:38	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Inf-08 20240318

Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.6**	**J**	4.7	2.3	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluoropentanoic acid (PFPeA)	**2.6**		1.9	0.46	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorohexanoic acid (PFHxA)	**4.7**	**I** J	1.9	0.55	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluoroheptanoic acid (PFHpA)	**0.60**	**J**	1.9	0.24	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorooctanoic acid (PFOA)	**2.0**		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorononanoic acid (PFNA)	**0.36**	**J**	1.9	0.25	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.9	0.69	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	~~J~~ **I** J	1.9	0.19	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.28	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorohexanesulfonic acid (PFHxS)	**3.7**	**I** J	1.9	0.54	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorooctanesulfonic acid (PFOS)	**2.6**		1.9	0.51	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.91	ng/L		03/22/24 05:19	03/24/24 01:55	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 01:55	1
NEtFOSA	ND		1.9	0.82	ng/L		03/22/24 05:19	03/24/24 01:55	1
NMeFOSA	ND		1.9	0.40	ng/L		03/22/24 05:19	03/24/24 01:55	1
NMeFOSAA	ND		4.7	1.1	ng/L		03/22/24 05:19	03/24/24 01:55	1
NEtFOSAA	ND		4.7	1.2	ng/L		03/22/24 05:19	03/24/24 01:55	1
NMeFOSE	**2.3**	**J**	3.8	1.3	ng/L		03/22/24 05:19	03/24/24 01:55	1
NEtFOSE	ND		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 01:55	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 01:55	1
6:2 FTS	ND		4.7	2.4	ng/L		03/22/24 05:19	03/24/24 01:55	1
8:2 FTS	ND		1.9	0.43	ng/L		03/22/24 05:19	03/24/24 01:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 01:55	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 01:55	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 01:55	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 01:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C5 PFPeA	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C2 PFHxA	*83*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C4 PFHpA	*75*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C4 PFOA	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C5 PFNA	*71*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C2 PFDA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C2 PFUnA	*49*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C2 PFDoA	*32*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C2 PFTeDA	*18*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*

Client Sample ID: Inf-08 20240318

Lab Sample ID: 320-110655-3
Matrix: Water

Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*71*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
18O2 PFHxS	*71*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C4 PFOS	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C8 FOSA	*53*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d3-NMeFOSAA	*28*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d5-NEtFOSAA	*44*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d-N-MeFOSA-M	*31*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d-N-EtFOSA-M	*28*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d7-N-MeFOSE-M	*26*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
d9-N-EtFOSE-M	*24*		*10 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
M2-4:2 FTS	*96*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
M2-6:2 FTS	*126*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
M2-8:2 FTS	*83*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*
13C3 HFPO-DA	*69*		*25 - 150*	*03/22/24 05:19*	*03/24/24 01:55*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**270**		50	19	mg/L			03/25/24 16:40	1

Client Sample ID: Inf-11 20240318

Lab Sample ID: 320-110655-4
Matrix: Water

Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.9**	J	4.7	2.3	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluoropentanoic acid (PFPeA)	**1.8**	J	1.9	0.47	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorohexanoic acid (PFHxA)	**4.6**	I J	1.9	0.55	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluoroheptanoic acid (PFHpA)	**0.79**	J	1.9	0.24	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorooctanoic acid (PFOA)	**2.0**		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorononanoic acid (PFNA)	**0.49**	~~J~~ I J	1.9	0.26	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorodecanoic acid (PFDA)	**0.47**	J	1.9	0.29	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.9	0.69	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	~~J~~ I J	1.9	0.19	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.28	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorohexanesulfonic acid (PFHxS)	**3.3**	I J	1.9	0.54	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorooctanesulfonic acid (PFOS)	**2.6**	I J	1.9	0.51	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 02:05	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		03/22/24 05:19	03/24/24 02:05	1

Client Sample ID: Inf-11 20240318

Lab Sample ID: 320-110655-4

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.83	ng/L		03/22/24 05:19	03/24/24 02:05	1
NMeFOSA	ND		1.9	0.41	ng/L		03/22/24 05:19	03/24/24 02:05	1
NMeFOSAA	ND	UJ	4.7	1.1	ng/L		03/22/24 05:19	03/24/24 02:05	1
NEtFOSAA	ND		4.7	1.2	ng/L		03/22/24 05:19	03/24/24 02:05	1
NMeFOSE	**2.3**	**J**	3.8	1.3	ng/L		03/22/24 05:19	03/24/24 02:05	1
NEtFOSE	ND		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:05	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:05	1
6:2 FTS	ND		4.7	2.4	ng/L		03/22/24 05:19	03/24/24 02:05	1
8:2 FTS	ND		1.9	0.44	ng/L		03/22/24 05:19	03/24/24 02:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 02:05	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 02:05	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:05	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C5 PFPeA	*89*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C2 PFHxA	*105*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C4 PFHpA	*94*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C4 PFOA	*91*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C5 PFNA	*84*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C2 PFDA	*61*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C2 PFUnA	*52*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C2 PFDoA	*35*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C2 PFTeDA	*22*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C3 PFBS	*91*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
18O2 PFHxS	*92*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C4 PFOS	*79*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C8 FOSA	*46*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d3-NMeFOSAA	*24*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d5-NEtFOSAA	*43*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d-N-MeFOSA-M	*34*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d-N-EtFOSA-M	*22*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d7-N-MeFOSE-M	*32*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
d9-N-EtFOSE-M	*20*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
M2-4:2 FTS	*131*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
M2-6:2 FTS	*137*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
M2-8:2 FTS	*79*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*
13C3 HFPO-DA	*87*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**280**		50	19	mg/L			03/25/24 16:41	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Inf-18 20240318

Date Collected: 03/18/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-5

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**12**		4.7	2.3	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluoropentanoic acid (PFPeA)	**6.8**		1.9	0.46	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorohexanoic acid (PFHxA)	**8.8**		1.9	0.55	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluoroheptanoic acid (PFHpA)	**2.6**		1.9	0.24	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorooctanoic acid (PFOA)	**9.0**		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorononanoic acid (PFNA)	**0.71**	~~J~~ I J	1.9	0.26	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorobutanesulfonic acid (PFBS)	**5.1**		1.9	0.19	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluoropentanesulfonic acid (PFPeS)	**1.6**	**J**	1.9	0.28	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorohexanesulfonic acid (PFHxS)	**21**		1.9	0.54	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.39**	**J**	1.9	0.18	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorooctanesulfonic acid (PFOS)	**9.2**		1.9	0.51	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 02:15	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		03/22/24 05:19	03/24/24 02:15	1
NEtFOSA	ND		1.9	0.83	ng/L		03/22/24 05:19	03/24/24 02:15	1
NMeFOSA	ND		1.9	0.41	ng/L		03/22/24 05:19	03/24/24 02:15	1
NMeFOSAA	**1.5**	**J**	4.7	1.1	ng/L		03/22/24 05:19	03/24/24 02:15	1
NEtFOSAA	**1.8**	**J**	4.7	1.2	ng/L		03/22/24 05:19	03/24/24 02:15	1
NMeFOSE	**5.4**		3.8	1.3	ng/L		03/22/24 05:19	03/24/24 02:15	1
NEtFOSE	**3.0**		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:15	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:15	1
6:2 FTS	**3.9**	**J**	4.7	2.4	ng/L		03/22/24 05:19	03/24/24 02:15	1
8:2 FTS	**0.51**	**J**	1.9	0.44	ng/L		03/22/24 05:19	03/24/24 02:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 02:15	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 02:15	1
9Cl-PF3ONS	**0.38**	**J**	1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:15	1
11Cl-PF3OUdS	**0.47**	**J**	1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C5 PFPeA	*109*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C2 PFHxA	*110*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C4 PFHpA	*100*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C4 PFOA	*99*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C5 PFNA	*87*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C2 PFDA	*79*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C2 PFUnA	*71*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C2 PFDoA	*46*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C2 PFTeDA	*26*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*

Client Sample ID: Inf-18 20240318

Lab Sample ID: 320-110655-5

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*100*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
18O2 PFHxS	*95*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C4 PFOS	*86*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C8 FOSA	*63*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d3-NMeFOSAA	*32*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d5-NEtFOSAA	*63*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d-N-MeFOSA-M	*45*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d-N-EtFOSA-M	*31*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d7-N-MeFOSE-M	*41*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
d9-N-EtFOSE-M	*30*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
M2-4:2 FTS	*83*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
M2-6:2 FTS	*146*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
M2-8:2 FTS	*107*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*
13C3 HFPO-DA	*94*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:15*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**230**		50	19	mg/L			03/25/24 16:42	1

Client Sample ID: Inf-Comp 20240318

Lab Sample ID: 320-110655-6

Date Collected: 03/18/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.6**		4.7	2.3	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluoropentanoic acid (PFPeA)	**5.2**		1.9	0.46	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorohexanoic acid (PFHxA)	**7.6**		1.9	0.55	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluoroheptanoic acid (PFHpA)	**1.7**	**J**	1.9	0.24	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorooctanoic acid (PFOA)	**5.6**		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorononanoic acid (PFNA)	**0.50**	**J**	1.9	0.26	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorodecanoic acid (PFDA)	**0.40**	**J**	1.9	0.29	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.9	0.69	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorobutanesulfonic acid (PFBS)	**4.3**		1.9	0.19	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluoropentanesulfonic acid (PFPeS)	**0.78**	**J**	1.9	0.28	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorohexanesulfonic acid (PFHxS)	**10**		1.9	0.54	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorooctanesulfonic acid (PFOS)	**7.8**		1.9	0.51	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 02:26	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		03/22/24 05:19	03/24/24 02:26	1

Client Sample ID: Inf-Comp 20240318

Lab Sample ID: 320-110655-6

Date Collected: 03/18/24 23:59

Matrix: Water

Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.83	ng/L		03/22/24 05:19	03/24/24 02:26	1
NMeFOSA	ND		1.9	0.41	ng/L		03/22/24 05:19	03/24/24 02:26	1
NMeFOSAA	ND		4.7	1.1	ng/L		03/22/24 05:19	03/24/24 02:26	1
NEtFOSAA	ND		4.7	1.2	ng/L		03/22/24 05:19	03/24/24 02:26	1
NMeFOSE	**1.3**	**J**	3.8	1.3	ng/L		03/22/24 05:19	03/24/24 02:26	1
NEtFOSE	ND		1.9	0.81	ng/L		03/22/24 05:19	03/24/24 02:26	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:26	1
6:2 FTS	ND		4.7	2.4	ng/L		03/22/24 05:19	03/24/24 02:26	1
8:2 FTS	ND		1.9	0.44	ng/L		03/22/24 05:19	03/24/24 02:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 02:26	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 02:26	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:26	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C5 PFPeA	*96*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C2 PFHxA	*95*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C4 PFHpA	*88*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C4 PFOA	*87*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C5 PFNA	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C2 PFDA	*64*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C2 PFUnA	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C2 PFDoA	*37*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C2 PFTeDA	*23*	**5-*	*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C3 PFBS	*85*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
18O2 PFHxS	*85*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C4 PFOS	*73*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C8 FOSA	*52*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d3-NMeFOSAA	*31*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d5-NEtFOSAA	*50*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d-N-MeFOSA-M	*37*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d-N-EtFOSA-M	*26*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d7-N-MeFOSE-M	*32*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
d9-N-EtFOSE-M	*24*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
M2-4:2 FTS	*80*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
M2-6:2 FTS	*136*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
M2-8:2 FTS	*85*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*
13C3 HFPO-DA	*84*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:26*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**230**		50	19	mg/L			03/25/24 16:43	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: Eff-20240319

Date Collected: 03/19/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.0**		4.7	2.3	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluoropentanoic acid (PFPeA)	**12**		1.9	0.46	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorohexanoic acid (PFHxA)	**21**		1.9	0.55	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluoroheptanoic acid (PFHpA)	**2.2**		1.9	0.24	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorooctanoic acid (PFOA)	**7.7**		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorononanoic acid (PFNA)	**0.62**	~~J~~ I J	1.9	0.26	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorodecanoic acid (PFDA)	**0.94**	J	1.9	0.29	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorobutanesulfonic acid (PFBS)	**5.5**	I J	1.9	0.19	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluoropentanesulfonic acid (PFPeS)	**0.67**	J	1.9	0.28	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorohexanesulfonic acid (PFHxS)	**8.5**		1.9	0.54	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorooctanesulfonic acid (PFOS)	**3.8**		1.9	0.51	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		03/22/24 05:19	03/24/24 02:36	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		03/22/24 05:19	03/24/24 02:36	1
NEtFOSA	ND		1.9	0.82	ng/L		03/22/24 05:19	03/24/24 02:36	1
NMeFOSA	ND		1.9	0.41	ng/L		03/22/24 05:19	03/24/24 02:36	1
NMeFOSAA	**1.2**	J	4.7	1.1	ng/L		03/22/24 05:19	03/24/24 02:36	1
NEtFOSAA	ND		4.7	1.2	ng/L		03/22/24 05:19	03/24/24 02:36	1
NMeFOSE	ND		3.8	1.3	ng/L		03/22/24 05:19	03/24/24 02:36	1
NEtFOSE	ND		1.9	0.80	ng/L		03/22/24 05:19	03/24/24 02:36	1
4:2 FTS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:36	1
6:2 FTS	ND		4.7	2.4	ng/L		03/22/24 05:19	03/24/24 02:36	1
8:2 FTS	ND		1.9	0.44	ng/L		03/22/24 05:19	03/24/24 02:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		03/22/24 05:19	03/24/24 02:36	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		03/22/24 05:19	03/24/24 02:36	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		03/22/24 05:19	03/24/24 02:36	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		03/22/24 05:19	03/24/24 02:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*75*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C5 PFPeA	*78*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C2 PFHxA	*85*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C4 PFHpA	*82*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C4 PFOA	*89*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C5 PFNA	*86*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C2 PFDA	*84*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C2 PFUnA	*77*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C2 PFDoA	*72*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C2 PFTeDA	*47*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*

Client Sample ID: Eff-20240319

Lab Sample ID: 320-110655-7

Date Collected: 03/19/24 23:59

Matrix: Water

Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
18O2 PFHxS	*74*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C4 PFOS	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C8 FOSA	*81*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d3-NMeFOSAA	*80*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d-N-MeFOSA-M	*63*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d-N-EtFOSA-M	*67*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d7-N-MeFOSE-M	*63*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
d9-N-EtFOSE-M	*56*		*10 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
M2-4:2 FTS	*98*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
M2-6:2 FTS	*104*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
M2-8:2 FTS	*104*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*
13C3 HFPO-DA	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 02:36*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.4**	**J**	13	6.0	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluoropentanoic acid (PFPeA)	**8.3**		5.0	1.2	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorohexanoic acid (PFHxA)	**18**		5.0	1.4	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluoroheptanoic acid (PFHpA)	**2.5**	~~J~~ IJ	5.0	0.63	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorooctanoic acid (PFOA)	**6.4**		5.0	2.1	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorononanoic acid (PFNA)	ND		5.0	0.68	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorodecanoic acid (PFDA)	ND		5.0	0.78	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	3.2	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	0.73	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorobutanesulfonic acid (PFBS)	**3.8**	**J**	5.0	0.50	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorohexanesulfonic acid (PFHxS)	**6.8**		5.0	0.43	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorooctanesulfonic acid (PFOS)	**5.1**		5.0	0.80	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		03/25/24 04:19	03/30/24 15:14	1
Perfluorooctanesulfonamide (FOSA)	**3.1**	**J**	5.0	0.88	ng/L		03/25/24 04:19	03/30/24 15:14	1
NMeFOSAA	ND		13	3.0	ng/L		03/25/24 04:19	03/30/24 15:14	1
NEtFOSAA	**7.8**	**J**	13	3.3	ng/L		03/25/24 04:19	03/30/24 15:14	1
4:2 FTS	ND	~~*+~~	5.0	0.60	ng/L		03/25/24 04:19	03/30/24 15:14	1
6:2 FTS	ND		13	6.3	ng/L		03/25/24 04:19	03/30/24 15:14	1
8:2 FTS	ND		5.0	1.2	ng/L		03/25/24 04:19	03/30/24 15:14	1
NEtFOSA	ND	~~*-~~	5.0	2.2	ng/L		03/25/24 04:19	03/30/24 15:14	1
NMeFOSA	ND	~~*-~~ UJ	5.0	1.1	ng/L		03/25/24 04:19	03/30/24 15:14	1

Client Sample ID: Eff-20240319

Date Collected: 03/19/24 23:59
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSE	ND		10	3.5	ng/L		03/25/24 04:19	03/30/24 15:14	1
NEtFOSE	ND		5.0	2.2	ng/L		03/25/24 04:19	03/30/24 15:14	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		03/25/24 04:19	03/30/24 15:14	1
9Cl-PF3ONS	ND		5.0	0.60	ng/L		03/25/24 04:19	03/30/24 15:14	1
11Cl-PF3OUdS	ND		5.0	0.80	ng/L		03/25/24 04:19	03/30/24 15:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		03/25/24 04:19	03/30/24 15:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*83*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C4 PFBA	*67*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C5 PFPeA	*88*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C2 PFHxA	*94*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C4 PFHpA	*92*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C4 PFOA	*92*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C5 PFNA	*92*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C2 PFDA	*94*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C2 PFUnA	*82*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C2 PFDoA	*79*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C2 PFTeDA	*63*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C3 PFBS	*88*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
18O2 PFHxS	*84*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C4 PFOS	*80*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d3-NMeFOSAA	*92*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d5-NEtFOSAA	*99*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
M2-4:2 FTS	*150*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
M2-6:2 FTS	*151*	**5+*	*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
M2-8:2 FTS	*135*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d-N-MeFOSA-M	*55*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d-N-EtFOSA-M	*52*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d7-N-MeFOSE-M	*51*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
d9-N-EtFOSE-M	*48*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*
13C3 HFPO-DA	*80*		*25 - 150*	*03/25/24 04:19*	*03/30/24 15:14*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**25**	~~*+~~	13	6.0	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluoropentanoic acid (PFPeA)	**23**	~~*+~~	5.0	1.2	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorohexanoic acid (PFHxA)	**23**	~~*+~~	5.0	1.4	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluoroheptanoic acid (PFHpA)	**3.4**	**J** ~~*+~~	5.0	0.63	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorooctanoic acid (PFOA)	**8.6**		5.0	2.1	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorononanoic acid (PFNA)	**0.71**	**J** ~~*+~~	5.0	0.68	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorodecanoic acid (PFDA)	ND	~~*+~~	5.0	0.78	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	3.2	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	0.73	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**	**J**	5.0	0.50	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		03/25/24 04:25	03/30/24 18:13	1

Client Sample ID: Eff-20240319

Lab Sample ID: 320-110655-7

Date Collected: 03/19/24 23:59

Matrix: Water

Date Received: 03/21/24 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**6.6**		5.0	0.43	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorooctanesulfonic acid (PFOS)	**5.8**		5.0	0.80	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		03/25/24 04:25	03/30/24 18:13	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	0.88	ng/L		03/25/24 04:25	03/30/24 18:13	1
NMeFOSAA	ND	~~*1~~	13	3.0	ng/L		03/25/24 04:25	03/30/24 18:13	1
NEtFOSAA	ND	~~*1~~	13	3.3	ng/L		03/25/24 04:25	03/30/24 18:13	1
4:2 FTS	ND		5.0	0.60	ng/L		03/25/24 04:25	03/30/24 18:13	1
6:2 FTS	ND		13	6.3	ng/L		03/25/24 04:25	03/30/24 18:13	1
8:2 FTS	ND		5.0	1.2	ng/L		03/25/24 04:25	03/30/24 18:13	1
NEtFOSA	ND		5.0	2.2	ng/L		03/25/24 04:25	03/30/24 18:13	1
NMeFOSA	ND		5.0	1.1	ng/L		03/25/24 04:25	03/30/24 18:13	1
NMeFOSE	ND	~~*1~~	10	3.5	ng/L		03/25/24 04:25	03/30/24 18:13	1
NEtFOSE	ND	~~*1~~	5.0	2.2	ng/L		03/25/24 04:25	03/30/24 18:13	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		03/25/24 04:25	03/30/24 18:13	1
9Cl-PF3ONS	ND		5.0	0.60	ng/L		03/25/24 04:25	03/30/24 18:13	1
11Cl-PF3OUdS	ND		5.0	0.80	ng/L		03/25/24 04:25	03/30/24 18:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		03/25/24 04:25	03/30/24 18:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*82*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C4 PFBA	*87*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C5 PFPeA	*87*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C2 PFHxA	*89*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C4 PFHpA	*93*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C4 PFOA	*97*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C5 PFNA	*100*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C2 PFDA	*107*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C2 PFUnA	*80*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C2 PFDoA	*81*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C2 PFTeDA	*85*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C3 PFBS	*86*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
18O2 PFHxS	*86*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C4 PFOS	*84*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d3-NMeFOSAA	*93*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d5-NEtFOSAA	*92*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
M2-6:2 FTS	*118*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
M2-8:2 FTS	*120*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d-N-MeFOSA-M	*25*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d-N-EtFOSA-M	*23*	**5-*	*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d7-N-MeFOSE-M	*30*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
d9-N-EtFOSE-M	*24*	**5-*	*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*
13C3 HFPO-DA	*92*		*25 - 150*	*03/25/24 04:25*	*03/30/24 18:13*	*1*

Client Sample ID: Eff-20240319
Lab Sample ID: 320-110655-7
Date Collected: 03/19/24 23:59
Matrix: Water
Date Received: 03/21/24 09:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	4.8	J	5.0	1.9	mg/L			03/26/24 14:28	1

Client Sample ID: Eff-G-20240319
Lab Sample ID: 320-110655-8
Date Collected: 03/19/24 10:25
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	9.5		4.5	2.2	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluoropentanoic acid (PFPeA)	12		1.8	0.44	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorohexanoic acid (PFHxA)	18		1.8	0.53	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluoroheptanoic acid (PFHpA)	2.4		1.8	0.23	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorooctanoic acid (PFOA)	7.5		1.8	0.77	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorononanoic acid (PFNA)	0.43	J	1.8	0.25	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorodecanoic acid (PFDA)	0.87	J	1.8	0.28	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorobutanesulfonic acid (PFBS)	5.7	I J	1.8	0.18	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluoropentanesulfonic acid (PFPeS)	0.79	J	1.8	0.27	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorohexanesulfonic acid (PFHxS)	8.6		1.8	0.52	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorooctanesulfonic acid (PFOS)	3.2		1.8	0.49	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.88	ng/L		03/22/24 05:19	03/24/24 03:06	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.89	ng/L		03/22/24 05:19	03/24/24 03:06	1
NEtFOSA	ND		1.8	0.79	ng/L		03/22/24 05:19	03/24/24 03:06	1
NMeFOSA	ND		1.8	0.39	ng/L		03/22/24 05:19	03/24/24 03:06	1
NMeFOSAA	ND		4.5	1.1	ng/L		03/22/24 05:19	03/24/24 03:06	1
NEtFOSAA	ND		4.5	1.2	ng/L		03/22/24 05:19	03/24/24 03:06	1
NMeFOSE	ND		3.6	1.3	ng/L		03/22/24 05:19	03/24/24 03:06	1
NEtFOSE	ND		1.8	0.77	ng/L		03/22/24 05:19	03/24/24 03:06	1
4:2 FTS	ND		1.8	0.22	ng/L		03/22/24 05:19	03/24/24 03:06	1
6:2 FTS	ND		4.5	2.3	ng/L		03/22/24 05:19	03/24/24 03:06	1
8:2 FTS	ND		1.8	0.42	ng/L		03/22/24 05:19	03/24/24 03:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		03/22/24 05:19	03/24/24 03:06	1
HFPO-DA (GenX)	ND		3.6	1.4	ng/L		03/22/24 05:19	03/24/24 03:06	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		03/22/24 05:19	03/24/24 03:06	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		03/22/24 05:19	03/24/24 03:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*50*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C5 PFPeA	*50*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*

Client Sample ID: Eff-G-20240319

Lab Sample ID: 320-110655-8

Date Collected: 03/19/24 10:25
Date Received: 03/21/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*58*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C4 PFHpA	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C4 PFOA	*65*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C5 PFNA	*63*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C2 PFDA	*63*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C2 PFUnA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C2 PFDoA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C2 PFTeDA	*39*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C3 PFBS	*55*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
18O2 PFHxS	*60*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C4 PFOS	*64*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C8 FOSA	*63*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d3-NMeFOSAA	*68*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d5-NEtFOSAA	*72*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d-N-MeFOSA-M	*56*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d-N-EtFOSA-M	*55*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d7-N-MeFOSE-M	*50*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
d9-N-EtFOSE-M	*34*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
M2-4:2 FTS	*65*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
M2-6:2 FTS	*75*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
M2-8:2 FTS	*76*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*
13C3 HFPO-DA	*51*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**4.0**	**J**	5.0	1.9	mg/L			03/26/24 14:30	1

Client Sample ID: BIO-A-22-20240319

Lab Sample ID: 320-110655-9

Date Collected: 03/19/24 14:30
Date Received: 03/21/24 09:30

Matrix: Solid
Percent Solids: 23.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.6**		0.84	0.19	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluoropentanoic acid (PFPeA)	**21**		0.84	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorohexanoic acid (PFHxA)	**40**		0.84	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluoroheptanoic acid (PFHpA)	**3.5**		0.84	0.16	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorooctanoic acid (PFOA)	**24**		0.84	0.22	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorononanoic acid (PFNA)	**2.0**		0.84	0.092	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorodecanoic acid (PFDA)	**17**		0.84	0.20	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluoroundecanoic acid (PFUnA)	**1.8**		0.84	0.18	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorododecanoic acid (PFDoA)	**4.4**		0.84	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorotridecanoic acid (PFTrDA)	**0.47**	**J**	0.84	0.088	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorobutanesulfonic acid (PFBS)	**2.3**		0.84	0.16	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.84	0.16	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1

Client Sample ID: BIO-A-22-20240319

Date Collected: 03/19/24 14:30
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-9

Matrix: Solid
Percent Solids: 23.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**1.3**	I J	0.84	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.84	0.21	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorooctanesulfonic acid (PFOS)	**16**	I J	0.84	0.18	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorononanesulfonic acid (PFNS)	ND		0.84	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorodecanesulfonic acid (PFDS)	**1.8**		0.84	0.22	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.84	0.20	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
Perfluorooctanesulfonamide (FOSA)	**1.4**		0.84	0.14	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NEtFOSA	ND		0.84	0.20	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NMeFOSA	ND		0.84	0.21	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NMeFOSAA	**40**		0.84	0.097	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NEtFOSAA	**11**		0.84	0.20	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NMeFOSE	**8.4**		0.84	0.20	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
NEtFOSE	**2.4**		0.84	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
4:2 FTS	ND		0.84	0.21	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
8:2 FTS	**1.4**		0.84	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.84	0.16	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
HFPO-DA (GenX)	ND		0.84	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
9Cl-PF3ONS	ND		0.84	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1
11Cl-PF3OUdS	ND		0.84	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*61*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C5 PFPeA	*66*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C2 PFHxA	*69*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C4 PFHpA	*58*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C4 PFOA	*66*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C5 PFNA	*51*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C2 PFDA	*50*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C2 PFUnA	*43*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C2 PFDoA	*34*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C3 PFBS	*60*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
18O2 PFHxS	*50*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C4 PFOS	*49*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C8 FOSA	*47*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d3-NMeFOSAA	*37*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d5-NEtFOSAA	*40*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d-N-MeFOSA-M	*27*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d-N-EtFOSA-M	*22*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d7-N-MeFOSE-M	*29*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
d9-N-EtFOSE-M	*27*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
M2-4:2 FTS	*73*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
M2-8:2 FTS	*47*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*
13C3 HFPO-DA	*46*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:27*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-A-22-20240319

Date Collected: 03/19/24 14:30
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-9

Matrix: Solid
Percent Solids: 23.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeA)	**0.81**	**J**	0.84	0.16	ug/Kg	☼	04/03/24 04:21	04/08/24 09:03	1
6:2 FTS	**1.7**		0.84	0.11	ug/Kg	☼	04/03/24 04:21	04/08/24 09:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*25*		*25 - 150*	*04/03/24 04:21*	*04/08/24 09:03*	*1*
M2-6:2 FTS	*66*		*25 - 150*	*04/03/24 04:21*	*04/08/24 09:03*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**2.7**	**J**	4.3	0.81	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorooctanoic acid (PFOA)	**21**		4.3	1.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorononanoic acid (PFNA)	**1.3**	**J**	4.3	0.47	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorodecanoic acid (PFDA)	**13**		4.3	1.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluoroundecanoic acid (PFUnA)	**2.0**	**J**	4.3	0.90	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorododecanoic acid (PFDoA)	**3.7**	**J**	4.3	0.64	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.3	0.45	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorotetradecanoic acid (PFTeA)	**0.87**	**J**	4.3	0.79	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorobutanesulfonic acid (PFBS)	**13**		4.3	0.81	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.3	0.79	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorohexanesulfonic acid (PFHxS)	**7.6**	**IJ**	4.3	0.62	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.3	1.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorooctanesulfonic acid (PFOS)	**24**		4.3	0.92	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorononanesulfonic acid (PFNS)	ND		4.3	0.62	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorodecanesulfonic acid (PFDS)	**1.7**	**J**	4.3	1.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.3	1.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
Perfluorooctanesulfonamide (FOSA)	**1.3**	**J**	4.3	0.70	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NMeFOSA	ND	~~*~~ UJ	4.3	1.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NEtFOSA	ND	~~*~~ UJ	4.3	1.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NMeFOSAA	**30**		4.3	0.49	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NEtFOSAA	**9.0**		4.3	1.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NMeFOSE	**9.2**		4.3	1.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
NEtFOSE	**7.6**		4.3	0.60	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
4:2 FTS	ND		4.3	1.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
8:2 FTS	**1.6**	**J**	4.3	0.75	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
9Cl-PF3ONS	ND		4.3	0.75	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1
11Cl-PF3OUdS	ND		4.3	0.66	ug/Kg	☼	03/22/24 09:47	04/02/24 13:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*103*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:34*	*1*
13C4 PFOA	*99*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:34*	*1*
13C5 PFNA	*103*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:34*	*1*
13C2 PFDA	*99*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:34*	*1*

Client Sample ID: BIO-A-22-20240319

Lab Sample ID: 320-110655-9

Date Collected: 03/19/24 14:30
Matrix: Solid
Date Received: 03/21/24 09:30
Percent Solids: 23.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	80		25 - 150	03/22/24 09:47	04/02/24 13:34	1
13C2 PFDoA	78		25 - 150	03/22/24 09:47	04/02/24 13:34	1
13C2 PFTeDA	39		25 - 150	03/22/24 09:47	04/02/24 13:34	1
13C3 PFBS	103		25 - 150	03/22/24 09:47	04/02/24 13:34	1
18O2 PFHxS	113		25 - 150	03/22/24 09:47	04/02/24 13:34	1
13C4 PFOS	105		25 - 150	03/22/24 09:47	04/02/24 13:34	1
13C8 FOSA	69		25 - 150	03/22/24 09:47	04/02/24 13:34	1
M2-4:2 FTS	252	*5+	25 - 150	03/22/24 09:47	04/02/24 13:34	1
M2-8:2 FTS	135		25 - 150	03/22/24 09:47	04/02/24 13:34	1
d3-NMeFOSAA	96		25 - 150	03/22/24 09:47	04/02/24 13:34	1
d5-NEtFOSAA	83		25 - 150	03/22/24 09:47	04/02/24 13:34	1
d-N-MeFOSA-M	22	*5-	25 - 150	03/22/24 09:47	04/02/24 13:34	1
d-N-EtFOSA-M	23	*5-	25 - 150	03/22/24 09:47	04/02/24 13:34	1
d7-N-MeFOSE-M	26		25 - 150	03/22/24 09:47	04/02/24 13:34	1
d9-N-EtFOSE-M	26		25 - 150	03/22/24 09:47	04/02/24 13:34	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.9**		4.2	0.97	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1
Perfluoropentanoic acid (PFPeA)	**18**		4.2	0.87	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1
Perfluorohexanoic acid (PFHxA)	**39**		4.2	0.66	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1
6:2 FTS	**2.2**	~~J~~ --- J	4.2	0.57	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1
HFPO-DA (GenX)	ND		4.2	0.87	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.2	0.82	ug/Kg	☼	04/09/24 06:11	04/11/24 17:37	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	83		25 - 150	04/09/24 06:11	04/11/24 17:37	1
13C5 PFPeA	93		25 - 150	04/09/24 06:11	04/11/24 17:37	1
13C2 PFHxA	112		25 - 150	04/09/24 06:11	04/11/24 17:37	1
13C4 PFOS	89		25 - 150	04/09/24 06:11	04/11/24 17:37	1
M2-6:2 FTS	168	*5+	25 - 150	04/09/24 06:11	04/11/24 17:37	1
13C3 HFPO-DA	100		25 - 150	04/09/24 06:11	04/11/24 17:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**190**	~~B~~ --	4.2	0.97	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluoropentanoic acid (PFPeA)	**97**		4.2	0.87	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorohexanoic acid (PFHxA)	**76**	~~*+~~ --	4.2	0.66	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluoroheptanoic acid (PFHpA)	**35**	~~*+~~ --	4.2	0.80	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorooctanoic acid (PFOA)	**56**		4.2	1.1	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorononanoic acid (PFNA)	**14**	~~*+~~ --	4.2	0.47	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorodecanoic acid (PFDA)	**14**		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluoroundecanoic acid (PFUnA)	**5.6**		4.2	0.89	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorododecanoic acid (PFDoA)	**6.6**		4.2	0.63	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorotridecanoic acid (PFTrDA)	**1.8**	**J**	4.2	0.44	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorotetradecanoic acid (PFTeA)	**2.7**	**J**	4.2	0.78	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-A-22-20240319

Date Collected: 03/19/24 14:30
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-9

Matrix: Solid
Percent Solids: 23.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**24**		4.2	0.80	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.2	0.78	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorohexanesulfonic acid (PFHxS)	**3.1**	**J**	4.2	0.61	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorooctanesulfonic acid (PFOS)	**18**		4.2	0.91	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorononanesulfonic acid (PFNS)	ND		4.2	0.61	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorodecanesulfonic acid (PFDS)	**1.1**	**J**	4.2	1.1	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
Perfluorooctanesulfonamide (FOSA)	ND		4.2	0.70	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NMeFOSAA	ND	~~*1~~	4.2	0.49	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NEtFOSAA	ND		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
4:2 FTS	ND	~~*1~~	4.2	1.1	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
6:2 FTS	ND		4.2	0.57	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NEtFOSA	ND		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NMeFOSA	ND		4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NMeFOSE	ND	~~*1~~	4.2	1.0	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
NEtFOSE	ND	~~*1~~	4.2	0.59	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
9Cl-PF3ONS	ND		4.2	0.74	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
11Cl-PF3OUdS	ND		4.2	0.66	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	~~*1~~	4.2	0.82	ug/Kg	☼	03/22/24 09:54	04/02/24 14:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C4 PFBA	*90*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C5 PFPeA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C2 PFHxA	*97*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C4 PFHpA	*95*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C4 PFOA	*100*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C5 PFNA	*105*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C2 PFDA	*114*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C2 PFUnA	*101*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C2 PFDoA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C2 PFTeDA	*105*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C3 PFBS	*109*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
18O2 PFHxS	*113*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
13C4 PFOS	*106*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d3-NMeFOSAA	*118*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d5-NEtFOSAA	*122*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
M2-4:2 FTS	*0.4*		*0 - 10*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
M2-6:2 FTS	*153*	**5+*	*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d-N-MeFOSA-M	*50*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d-N-EtFOSA-M	*47*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d7-N-MeFOSE-M	*44*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*
d9-N-EtFOSE-M	*42*		*25 - 150*	*03/22/24 09:54*	*04/02/24 14:52*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-A-22-20240319

Lab Sample ID: 320-110655-9
Date Collected: 03/19/24 14:30
Matrix: Solid
Date Received: 03/21/24 09:30
Percent Solids: 23.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Post-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	ND		4.2	0.74	ug/Kg	☼	04/09/24 06:11	04/11/24 20:13	1
HFPO-DA (GenX)	ND		4.2	0.87	ug/Kg	☼	04/09/24 06:11	04/11/24 20:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*0*		*0 - 10*	*04/09/24 06:11*	*04/11/24 20:13*	*1*
M2-8:2 FTS	*96*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:13*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:13*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**76.6**		0.1	0.1	%			03/25/24 11:36	1
Percent Solids (ASTM D 2216)	**23.4**		0.1	0.1	%			03/25/24 11:36	1

Client Sample ID: BIO-A-23-20240319

Lab Sample ID: 320-110655-10
Date Collected: 03/19/24 15:05
Matrix: Solid
Date Received: 03/21/24 09:30
Percent Solids: 26.8

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.7**		0.71	0.16	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluoropentanoic acid (PFPeA)	**8.0**		0.71	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorohexanoic acid (PFHxA)	**19**		0.71	0.11	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluoroheptanoic acid (PFHpA)	**1.5**		0.71	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorooctanoic acid (PFOA)	**13**		0.71	0.19	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorononanoic acid (PFNA)	**1.3**		0.71	0.078	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorodecanoic acid (PFDA)	**11**		0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluoroundecanoic acid (PFUnA)	**1.7**		0.71	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorododecanoic acid (PFDoA)	**4.0**		0.71	0.11	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorotridecanoic acid (PFTrDA)	**0.53**	**J**	0.71	0.074	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorobutanesulfonic acid (PFBS)	**1.0**		0.71	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.71	0.13	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorohexanesulfonic acid (PFHxS)	**0.78**		0.71	0.10	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorooctanesulfonic acid (PFOS)	**14**		0.71	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorononanesulfonic acid (PFNS)	ND		0.71	0.10	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorodecanesulfonic acid (PFDS)	**1.7**		0.71	0.18	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
Perfluorooctanesulfonamide (FOSA)	**1.3**		0.71	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
NEtFOSA	**0.33**	**J**	0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
NMeFOSA	**0.29**	**J**	0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
NMeFOSAA	**22**		0.71	0.081	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
NEtFOSAA	**8.8**		0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
NMeFOSE	**13**		0.71	0.17	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1

Client Sample ID: BIO-A-23-20240319

Date Collected: 03/19/24 15:05
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-10

Matrix: Solid
Percent Solids: 26.8

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSE	**3.2**		0.71	0.099	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
4:2 FTS	ND		0.71	0.18	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
8:2 FTS	**1.4**		0.71	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.71	0.14	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
HFPO-DA (GenX)	ND		0.71	0.15	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
9Cl-PF3ONS	ND		0.71	0.12	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1
11Cl-PF3OUdS	ND		0.71	0.11	ug/Kg	☼	04/03/24 04:21	04/04/24 17:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*69*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C5 PFPeA	*82*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C2 PFHxA	*82*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C4 PFHpA	*74*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C4 PFOA	*79*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C5 PFNA	*70*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C2 PFDA	*65*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C2 PFUnA	*51*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C2 PFDoA	*34*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C3 PFBS	*71*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
18O2 PFHxS	*63*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C4 PFOS	*65*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C8 FOSA	*57*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d3-NMeFOSAA	*32*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d5-NEtFOSAA	*44*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d-N-MeFOSA-M	*27*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d-N-EtFOSA-M	*13*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d7-N-MeFOSE-M	*27*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
d9-N-EtFOSE-M	*13*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
M2-4:2 FTS	*91*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
M2-8:2 FTS	*91*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*
13C3 HFPO-DA	*64*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:37*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeA)	**0.87**		0.71	0.13	ug/Kg	☼	04/03/24 04:21	04/08/24 09:15	1
6:2 FTS	**1.5**		0.71	0.096	ug/Kg	☼	04/03/24 04:21	04/08/24 09:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*27*		*25 - 150*	*04/03/24 04:21*	*04/08/24 09:15*	*1*
M2-6:2 FTS	*77*		*25 - 150*	*04/03/24 04:21*	*04/08/24 09:15*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**1.0**	**J**	3.7	0.70	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorooctanoic acid (PFOA)	**13**		3.7	0.98	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorononanoic acid (PFNA)	**1.1**	**J**	3.7	0.41	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorodecanoic acid (PFDA)	**10**		3.7	0.89	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluoroundecanoic acid (PFUnA)	**2.0**	**J**	3.7	0.77	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1

Client Sample ID: BIO-A-23-20240319

Lab Sample ID: 320-110655-10

Date Collected: 03/19/24 15:05
Date Received: 03/21/24 09:30

Matrix: Solid
Percent Solids: 26.8

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	**3.7**		3.7	0.55	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.7	0.39	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorotetradecanoic acid (PFTeA)	**0.78**	~~J~~-- J	3.7	0.68	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorobutanesulfonic acid (PFBS)	**6.5**		3.7	0.70	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.7	0.68	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		3.7	0.53	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.7	0.91	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorooctanesulfonic acid (PFOS)	**16**		3.7	0.80	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorononanesulfonic acid (PFNS)	ND		3.7	0.53	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.7	0.96	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.7	0.87	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
Perfluorooctanesulfonamide (FOSA)	**1.3**	**J**	3.7	0.61	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NMeFOSA	ND	~~*-~~--- UJ	3.7	0.91	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NEtFOSA	ND	~~*-~~---- UJ	3.7	0.87	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NMeFOSAA	**25**		3.7	0.42	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NEtFOSAA	**7.8**		3.7	0.89	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NMeFOSE	**8.4**		3.7	0.87	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
NEtFOSE	**5.8**		3.7	0.52	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
4:2 FTS	ND		3.7	0.94	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
8:2 FTS	ND		3.7	0.65	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
9Cl-PF3ONS	ND		3.7	0.65	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1
11Cl-PF3OUdS	ND		3.7	0.57	ug/Kg	☼	03/22/24 09:47	04/02/24 13:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*102*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C4 PFOA	*97*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C5 PFNA	*99*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C2 PFDA	*94*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C2 PFUnA	*73*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C2 PFDoA	*66*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C2 PFTeDA	*23*	**5-*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C3 PFBS	*108*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
18O2 PFHxS	*113*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C4 PFOS	*102*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
13C8 FOSA	*61*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
M2-4:2 FTS	*210*	**5+*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
M2-8:2 FTS	*131*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d3-NMeFOSAA	*69*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d5-NEtFOSAA	*73*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d-N-MeFOSA-M	*19*	**5-*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d-N-EtFOSA-M	*11*	**5-*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d7-N-MeFOSE-M	*24*	**5-*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*
d9-N-EtFOSE-M	*21*	**5-*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:45*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-A-23-20240319

Date Collected: 03/19/24 15:05
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-10

Matrix: Solid
Percent Solids: 26.8

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	3.8		3.7	0.86	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1
Perfluoropentanoic acid (PFPeA)	10		3.7	0.77	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1
Perfluorohexanoic acid (PFHxA)	24		3.7	0.58	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1
6:2 FTS	2.5	~~J~~ J	3.7	0.50	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1
HFPO-DA (GenX)	ND		3.7	0.77	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.7	0.73	ug/Kg	☼	04/09/24 06:11	04/11/24 17:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*70*		*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*
13C5 PFPeA	*92*		*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*
13C2 PFHxA	*111*		*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*
13C4 PFOS	*85*		*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*
M2-6:2 FTS	*161*	**5+*	*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*
13C3 HFPO-DA	*93*		*25 - 150*	*04/09/24 06:11*	*04/11/24 17:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	210	~~B~~	3.7	0.84	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluoropentanoic acid (PFPeA)	100		3.7	0.75	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorohexanoic acid (PFHxA)	76	~~*1~~	3.7	0.57	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluoroheptanoic acid (PFHpA)	41	~~*1~~	3.7	0.69	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorooctanoic acid (PFOA)	57		3.7	0.97	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorononanoic acid (PFNA)	19	~~*1~~	3.7	0.40	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorodecanoic acid (PFDA)	17		3.7	0.88	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluoroundecanoic acid (PFUnA)	7.8		3.7	0.77	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorododecanoic acid (PFDoA)	8.8		3.7	0.55	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorotridecanoic acid (PFTrDA)	2.1	J	3.7	0.38	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorotetradecanoic acid (PFTeA)	3.5	J	3.7	0.68	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorobutanesulfonic acid (PFBS)	33		3.7	0.69	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.7	0.68	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorohexanesulfonic acid (PFHxS)	2.5	J	3.7	0.53	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.7	0.90	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorooctanesulfonic acid (PFOS)	19		3.7	0.79	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorononanesulfonic acid (PFNS)	ND		3.7	0.53	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorodecanesulfonic acid (PFDS)	1.4	J	3.7	0.95	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.7	0.86	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
Perfluorooctanesulfonamide (FOSA)	ND		3.7	0.60	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
NMeFOSAA	ND	~~*1~~	3.7	0.42	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
NEtFOSAA	ND		3.7	0.88	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
4:2 FTS	ND	~~*1~~	3.7	0.94	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
6:2 FTS	ND		3.7	0.49	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1

Client Sample ID: BIO-A-23-20240319

Lab Sample ID: 320-110655-10

Date Collected: 03/19/24 15:05
Date Received: 03/21/24 09:30

Matrix: Solid
Percent Solids: 26.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		3.7	0.86	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
NMeFOSA	ND		3.7	0.90	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
NMeFOSE	ND	~~*1~~	3.7	0.86	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
NEtFOSE	ND	~~*1~~	3.7	0.51	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
9Cl-PF3ONS	ND		3.7	0.64	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
11Cl-PF3OUdS	ND		3.7	0.57	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	~~*1~~	3.7	0.71	ug/Kg	☼	03/22/24 09:54	04/02/24 15:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C4 PFBA	*86*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C5 PFPeA	*101*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C2 PFHxA	*96*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C4 PFHpA	*97*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C4 PFOA	*104*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C5 PFNA	*106*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C2 PFDA	*114*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C2 PFUnA	*100*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C2 PFDoA	*102*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C2 PFTeDA	*108*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C3 PFBS	*104*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
18O2 PFHxS	*110*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
13C4 PFOS	*100*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d3-NMeFOSAA	*113*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d5-NEtFOSAA	*116*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
M2-4:2 FTS	*1*		*0 - 10*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
M2-6:2 FTS	*155*	**5+*	*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d-N-MeFOSA-M	*52*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d-N-EtFOSA-M	*45*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d7-N-MeFOSE-M	*48*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*
d9-N-EtFOSE-M	*44*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:03*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Post-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	ND		3.1	0.54	ug/Kg	☼	04/09/24 06:11	04/11/24 20:25	1
HFPO-DA (GenX)	ND		3.1	0.64	ug/Kg	☼	04/09/24 06:11	04/11/24 20:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*0*		*0 - 10*	*04/09/24 06:11*	*04/11/24 20:25*	*1*
M2-8:2 FTS	*102*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:25*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**73.2**		0.1	0.1	%			03/25/24 11:36	1
Percent Solids (ASTM D 2216)	**26.8**		0.1	0.1	%			03/25/24 11:36	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: EB-01-20240319

Lab Sample ID: 320-110655-11

Date Collected: 03/19/24 14:45
Matrix: Water
Date Received: 03/21/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.6	2.2	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.53	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.23	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.78	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.67	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.52	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.89	ng/L		03/22/24 05:19	03/24/24 03:16	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.90	ng/L		03/22/24 05:19	03/24/24 03:16	1
NEtFOSA	ND		1.8	0.79	ng/L		03/22/24 05:19	03/24/24 03:16	1
NMeFOSA	ND		1.8	0.39	ng/L		03/22/24 05:19	03/24/24 03:16	1
NMeFOSAA	ND		4.6	1.1	ng/L		03/22/24 05:19	03/24/24 03:16	1
NEtFOSAA	ND		4.6	1.2	ng/L		03/22/24 05:19	03/24/24 03:16	1
NMeFOSE	ND		3.7	1.3	ng/L		03/22/24 05:19	03/24/24 03:16	1
NEtFOSE	ND		1.8	0.78	ng/L		03/22/24 05:19	03/24/24 03:16	1
4:2 FTS	ND		1.8	0.22	ng/L		03/22/24 05:19	03/24/24 03:16	1
6:2 FTS	ND		4.6	2.3	ng/L		03/22/24 05:19	03/24/24 03:16	1
8:2 FTS	ND		1.8	0.42	ng/L		03/22/24 05:19	03/24/24 03:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.37	ng/L		03/22/24 05:19	03/24/24 03:16	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		03/22/24 05:19	03/24/24 03:16	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		03/22/24 05:19	03/24/24 03:16	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		03/22/24 05:19	03/24/24 03:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C5 PFPeA	*53*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C2 PFHxA	*58*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C4 PFHpA	*57*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C4 PFOA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C5 PFNA	*59*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C2 PFDA	*60*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C2 PFUnA	*58*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C2 PFDoA	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C2 PFTeDA	*56*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C3 PFBS	*50*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
18O2 PFHxS	*53*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*

Client Sample ID: EB-01-20240319

Lab Sample ID: 320-110655-11

Date Collected: 03/19/24 14:45
Date Received: 03/21/24 09:30
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*53*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C8 FOSA	*61*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d3-NMeFOSAA	*61*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d5-NEtFOSAA	*65*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d-N-MeFOSA-M	*50*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d-N-EtFOSA-M	*54*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d7-N-MeFOSE-M	*49*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
d9-N-EtFOSE-M	*50*		*10 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
M2-4:2 FTS	*63*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
M2-6:2 FTS	*62*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
M2-8:2 FTS	*68*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*
13C3 HFPO-DA	*52*		*25 - 150*	*03/22/24 05:19*	*03/24/24 03:16*	*1*

Client Sample ID: BIO-B-20240320

Lab Sample ID: 320-110655-12

Date Collected: 03/20/24 07:40
Date Received: 03/21/24 09:30
Matrix: Solid
Percent Solids: 5.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.6	0.83	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluoropentanoic acid (PFPeA)	ND		3.6	0.74	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorohexanoic acid (PFHxA)	ND		3.6	0.56	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluoroheptanoic acid (PFHpA)	ND		3.6	0.69	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorooctanoic acid (PFOA)	**1.4**	**J**	3.6	0.96	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorononanoic acid (PFNA)	ND		3.6	0.40	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorodecanoic acid (PFDA)	**3.4**	**J**	3.6	0.87	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluoroundecanoic acid (PFUnA)	ND		3.6	0.76	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorododecanoic acid (PFDoA)	**1.6**	**J**	3.6	0.54	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.6	0.38	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorotetradecanoic acid (PFTeA)	ND		3.6	0.67	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorobutanesulfonic acid (PFBS)	ND		3.6	0.69	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.67	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorohexanesulfonic acid (PFHxS)	**3.8**	**I J**	3.6	0.52	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.6	0.89	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.52	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.6	0.94	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.6	0.85	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
Perfluorooctanesulfonamide (FOSA)	ND		3.6	0.60	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NEtFOSA	ND		3.6	0.85	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NMeFOSA	ND		3.6	0.89	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NMeFOSAA	**9.3**		3.6	0.42	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NEtFOSAA	**4.2**		3.6	0.87	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NMeFOSE	**5.1**		3.6	0.85	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
NEtFOSE	**1.5**	**J**	3.6	0.51	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
4:2 FTS	ND		3.6	0.92	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
6:2 FTS	ND		3.6	0.49	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1

Client Sample ID: BIO-B-20240320

Date Collected: 03/20/24 07:40
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-12

Matrix: Solid
Percent Solids: 5.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	ND		3.6	0.63	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.6	0.70	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
HFPO-DA (GenX)	ND		3.6	0.74	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
9Cl-PF3ONS	ND		3.6	0.63	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1
11Cl-PF3OUdS	ND		3.6	0.56	ug/Kg	☼	04/03/24 04:21	04/04/24 17:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*75*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C5 PFPeA	*82*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C2 PFHxA	*92*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C4 PFHpA	*88*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C4 PFOA	*92*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C5 PFNA	*82*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C2 PFDA	*68*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C2 PFUnA	*80*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C2 PFDoA	*67*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C2 PFTeDA	*29*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C3 PFBS	*76*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
18O2 PFHxS	*78*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C4 PFOS	*67*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C8 FOSA	*81*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d3-NMeFOSAA	*55*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d5-NEtFOSAA	*82*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d-N-MeFOSA-M	*42*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d-N-EtFOSA-M	*36*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d7-N-MeFOSE-M	*44*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
d9-N-EtFOSE-M	*46*		*10 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
M2-4:2 FTS	*96*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
M2-6:2 FTS	*113*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
M2-8:2 FTS	*51*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*
13C3 HFPO-DA	*77*		*25 - 150*	*04/03/24 04:21*	*04/04/24 17:47*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**6.9**		3.6	0.78	ug/Kg	☼	04/03/24 04:21	04/05/24 20:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*80*		*25 - 150*	*04/03/24 04:21*	*04/05/24 20:28*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		18	3.4	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorooctanoic acid (PFOA)	ND		18	4.8	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorononanoic acid (PFNA)	ND		18	2.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorodecanoic acid (PFDA)	ND		18	4.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluoroundecanoic acid (PFUnA)	ND		18	3.8	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorododecanoic acid (PFDoA)	ND		18	2.7	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorotridecanoic acid (PFTrDA)	ND		18	1.9	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		18	3.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1

Client Sample ID: BIO-B-20240320

Date Collected: 03/20/24 07:40
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-12

Matrix: Solid
Percent Solids: 5.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	**4.8**	**J**	18	3.4	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		18	3.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		18	2.6	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		18	4.4	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorooctanesulfonic acid (PFOS)	**20**	**I** J	18	3.9	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorononanesulfonic acid (PFNS)	ND		18	2.6	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		18	4.7	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		18	4.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
Perfluorooctanesulfonamide (FOSA)	ND		18	3.0	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NMeFOSA	ND	~~*~~ UJ	18	4.4	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NEtFOSA	ND	~~*~~ UJ	18	4.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NMeFOSAA	**7.8**	**J**	18	2.1	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NEtFOSAA	ND		18	4.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NMeFOSE	ND		18	4.3	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
NEtFOSE	**9.0**	**J**	18	2.5	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
4:2 FTS	ND		18	4.6	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
8:2 FTS	ND		18	3.2	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
9Cl-PF3ONS	ND		18	3.2	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1
11Cl-PF3OUdS	ND		18	2.8	ug/Kg	☼	03/22/24 09:47	04/02/24 13:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*101*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C4 PFOA	*97*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C5 PFNA	*99*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C2 PFDA	*107*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C2 PFUnA	*84*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C2 PFDoA	*84*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C2 PFTeDA	*35*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C3 PFBS	*109*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
18O2 PFHxS	*112*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C4 PFOS	*100*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
13C8 FOSA	*94*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
M2-4:2 FTS	*219*	**5+*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
M2-8:2 FTS	*176*	**5+*	*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d3-NMeFOSAA	*105*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d5-NEtFOSAA	*112*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d-N-MeFOSA-M	*34*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d-N-EtFOSA-M	*31*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d7-N-MeFOSE-M	*27*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*
d9-N-EtFOSE-M	*33*		*25 - 150*	*03/22/24 09:47*	*04/02/24 13:56*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		18	4.2	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1
Perfluoropentanoic acid (PFPeA)	ND		18	3.7	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1
Perfluorohexanoic acid (PFHxA)	**4.1**	~~**J**~~ **I** J	18	2.8	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1
6:2 FTS	ND		18	2.4	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-110655-1

Client Sample ID: BIO-B-20240320

Date Collected: 03/20/24 07:40
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-12

Matrix: Solid
Percent Solids: 5.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment - RE (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA (GenX)	ND		18	3.7	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		18	3.5	ug/Kg	☼	04/09/24 06:11	04/11/24 18:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79*		*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*
13C5 PFPeA	*85*		*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*
13C2 PFHxA	*100*		*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*
13C4 PFOS	*83*		*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*
M2-6:2 FTS	*153*	**5+*	*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*
13C3 HFPO-DA	*92*		*25 - 150*	*04/09/24 06:11*	*04/11/24 18:00*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**93**	~~B~~ U	~~18~~ 93	~~4.2~~ 93	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluoropentanoic acid (PFPeA)	**34**		18	3.8	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorohexanoic acid (PFHxA)	**26**	~~*+~~	18	2.8	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluoroheptanoic acid (PFHpA)	**16**	J ~~*+~~	18	3.5	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorooctanoic acid (PFOA)	**23**		18	4.9	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorononanoic acid (PFNA)	**9.9**	J ~~*+~~	18	2.0	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorodecanoic acid (PFDA)	**7.7**	J	18	4.4	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluoroundecanoic acid (PFUnA)	**4.9**	J	18	3.8	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorododecanoic acid (PFDoA)	**4.0**	J	18	2.7	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorotridecanoic acid (PFTrDA)	**1.9**	J	18	1.9	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		18	3.4	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorobutanesulfonic acid (PFBS)	**6.8**	J	18	3.5	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluoropentanesulfonic acid (PFPeS)	ND		18	3.4	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorohexanesulfonic acid (PFHxS)	ND		18	2.6	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		18	4.5	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorooctanesulfonic acid (PFOS)	**9.3**	J	18	3.9	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorononanesulfonic acid (PFNS)	ND		18	2.6	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		18	4.7	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorododecanesulfonic acid (PFDoS)	ND		18	4.3	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
Perfluorooctanesulfonamide (FOSA)	ND		18	3.0	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NMeFOSAA	ND	~~*1~~	18	2.1	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NEtFOSAA	ND		18	4.4	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
4:2 FTS	ND	~~*1~~	18	4.7	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
6:2 FTS	ND		18	2.5	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NEtFOSA	ND		18	4.3	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NMeFOSA	ND		18	4.5	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NMeFOSE	ND	~~*1~~	18	4.3	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
NEtFOSE	ND	~~*1~~	18	2.6	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
9Cl-PF3ONS	ND		18	3.2	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1
11Cl-PF3OUdS	ND		18	2.8	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1

Client Sample ID: BIO-B-20240320

Date Collected: 03/20/24 07:40
Date Received: 03/21/24 09:30

Lab Sample ID: 320-110655-12

Matrix: Solid
Percent Solids: 5.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	~~*1~~	18	3.6	ug/Kg	☼	03/22/24 09:54	04/02/24 15:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*97*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C4 PFBA	*97*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C5 PFPeA	*100*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C2 PFHxA	*93*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C4 PFHpA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C4 PFOA	*105*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C5 PFNA	*108*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C2 PFDA	*116*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C2 PFUnA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C2 PFDoA	*99*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C2 PFTeDA	*102*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C3 PFBS	*102*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
18O2 PFHxS	*107*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
13C4 PFOS	*104*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d3-NMeFOSAA	*113*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d5-NEtFOSAA	*122*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
M2-4:2 FTS	*0.3*		*0 - 10*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
M2-6:2 FTS	*143*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d-N-MeFOSA-M	*41*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d-N-EtFOSA-M	*39*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d7-N-MeFOSE-M	*40*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*
d9-N-EtFOSE-M	*42*		*25 - 150*	*03/22/24 09:54*	*04/02/24 15:14*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Post-Treatment - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	ND		17	2.9	ug/Kg	☼	04/09/24 06:11	04/11/24 20:47	1
HFPO-DA (GenX)	ND		17	3.4	ug/Kg	☼	04/09/24 06:11	04/11/24 20:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*0*		*0 - 10*	*04/09/24 06:11*	*04/11/24 20:47*	*1*
M2-8:2 FTS	*105*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:47*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*04/09/24 06:11*	*04/11/24 20:47*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**94.5**		0.1	0.1	%			03/25/24 11:36	1
Percent Solids (ASTM D 2216)	**5.5**		0.1	0.1	%			03/25/24 11:36	1

April 2024

Data Quality and Usability Review – April 2024

Data Reviewer: Kristen Morin
Peer Reviewer: Jeff Ramey
Date: 5/9/2024

Madison Metropolitan Sewerage District (MMSD) collected influent and effluent samples at the Nine Springs wastewater treatment plant on April 15 and 16, 2024 as part of ongoing monitoring activities conducted by TRC. Samples were analyzed for the standard list of Wisconsin's 33 per- and polyfluoroalkyl substances (PFAS) by Eurofins in West Sacramento, California and for total suspended solids (TSS) by Eurofins in Chicago, Illinois. The laboratory analytical results were reported in laboratory SDG 320-111514-1.

Samples included in this review are listed below:

- Inf-Comp 202404
- Eff-G-202404
- Eff-202404

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
Total Suspended Solids (TSS)	Standard Method (SM) 2540D

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or

analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;

- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The data package was found to be complete as received from the laboratory.
- The cooler temperatures upon receipt at both laboratories were within the acceptance criteria (< 10°C).
  - Samples were not shipped to the main laboratory, West Sacramento, CA, until one to two days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the main laboratory. No validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the main laboratory and were received at acceptable temperatures by the laboratory.

- A method blank was analyzed with each analytical batch for PFAS and TSS. Target analytes were not detected in the method blanks.
- No field blank samples were collected with this sample set.
- All samples were extracted and/or prepared and analyzed within the holding time with the following exception. Sample Eff-G-202404 was analyzed for TSS approximately 10.5 hours outside of the 7-day holding time. No validation actions were taken on this basis since the sample was analyzed on the 7th day after collection.
- The LCS and/or LCSD percent recoveries (%Rs) and relative percent differences, as applicable, for all analytes were within the laboratory's acceptance limits.
- MS/MSD analyses were not performed on a sample from this data set.
- The isotopically labeled surrogate %Rs were within the laboratory's acceptance limits.
- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was not performed on a sample from this data set.
- The laboratory noted the following observations in the case narrative. No validation actions were taken on this basis.
  - Samples Inf-Comp 202404, Eff-202404, and Eff-G-202404 were yellow/brown/orange in color and contained particulates in the bottom of the bottle prior to extraction. In addition, these samples were yellow in color after extraction/final volume.
  - During the solid phase extraction (SPE) process, sample Inf-Comp 202404 contained particulates which clogged the SPE column. The lab also stated that approximately 70.42% of the sample container was filtered through the SPE column (i.e., extracted) at which point the SPE column became clogged. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged it were then extracted using the elution solvent. The laboratory confirmed during previous reviews that samples are spiked with extracted internal standards (or isotopically labeled surrogates) prior to filtration through the SPE column; thus, no validation actions were taken on this basis.
- The QLs met or were below the ranges of QLs suggested in the SAB of 2-5 ng/L for individual PFAS.
- No dilutions were performed on the samples in this data set for PFAS.
- The QL for TSS in sample Inf-Comp 202404 was 8.4x higher than the associated method blank due to a reduced volume (60 mLs versus the typical 500 mL) used in the sample analysis. There is no adverse impact on the data usability due to this issue since TSS was detected above the QL in this sample. No validation action was required on this basis.
- The result for PFBS in sample Eff-202404 was flagged with an "I" by the laboratory indicating that the ion transition ratio did not meet the acceptance limits; thus, the positive result for PFBS in sample Eff-202404 was qualified as estimated (J).

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Client Sample ID: Inf-Comp 202404

Date Collected: 04/15/24 23:59
Date Received: 04/18/24 09:30

Lab Sample ID: 320-111514-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.4**		4.7	2.3	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluoropentanoic acid (PFPeA)	**4.7**		1.9	0.46	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorohexanoic acid (PFHxA)	**9.4**		1.9	0.55	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluoroheptanoic acid (PFHpA)	**2.1**		1.9	0.24	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorooctanoic acid (PFOA)	**4.3**		1.9	0.80	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.25	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorobutanesulfonic acid (PFBS)	**3.4**		1.9	0.19	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.28	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorohexanesulfonic acid (PFHxS)	**10**		1.9	0.54	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.51	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.91	ng/L		04/24/24 05:33	04/26/24 07:51	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.92	ng/L		04/24/24 05:33	04/26/24 07:51	1
NEtFOSA	ND		1.9	0.82	ng/L		04/24/24 05:33	04/26/24 07:51	1
NMeFOSA	ND		1.9	0.41	ng/L		04/24/24 05:33	04/26/24 07:51	1
NMeFOSAA	ND		4.7	1.1	ng/L		04/24/24 05:33	04/26/24 07:51	1
NEtFOSAA	ND		4.7	1.2	ng/L		04/24/24 05:33	04/26/24 07:51	1
NMeFOSE	**1.5**	**J**	3.8	1.3	ng/L		04/24/24 05:33	04/26/24 07:51	1
NEtFOSE	ND		1.9	0.80	ng/L		04/24/24 05:33	04/26/24 07:51	1
4:2 FTS	ND		1.9	0.23	ng/L		04/24/24 05:33	04/26/24 07:51	1
6:2 FTS	ND		4.7	2.4	ng/L		04/24/24 05:33	04/26/24 07:51	1
8:2 FTS	ND		1.9	0.43	ng/L		04/24/24 05:33	04/26/24 07:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		04/24/24 05:33	04/26/24 07:51	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		04/24/24 05:33	04/26/24 07:51	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		04/24/24 05:33	04/26/24 07:51	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		04/24/24 05:33	04/26/24 07:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C5 PFPeA	*89*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C2 PFHxA	*116*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C4 PFHpA	*105*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C4 PFOA	*99*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C5 PFNA	*105*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C2 PFDA	*96*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C2 PFUnA	*58*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C2 PFDoA	*51*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C2 PFTeDA	*30*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C3 PFBS	*96*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*

Client Sample ID: Inf-Comp 202404

Lab Sample ID: 320-111514-1

Date Collected: 04/15/24 23:59
Date Received: 04/18/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*101*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C4 PFOS	*97*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C8 FOSA	*74*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d3-NMeFOSAA	*28*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d5-NEtFOSAA	*46*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d-N-MeFOSA-M	*48*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d-N-EtFOSA-M	*45*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d7-N-MeFOSE-M	*49*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
d9-N-EtFOSE-M	*80*		*10 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
M2-4:2 FTS	*80*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
M2-6:2 FTS	*144*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
M2-8:2 FTS	*106*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*04/24/24 05:33*	*04/26/24 07:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**320**		42	16	mg/L			04/22/24 14:27	1

Client Sample ID: Eff-202404

Lab Sample ID: 320-111514-2

Date Collected: 04/16/24 23:59
Date Received: 04/18/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.2**		4.5	2.2	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluoropentanoic acid (PFPeA)	**12**		1.8	0.44	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorohexanoic acid (PFHxA)	**18**		1.8	0.53	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluoroheptanoic acid (PFHpA)	**2.8**		1.8	0.23	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorooctanoic acid (PFOA)	**7.2**		1.8	0.77	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorononanoic acid (PFNA)	**0.45**	**J**	1.8	0.24	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorodecanoic acid (PFDA)	**0.81**	**J**	1.8	0.28	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorobutanesulfonic acid (PFBS)	**5.0**	**I J**	1.8	0.18	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluoropentanesulfonic acid (PFPeS)	**0.53**	**J**	1.8	0.27	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorohexanesulfonic acid (PFHxS)	**8.3**		1.8	0.52	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorooctanesulfonic acid (PFOS)	**4.8**		1.8	0.49	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.88	ng/L		04/24/24 05:33	04/26/24 08:02	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.89	ng/L		04/24/24 05:33	04/26/24 08:02	1
NEtFOSA	ND		1.8	0.79	ng/L		04/24/24 05:33	04/26/24 08:02	1

Client Sample ID: Eff-202404

Date Collected: 04/16/24 23:59
Date Received: 04/18/24 09:30

Lab Sample ID: 320-111514-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		1.8	0.39	ng/L		04/24/24 05:33	04/26/24 08:02	1
NMeFOSAA	ND		4.5	1.1	ng/L		04/24/24 05:33	04/26/24 08:02	1
NEtFOSAA	ND		4.5	1.2	ng/L		04/24/24 05:33	04/26/24 08:02	1
NMeFOSE	ND		3.6	1.3	ng/L		04/24/24 05:33	04/26/24 08:02	1
NEtFOSE	ND		1.8	0.77	ng/L		04/24/24 05:33	04/26/24 08:02	1
4:2 FTS	ND		1.8	0.22	ng/L		04/24/24 05:33	04/26/24 08:02	1
6:2 FTS	ND		4.5	2.3	ng/L		04/24/24 05:33	04/26/24 08:02	1
8:2 FTS	ND		1.8	0.42	ng/L		04/24/24 05:33	04/26/24 08:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		04/24/24 05:33	04/26/24 08:02	1
HFPO-DA (GenX)	ND		3.6	1.4	ng/L		04/24/24 05:33	04/26/24 08:02	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		04/24/24 05:33	04/26/24 08:02	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		04/24/24 05:33	04/26/24 08:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*68*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C5 PFPeA	*78*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C2 PFHxA	*113*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C4 PFHpA	*101*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C4 PFOA	*102*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C5 PFNA	*101*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C2 PFDA	*101*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C2 PFUnA	*89*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C2 PFDoA	*83*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C2 PFTeDA	*58*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C3 PFBS	*89*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
18O2 PFHxS	*91*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C4 PFOS	*87*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C8 FOSA	*92*		*10 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d3-NMeFOSAA	*81*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d5-NEtFOSAA	*88*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d-N-MeFOSA-M	*79*		*10 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d-N-EtFOSA-M	*77*		*10 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d7-N-MeFOSE-M	*77*		*10 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
d9-N-EtFOSE-M	*77*		*10 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
M2-4:2 FTS	*99*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
M2-6:2 FTS	*128*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
M2-8:2 FTS	*120*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*
13C3 HFPO-DA	*95*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:02*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**3.4**	**J**	5.0	1.9	mg/L			04/23/24 17:51	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Client Sample ID: Eff-G-202404

Date Collected: 04/16/24 07:28
Date Received: 04/18/24 09:30

Lab Sample ID: 320-111514-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.2**		4.6	2.2	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluoropentanoic acid (PFPeA)	**7.9**		1.8	0.45	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorohexanoic acid (PFHxA)	**13**		1.8	0.53	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluoroheptanoic acid (PFHpA)	**2.7**		1.8	0.23	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorooctanoic acid (PFOA)	**6.5**		1.8	0.78	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorononanoic acid (PFNA)	**0.37**	**J**	1.8	0.25	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorodecanoic acid (PFDA)	**0.83**	**J**	1.8	0.29	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.51	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.67	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorobutanesulfonic acid (PFBS)	**4.6**		1.8	0.18	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluoropentanesulfonic acid (PFPeS)	**0.62**	**J**	1.8	0.28	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorohexanesulfonic acid (PFHxS)	**7.6**		1.8	0.52	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorooctanesulfonic acid (PFOS)	**4.9**		1.8	0.50	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.89	ng/L		04/24/24 05:33	04/26/24 08:15	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.90	ng/L		04/24/24 05:33	04/26/24 08:15	1
NEtFOSA	ND		1.8	0.80	ng/L		04/24/24 05:33	04/26/24 08:15	1
NMeFOSA	ND		1.8	0.40	ng/L		04/24/24 05:33	04/26/24 08:15	1
NMeFOSAA	ND		4.6	1.1	ng/L		04/24/24 05:33	04/26/24 08:15	1
NEtFOSAA	ND		4.6	1.2	ng/L		04/24/24 05:33	04/26/24 08:15	1
NMeFOSE	ND		3.7	1.3	ng/L		04/24/24 05:33	04/26/24 08:15	1
NEtFOSE	ND		1.8	0.78	ng/L		04/24/24 05:33	04/26/24 08:15	1
4:2 FTS	ND		1.8	0.22	ng/L		04/24/24 05:33	04/26/24 08:15	1
6:2 FTS	ND		4.6	2.3	ng/L		04/24/24 05:33	04/26/24 08:15	1
8:2 FTS	ND		1.8	0.42	ng/L		04/24/24 05:33	04/26/24 08:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.37	ng/L		04/24/24 05:33	04/26/24 08:15	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		04/24/24 05:33	04/26/24 08:15	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		04/24/24 05:33	04/26/24 08:15	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		04/24/24 05:33	04/26/24 08:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*70*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C5 PFPeA	*85*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C2 PFHxA	*118*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C4 PFHpA	*108*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C4 PFOA	*101*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C5 PFNA	*102*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C2 PFDA	*108*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C2 PFUnA	*88*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C2 PFDoA	*87*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*
13C2 PFTeDA	*61*		*25 - 150*	*04/24/24 05:33*	*04/26/24 08:15*	*1*

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-111514-1

Client Sample ID: Eff-G-202404

Lab Sample ID: 320-111514-3

Date Collected: 04/16/24 07:28

Matrix: Water

Date Received: 04/18/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	95		25 - 150	04/24/24 05:33	04/26/24 08:15	1
18O2 PFHxS	97		25 - 150	04/24/24 05:33	04/26/24 08:15	1
13C4 PFOS	93		25 - 150	04/24/24 05:33	04/26/24 08:15	1
13C8 FOSA	92		10 - 150	04/24/24 05:33	04/26/24 08:15	1
d3-NMeFOSAA	79		25 - 150	04/24/24 05:33	04/26/24 08:15	1
d5-NEtFOSAA	90		25 - 150	04/24/24 05:33	04/26/24 08:15	1
d-N-MeFOSA-M	81		10 - 150	04/24/24 05:33	04/26/24 08:15	1
d-N-EtFOSA-M	79		10 - 150	04/24/24 05:33	04/26/24 08:15	1
d7-N-MeFOSE-M	83		10 - 150	04/24/24 05:33	04/26/24 08:15	1
d9-N-EtFOSE-M	82		10 - 150	04/24/24 05:33	04/26/24 08:15	1
M2-4:2 FTS	97		25 - 150	04/24/24 05:33	04/26/24 08:15	1
M2-6:2 FTS	119		25 - 150	04/24/24 05:33	04/26/24 08:15	1
M2-8:2 FTS	120		25 - 150	04/24/24 05:33	04/26/24 08:15	1
13C3 HFPO-DA	96		25 - 150	04/24/24 05:33	04/26/24 08:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	3.0	J	5.0	1.9	mg/L			04/23/24 17:53	1

May 2024

Data Quality and Usability Review – May 2024

Data Reviewer: Kristen Morin
Peer Reviewer: Jeff Ramey
Date: 9/5/2024

Madison Metropolitan Sewerage District (MMSD) collected influent, effluent, and biosolids samples at the Nine Springs wastewater treatment plant on May 13-15, 2024 as part of ongoing monitoring activities conducted by TRC. Samples were analyzed for the standard list of Wisconsin's 33 per- and polyfluoroalkyl substances (PFAS) by Eurofins in West Sacramento, California and total suspended solids (TSS) by Eurofins in Chicago, Illinois. The laboratory analytical results were reported in laboratory SDG 320-112396-1 (Revision 1, dated 6/28/24).

Samples included in this review are listed below:

- BIO-A-24-202405
- Eff-G 202405
- EB-01 202405
- Eff 202405
- Inf Comp 202405

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
Total Suspended Solids (TSS)	Standard Method (SM) 2540D
Total Solids*	ASTM D 2216*

Notes:
* The laboratory does not hold NELAP accreditation for total solids.

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;

- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The revised data package was found to be complete as received from the laboratory with the following exception. The Job Narrative discussed nonconformances for an isotopically labeled surrogate (13C2 10:2 FTS) that was not applicable to the target PFAS for the samples in this data set. The laboratory was not contacted to remove the statement from the Job Narrative as there is no impact on data usability due to this issue.
- The cooler temperatures upon receipt at the laboratories were within the acceptance criteria (< 10°C).

- Select samples were not shipped to the main laboratory, West Sacramento, CA, until one to two days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the main laboratory. No validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the main laboratory and were received at acceptable temperatures by the laboratory.

- A method blank was analyzed with each analytical batch for PFAS and TSS. Target compounds were not detected in the method blanks.
- One equipment blank (EB-01 202405) was collected and analyzed for total PFAS. The following table summarizes the compounds detected in the method blanks, the associated samples, and the validation actions.

Blank ID	Compound	Blank Concentration (ng/L)	Validation Action
EB-01 202405	PFBA	8.3	Due to the unusual number and concentrations of detections in this equipment blank sample, an investigation was initiated to determine the source of the contamination. The laboratory was contacted during validation to confirm the reported equipment blank results and found no issues. Further, a sample of the water used to create the blank was collected in August 2024, analyzed by the laboratory, and results showed no detections of PFAS in the source water. Finally, sample results for pile BIO-A-24 collected in May and June 2024 were compared and showed similar concentrations between detected PFAS. Therefore, based on professional judgement and available information collected during this review, no validation actions were taken the basis of the May 2024 equipment blank results as the results appear to be anomalous.
	PFPeA	6.9	
	PFHxA	14	
	PFHpA	4.3	
	PFOA	15	
	PFBS	5.4	
	PFHxS	18	
	PFOS	14	
	PFPeS	1.9	
	PFHpS	0.79 J	
Associated sample: BIO-A-24-202405			

- All samples were extracted and/or prepared and analyzed within the holding time with the following exception. Sample Eff-G 202405 was analyzed for TSS approximately 5 hours outside of the 7-day holding time. No validation actions were taken on this basis since the sample was analyzed on the 7th day after collection.
- The LCS and LCSD percent recoveries (%Rs) and relative percent differences (RPDs), as applicable, for all analytes were within the laboratory's acceptance limits.
- MS/MSD analyses were not performed on a sample from this data set.
- The following table summarizes the isotopically labeled surrogate %Rs that were outside of the laboratory's acceptance limits, the associated samples, and the validation actions.

Sample ID	Surrogate	%R	%R Acceptance Limits	Validation Action*
Inf Comp 202405	M2-6:2 FTS	212	25-150	No validation actions were required on this basis since 6:2 FTS and 8:2 FTS were not detected in this sample.
	M2-8:2 FTS	201		
Eff-G 202405	M2-4:2 FTS	155	25-150	No validation actions were required on this basis since 4:2 FTS not detected in this sample.

It should be noted that additional isotopically labeled surrogate %Rs were outside of the acceptance limits in one of the LCSs. However, no validation actions were required on this basis so these nonconformances are not summarized in the table above.

- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was not performed on a sample from this data set.
- The laboratory noted the following observations in the case narrative. No validation actions were taken on this basis.
  - During the solid phase extraction (SPE) process, the following samples contained non-settable particulates which clogged the SPE column for PFAS: Inf Comp 202405 and Eff 202405. The volumes of the samples that was extracted via SPE prior to the clogging of the SPE cartridge are as follows: 91.9% and 96.4%, respectively. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent. The laboratory confirmed during previous reviews that samples are spiked with extracted internal standards (or isotopically labeled surrogates) prior to filtration through the SPE column; thus, no validation actions were taken on this basis.
  - Samples Inf Comp, Eff 202405, and Eff-G 202405 were light yellow in color following extraction for PFAS.
  - Sample BIO-A-24-202405 was yellow in color after extraction and final volume for PFAS.
- Select sample QLs were outside of the ranges of QLs suggested in the SAB of 2-5 ng/L and 1-5 ug/kg per individual PFAS due to sample volume and/or low total solids.
- A 10-fold dilution was performed on sample BIO-A-24-202405 for 4:2 FTS and 8:2 FTS due to matrix interferences (i.e., isotopically labeled surrogate failures in the undiluted analysis); nondetect QLs were elevated for 4:2 FTS and 8:2 FTS in this sample. No other analytical dilutions were performed on the samples in this data set for PFAS.
- The QL for TSS in sample Inf Comp 202405 was 10x higher than the associated method blank due to a reduced volume (50 mLs versus the typical 500 mL) used in the sample analysis. There is no adverse impact on the data usability due to this issue since TSS was detected above the QL in this sample. No validation action was required on this basis.
- The results for the following PFAS in the samples listed below were flagged with an "I" by the laboratory indicating that the ion transition ratio did not meet the acceptance limits; thus, the positive results for the listed PFAS in the samples listed below were qualified as estimated (J).
  - PFNA* in sample Inf Comp 202405;
  - PFNA* and PFDA* in sample Eff 202405; and
  - PFOS in sample BIO-A-24-202405.

  * This result was also qualified as estimated (J) by the laboratory due to detection < the QL.
- The percent moisture for the biosolids sample in this data set, BIO-A-24-202405, was high (>70% moisture). The laboratory has been contacted during previous rounds of validation review regarding this issue and stated that the biosolids samples were agitated and then immediately aliquoted for extraction after agitation, indicating that a representative sample was extracted for PFAS analysis. No validation actions were taken on this basis.
- The laboratory noted select preparation comments in the case narrative for the total oxidizable precursor (TOP) assay; however, the TOP assay was cancelled due to a holding time exceedance. The laboratory was not contacted to remove the statements from the case narrative.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Client Sample ID: Inf Comp 202405

Date Collected: 05/13/24 23:59
Date Received: 05/16/24 09:35

Lab Sample ID: 320-112396-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.2**		4.7	2.2	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluoropentanoic acid (PFPeA)	**3.4**		1.9	0.46	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorohexanoic acid (PFHxA)	**6.1**		1.9	0.54	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluoroheptanoic acid (PFHpA)	**1.2**	**J**	1.9	0.23	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorooctanoic acid (PFOA)	**4.5**		1.9	0.79	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorononanoic acid (PFNA)	**0.63**	~~J~~ I J	1.9	0.25	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.68	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorobutanesulfonic acid (PFBS)	**3.2**		1.9	0.19	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.28	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorohexanesulfonic acid (PFHxS)	**5.8**		1.9	0.53	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorooctanesulfonic acid (PFOS)	**4.0**		1.9	0.50	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.34	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.90	ng/L		05/18/24 07:34	05/20/24 15:22	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.91	ng/L		05/18/24 07:34	05/20/24 15:22	1
NEtFOSA	ND		1.9	0.81	ng/L		05/18/24 07:34	05/20/24 15:22	1
NMeFOSA	ND		1.9	0.40	ng/L		05/18/24 07:34	05/20/24 15:22	1
NMeFOSAA	ND		4.7	1.1	ng/L		05/18/24 07:34	05/20/24 15:22	1
NEtFOSAA	ND		4.7	1.2	ng/L		05/18/24 07:34	05/20/24 15:22	1
NMeFOSE	**1.6**	**J**	3.7	1.3	ng/L		05/18/24 07:34	05/20/24 15:22	1
NEtFOSE	ND		1.9	0.79	ng/L		05/18/24 07:34	05/20/24 15:22	1
4:2 FTS	ND		1.9	0.22	ng/L		05/18/24 07:34	05/20/24 15:22	1
6:2 FTS	ND		4.7	2.3	ng/L		05/18/24 07:34	05/20/24 15:22	1
8:2 FTS	ND		1.9	0.43	ng/L		05/18/24 07:34	05/20/24 15:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.37	ng/L		05/18/24 07:34	05/20/24 15:22	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		05/18/24 07:34	05/20/24 15:22	1
9Cl-PF3ONS	ND		1.9	0.22	ng/L		05/18/24 07:34	05/20/24 15:22	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*47*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C5 PFPeA	*53*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C2 PFHxA	*64*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C4 PFHpA	*75*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C4 PFOA	*72*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C5 PFNA	*79*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C2 PFDA	*72*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C2 PFUnA	*63*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C2 PFDoA	*47*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*
13C2 PFTeDA	*32*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:22*	*1*

Client Sample ID: Inf Comp 202405

Lab Sample ID: 320-112396-1
Matrix: Water

Date Collected: 05/13/24 23:59
Date Received: 05/16/24 09:35

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	71		25 - 150	05/18/24 07:34	05/20/24 15:22	1
18O2 PFHxS	71		25 - 150	05/18/24 07:34	05/20/24 15:22	1
13C4 PFOS	65		25 - 150	05/18/24 07:34	05/20/24 15:22	1
13C8 FOSA	59		10 - 150	05/18/24 07:34	05/20/24 15:22	1
d3-NMeFOSAA	43		25 - 150	05/18/24 07:34	05/20/24 15:22	1
d5-NEtFOSAA	55		25 - 150	05/18/24 07:34	05/20/24 15:22	1
d-N-MeFOSA-M	25		10 - 150	05/18/24 07:34	05/20/24 15:22	1
d-N-EtFOSA-M	43		10 - 150	05/18/24 07:34	05/20/24 15:22	1
d7-N-MeFOSE-M	23		10 - 150	05/18/24 07:34	05/20/24 15:22	1
d9-N-EtFOSE-M	44		10 - 150	05/18/24 07:34	05/20/24 15:22	1
M2-4:2 FTS	140		25 - 150	05/18/24 07:34	05/20/24 15:22	1
M2-6:2 FTS	212	*5+	25 - 150	05/18/24 07:34	05/20/24 15:22	1
M2-8:2 FTS	201	*5+	25 - 150	05/18/24 07:34	05/20/24 15:22	1
13C3 HFPO-DA	57		25 - 150	05/18/24 07:34	05/20/24 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	280		50	19	mg/L			05/20/24 15:58	1

Client Sample ID: Eff 202405

Lab Sample ID: 320-112396-2
Matrix: Water

Date Collected: 05/14/24 23:59
Date Received: 05/16/24 09:35

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	7.6		4.7	2.3	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluoropentanoic acid (PFPeA)	13		1.9	0.46	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorohexanoic acid (PFHxA)	14		1.9	0.55	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluoroheptanoic acid (PFHpA)	2.0		1.9	0.24	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorooctanoic acid (PFOA)	7.7		1.9	0.81	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorononanoic acid (PFNA)	1.1	~~J~~ I J	1.9	0.26	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorodecanoic acid (PFDA)	1.0	~~J~~ I J	1.9	0.29	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorobutanesulfonic acid (PFBS)	3.3		1.9	0.19	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluoropentanesulfonic acid (PFPeS)	0.47	J	1.9	0.28	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorohexanesulfonic acid (PFHxS)	7.0		1.9	0.54	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorooctanesulfonic acid (PFOS)	4.1		1.9	0.51	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		05/18/24 07:34	05/20/24 15:32	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		05/18/24 07:34	05/20/24 15:32	1

Client Sample ID: Eff 202405

Lab Sample ID: 320-112396-2

Date Collected: 05/14/24 23:59

Matrix: Water

Date Received: 05/16/24 09:35

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.82	ng/L		05/18/24 07:34	05/20/24 15:32	1
NMeFOSA	ND		1.9	0.41	ng/L		05/18/24 07:34	05/20/24 15:32	1
NMeFOSAA	ND		4.7	1.1	ng/L		05/18/24 07:34	05/20/24 15:32	1
NEtFOSAA	ND		4.7	1.2	ng/L		05/18/24 07:34	05/20/24 15:32	1
NMeFOSE	ND		3.8	1.3	ng/L		05/18/24 07:34	05/20/24 15:32	1
NEtFOSE	ND		1.9	0.81	ng/L		05/18/24 07:34	05/20/24 15:32	1
4:2 FTS	ND		1.9	0.23	ng/L		05/18/24 07:34	05/20/24 15:32	1
6:2 FTS	ND		4.7	2.4	ng/L		05/18/24 07:34	05/20/24 15:32	1
8:2 FTS	ND		1.9	0.44	ng/L		05/18/24 07:34	05/20/24 15:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		05/18/24 07:34	05/20/24 15:32	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		05/18/24 07:34	05/20/24 15:32	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		05/18/24 07:34	05/20/24 15:32	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*62*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C5 PFPeA	*74*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C2 PFHxA	*78*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C4 PFHpA	*76*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C4 PFOA	*82*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C5 PFNA	*84*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C2 PFDA	*79*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C2 PFUnA	*71*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C2 PFDoA	*62*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C2 PFTeDA	*43*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C3 PFBS	*80*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
18O2 PFHxS	*75*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C4 PFOS	*90*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C8 FOSA	*87*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d3-NMeFOSAA	*87*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d5-NEtFOSAA	*96*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d-N-MeFOSA-M	*70*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d-N-EtFOSA-M	*60*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d7-N-MeFOSE-M	*58*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
d9-N-EtFOSE-M	*53*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
M2-4:2 FTS	*142*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
M2-6:2 FTS	*123*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
M2-8:2 FTS	*150*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*
13C3 HFPO-DA	*71*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:32*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**5.0**		5.0	1.9	mg/L			05/21/24 16:22	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-112396-1

Client Sample ID: Eff-G 202405

Date Collected: 05/14/24 11:15
Date Received: 05/16/24 09:35

Lab Sample ID: 320-112396-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.6**		4.7	2.3	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluoropentanoic acid (PFPeA)	**14**		1.9	0.46	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorohexanoic acid (PFHxA)	**13**		1.9	0.55	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluoroheptanoic acid (PFHpA)	**1.7**	**J**	1.9	0.24	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorooctanoic acid (PFOA)	**8.2**		1.9	0.80	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorononanoic acid (PFNA)	**0.58**	**J**	1.9	0.25	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorodecanoic acid (PFDA)	**0.97**	**J**	1.9	0.29	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.69	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorobutanesulfonic acid (PFBS)	**4.7**		1.9	0.19	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluoropentanesulfonic acid (PFPeS)	**0.47**	**J**	1.9	0.28	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorohexanesulfonic acid (PFHxS)	**6.5**		1.9	0.54	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorooctanesulfonic acid (PFOS)	**3.6**		1.9	0.51	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.92	ng/L		05/18/24 07:34	05/20/24 15:43	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.93	ng/L		05/18/24 07:34	05/20/24 15:43	1
NEtFOSA	ND		1.9	0.82	ng/L		05/18/24 07:34	05/20/24 15:43	1
NMeFOSA	ND		1.9	0.41	ng/L		05/18/24 07:34	05/20/24 15:43	1
NMeFOSAA	ND		4.7	1.1	ng/L		05/18/24 07:34	05/20/24 15:43	1
NEtFOSAA	ND		4.7	1.2	ng/L		05/18/24 07:34	05/20/24 15:43	1
NMeFOSE	ND		3.8	1.3	ng/L		05/18/24 07:34	05/20/24 15:43	1
NEtFOSE	ND		1.9	0.80	ng/L		05/18/24 07:34	05/20/24 15:43	1
4:2 FTS	ND		1.9	0.23	ng/L		05/18/24 07:34	05/20/24 15:43	1
6:2 FTS	ND		4.7	2.4	ng/L		05/18/24 07:34	05/20/24 15:43	1
8:2 FTS	ND		1.9	0.43	ng/L		05/18/24 07:34	05/20/24 15:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.38	ng/L		05/18/24 07:34	05/20/24 15:43	1
HFPO-DA (GenX)	ND		3.8	1.4	ng/L		05/18/24 07:34	05/20/24 15:43	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		05/18/24 07:34	05/20/24 15:43	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		05/18/24 07:34	05/20/24 15:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C5 PFPeA	*78*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C2 PFHxA	*84*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C4 PFHpA	*85*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C4 PFOA	*91*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C5 PFNA	*88*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C2 PFDA	*88*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C2 PFUnA	*87*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C2 PFDoA	*78*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C2 PFTeDA	*44*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*

Client Sample ID: Eff-G 202405

Lab Sample ID: 320-112396-3

Date Collected: 05/14/24 11:15
Matrix: Water
Date Received: 05/16/24 09:35

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*85*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
18O2 PFHxS	*84*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C4 PFOS	*95*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C8 FOSA	*94*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
d3-NMeFOSAA	*104*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
d5-NEtFOSAA	*107*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
d-N-MeFOSA-M	*80*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
d-N-EtFOSA-M	*71*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
d7-N-MeFOSE-M	*69*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
d9-N-EtFOSE-M	*69*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
M2-4:2 FTS	*155*	**5+*	*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
M2-6:2 FTS	*131*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
M2-8:2 FTS	*150*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*
13C3 HFPO-DA	*82*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**6.8**		5.0	1.9	mg/L			05/21/24 16:28	1

Client Sample ID: EB-01 202405

Lab Sample ID: 320-112396-4

Date Collected: 05/15/24 10:15
Matrix: Water
Date Received: 05/16/24 09:35

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.3**		4.4	2.1	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluoropentanoic acid (PFPeA)	**6.9**		1.8	0.44	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorohexanoic acid (PFHxA)	**14**		1.8	0.52	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluoroheptanoic acid (PFHpA)	**4.3**		1.8	0.22	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorooctanoic acid (PFOA)	**15**		1.8	0.76	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorobutanesulfonic acid (PFBS)	**5.4**		1.8	0.18	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluoropentanesulfonic acid (PFPeS)	**1.9**		1.8	0.27	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorohexanesulfonic acid (PFHxS)	**18**		1.8	0.51	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.79**	**J**	1.8	0.17	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorooctanesulfonic acid (PFOS)	**14**		1.8	0.48	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.86	ng/L		05/18/24 07:34	05/20/24 15:53	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.87	ng/L		05/18/24 07:34	05/20/24 15:53	1

Client Sample ID: EB-01 202405

Lab Sample ID: 320-112396-4

Date Collected: 05/15/24 10:15
Matrix: Water
Date Received: 05/16/24 09:35

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.8	0.77	ng/L		05/18/24 07:34	05/20/24 15:53	1
NMeFOSA	ND		1.8	0.38	ng/L		05/18/24 07:34	05/20/24 15:53	1
NMeFOSAA	ND		4.4	1.1	ng/L		05/18/24 07:34	05/20/24 15:53	1
NEtFOSAA	ND		4.4	1.2	ng/L		05/18/24 07:34	05/20/24 15:53	1
NMeFOSE	ND		3.6	1.2	ng/L		05/18/24 07:34	05/20/24 15:53	1
NEtFOSE	ND		1.8	0.76	ng/L		05/18/24 07:34	05/20/24 15:53	1
4:2 FTS	ND		1.8	0.21	ng/L		05/18/24 07:34	05/20/24 15:53	1
6:2 FTS	ND		4.4	2.2	ng/L		05/18/24 07:34	05/20/24 15:53	1
8:2 FTS	ND		1.8	0.41	ng/L		05/18/24 07:34	05/20/24 15:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		05/18/24 07:34	05/20/24 15:53	1
HFPO-DA (GenX)	ND		3.6	1.3	ng/L		05/18/24 07:34	05/20/24 15:53	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		05/18/24 07:34	05/20/24 15:53	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		05/18/24 07:34	05/20/24 15:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*66*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C5 PFPeA	*72*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C2 PFHxA	*70*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C4 PFHpA	*76*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C4 PFOA	*76*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C5 PFNA	*79*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C2 PFDA	*71*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C2 PFUnA	*71*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C2 PFDoA	*84*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C2 PFTeDA	*70*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C3 PFBS	*76*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
18O2 PFHxS	*74*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C4 PFOS	*78*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C8 FOSA	*83*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d3-NMeFOSAA	*83*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d5-NEtFOSAA	*89*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d-N-MeFOSA-M	*66*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d-N-EtFOSA-M	*66*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d7-N-MeFOSE-M	*63*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
d9-N-EtFOSE-M	*71*		*10 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
M2-4:2 FTS	*85*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
M2-6:2 FTS	*78*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
M2-8:2 FTS	*120*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*
13C3 HFPO-DA	*68*		*25 - 150*	*05/18/24 07:34*	*05/20/24 15:53*	*1*

Client Sample ID: BIO-A-24-202405

Lab Sample ID: 320-112396-5

Date Collected: 05/15/24 10:45
Matrix: Solid
Date Received: 05/16/24 09:35
Percent Solids: 25.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.9**		0.78	0.18	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluoropentanoic acid (PFPeA)	**23**		0.78	0.16	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorohexanoic acid (PFHxA)	**28**		0.78	0.12	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluoroheptanoic acid (PFHpA)	**2.4**		0.78	0.15	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1

Client Sample ID: BIO-A-24-202405

Date Collected: 05/15/24 10:45
Date Received: 05/16/24 09:35

Lab Sample ID: 320-112396-5

Matrix: Solid
Percent Solids: 25.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	**23**		0.78	0.21	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorononanoic acid (PFNA)	**1.3**		0.78	0.086	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorodecanoic acid (PFDA)	**9.5**		0.78	0.19	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluoroundecanoic acid (PFUnA)	**1.0**		0.78	0.16	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorododecanoic acid (PFDoA)	**2.8**		0.78	0.12	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorotridecanoic acid (PFTrDA)	**0.23**	**J**	0.78	0.082	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorotetradecanoic acid (PFTeA)	**0.66**	**J**	0.78	0.14	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**		0.78	0.15	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.78	0.14	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorohexanesulfonic acid (PFHxS)	**0.76**	**J**	0.78	0.11	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.78	0.19	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorooctanesulfonic acid (PFOS)	**9.6**	**I J**	0.78	0.17	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.78	0.11	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorodecanesulfonic acid (PFDS)	**1.5**		0.78	0.20	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.78	0.18	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
Perfluorooctanesulfonamide (FOSA)	**0.61**	**J**	0.78	0.13	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NEtFOSA	ND		0.78	0.18	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NMeFOSA	ND		0.78	0.19	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NMeFOSAA	**25**		0.78	0.090	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NEtFOSAA	**7.2**		0.78	0.19	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NMeFOSE	**4.1**		0.78	0.18	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
NEtFOSE	**1.0**		0.78	0.11	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
6:2 FTS	**0.70**	**J**	0.78	0.11	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.78	0.15	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
HFPO-DA (GenX)	ND		0.78	0.16	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
9Cl-PF3ONS	ND		0.78	0.14	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1
11Cl-PF3OUdS	ND		0.78	0.12	ug/Kg	☼	05/22/24 04:41	05/23/24 23:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C5 PFPeA	*80*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C2 PFHxA	*78*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C4 PFHpA	*86*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C4 PFOA	*86*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C5 PFNA	*87*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C2 PFDA	*80*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C2 PFUnA	*80*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C2 PFDoA	*71*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C2 PFTeDA	*29*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C3 PFBS	*88*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*

Client Sample ID: BIO-A-24-202405

Date Collected: 05/15/24 10:45
Date Received: 05/16/24 09:35

Lab Sample ID: 320-112396-5

Matrix: Solid
Percent Solids: 25.4

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*86*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C4 PFOS	*71*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C8 FOSA	*73*		*10 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d3-NMeFOSAA	*67*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d5-NEtFOSAA	*77*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d-N-MeFOSA-M	*33*		*10 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d-N-EtFOSA-M	*34*		*10 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d7-N-MeFOSE-M	*31*		*10 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
d9-N-EtFOSE-M	*42*		*10 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
M2-6:2 FTS	*147*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*
13C3 HFPO-DA	*71*		*25 - 150*	*05/22/24 04:41*	*05/23/24 23:52*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 FTS	ND		7.8	2.0	ug/Kg	☼	05/22/24 04:41	05/24/24 16:14	10
8:2 FTS	ND		7.8	1.4	ug/Kg	☼	05/22/24 04:41	05/24/24 16:14	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*91*		*25 - 150*	*05/22/24 04:41*	*05/24/24 16:14*	*10*
M2-8:2 FTS	*142*		*25 - 150*	*05/22/24 04:41*	*05/24/24 16:14*	*10*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**74.6**		0.1	0.1	%			05/21/24 14:15	1
Percent Solids (ASTM D 2216)	**25.4**		0.1	0.1	%			05/21/24 14:15	1

June 2024

Data Quality and Usability Review – June 2024

Data Reviewer: Kristen Morin
Peer Reviewer: Jeff Ramey
Date: 9/3/2024

Madison Metropolitan Sewerage District (MMSD) collected influent, effluent, and biosolids samples at the Nine Springs wastewater treatment plant on June 10 and 11, 2024 as part of ongoing monitoring activities conducted by TRC. Samples were analyzed for the standard list of Wisconsin's 33 per- and polyfluoroalkyl substances (PFAS) by Eurofins in West Sacramento, California and total suspended solids (TSS) by Eurofins in Chicago, Illinois. The laboratory analytical results were reported in laboratory SDG 320-113052-1.

It should be noted that due to missed holding times at the laboratory, the total oxidizable precursor (TOP) assay PFAS analyses were cancelled.

Samples included in this review are listed below:

- BIOA-22-202406
- BIOA-24-202406
- INF COMP 202406
- INF07 202406
- INF11 202406
- EFF 202406
- EB01 202406
- BIOA-23-202406
- BIOB 202406
- INF02 202406
- INF08 202406
- INF18 202406
- EFFG 202406
- EB02 202406

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
Total Suspended Solids (TSS)	Standard Method (SM) 2540D
Total Solids*	ASTM D 2216*

Notes:
* The laboratory does not hold NELAP or Wisconsin accreditation for total solids.

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data

in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The data package was found to be complete as received from the laboratory with the following exceptions. The laboratory was not contacted about these issues.
  - The chain-of-custody (COC) for samples subcontracted to Eurofins in Chicago, Illinois for TSS was not provided. However, the original COC was provided and the Login Sample Receipt Checklists were included for both laboratories.
  - The laboratory included an additional space in the sample identification (ID) for sample BIOA-23-202406; the additional space was omitted from this report.
  - The laboratory stated in the case narrative that the container labels for the following samples did not match the information listed on the COC:
    - EB01 202406: containers have ID as EB-1-BIOA-202406.
    - BIOA-23-202406: containers have collection time as 12:14.
    - EB02 202406: containers have ID as EB-2-BIOA-202406.

    These samples were logged in and labeled according to the IDs and collection times listed on the COC.
- The cooler temperatures upon receipt at the laboratories were within the acceptance criteria (< 10°C).
  - Samples were not shipped to the main laboratory, West Sacramento, CA, until one to two days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the main laboratory. No validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the main laboratory and were received at acceptable temperatures by the laboratory.
- A method blank was analyzed with each analytical batch for PFAS and TSS. No target compounds were detected in the method blanks.
- Two equipment blanks (EB01 202406 and EB02 202406) were collected and analyzed for PFAS. No target compounds were detected in EB01 202406. The following table summarizes the compounds detected in the remaining equipment blank (EB02 202406), the associated samples, and the validation actions.

Blank ID	Compound	Blank Concentration	Validation Actions
EB02 202406	PFHxA	0.53 J ng/L	No validation actions were required on this basis for the associated samples since PFHxA was > the QL and > 10x the blank concentration in the associated samples (when adjusted for sample-specific preparation factors).
Associated samples: BIOA-22-202406, BIOA-23-202406, BIOA-24-202406			

- All samples were extracted and/or prepared and analyzed within the holding time with the following exception. Sample EFFG 202406 was analyzed for TSS approximately 8 hours outside of the 7-day holding time. No validation actions were taken on this basis since the sample was analyzed on the 7th day after collection.
- The LCS and LCS duplicate (LCSD) percent recoveries (%Rs) and relative percent differences (RPDs), as applicable, were within the laboratory's acceptance limits.
- MS/MSD analyses were performed on sample BIOA-22-202406 for PFAS. The MS/MSD %Rs an and RPDs were within the laboratory's acceptance limits except as noted in the table below.

Parent Sample ID	Compound	MS/MSD %Rs	MS/MSD RPD (%)	MS/MSD %R/RPD Limits	Validation Actions
BIOA-22-202406	PFDA	149/161	-	70-130/30	The positive results for PFDA, PFUnA, NMeFOSAA, and NEtFOSAA were qualified as estimated (J+) with a potential high bias in sample BIOA-22-202406.
	PFUnA	151/152	-		
	NMeFOSAA	-/136	-		
	NEtFOSAA	134/136	-		
	NEtFOSA	186/169	-		No validation actions were required on this basis since NEtFOSA was not detected in sample BIOA-22-202406.
	PFDoS	62/62	-		The nondetect result for PFDoS was qualified as estimated (UJ) with a potential low bias in sample BIOA-22-202406.
-: Met criteria					

- The following table summarizes the isotopically labeled surrogate %Rs that were outside of the laboratory's acceptance limits, the associated samples, and the validation actions.

Sample ID	Surrogate	%R	%R Acceptance Limits	Validation Actions
INF02 202406	M2-4:2 FTS	163	25-150	No validation action was required on this basis since 4:2 FTS, 6:2 FTS, and 8:2 FTS were not detected in these samples.
	M2-6:2 FTS	294		
	M2-8:2 FTS	224		
INF07 202406	M2-4:2 FTS	194		
	M2-6:2 FTS	276		
	M2-8:2 FTS	214		
INF08 202406	M2-4:2 FTS	162		
	M2-6:2 FTS	280		
	M2-8:2 FTS	240		
INF11 202406	M2-4:2 FTS	190		
	M2-6:2 FTS	277		
	M2-8:2 FTS	258		
INF18 202406	M2-4:2 FTS	183		
	M2-6:2 FTS	317		
	M2-8:2 FTS	318		
INF COMP 202406	M2-4:2 FTS	174		
	M2-6:2 FTS	295		
	M2-8:2 FTS	265		
EFF 202406	M2-4:2 FTS	162		No validation action was required on this basis since 4:2 FTS and 6:2 FTS were not detected in these samples.
	M2-6:2 FTS	151		
EFFG 202406	M2-4:2 FTS	177		
	M2-6:2 FTS	167		
BIOB 202406	M2-6:2 FTS	190		No validation action was required on this basis since 6:2 FTS was not detected in this sample.
BIOA-23-202406	13C2 PFTeDA	24		The postive result for PFTeA was qualified as estimated (J) in sample BIOA-23-202406.
	M2-6:2 FTS	154		No validation action was required on this basis since 6:2 FTS was not detected in this sample.
	M2-8:2 FTS	176		The positive result for 8:2 FTS was qualified as estimated (J) in sample BIOA-23-202406.

- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was not performed on a sample from this data set.

- The laboratory noted the following observations in the case narrative. No validation actions were taken on this basis.
  - Samples EFF 202406 and EFFG 202406 were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction.
  - Samples INF02 202406, INF07 202406, INF08 202406, INF11 202406, INF18 202406, and INF COMP 202406 were yellow/light brown in color prior to extraction.
  - Samples BIOB 202406, BIOA-23-202406, BIOA-22-202406, and BIOA-24-202406 were yellow in color after extraction/final volume.
- Select sample QLs were outside of the ranges of QLs suggested in the SAB of 2-5 ng/L and 1-5 ug/kg per individual PFAS due to dilution required due to sample matrix, sample volume, and/or low total solids as stated below.
- Samples INF02 202406, INF07 202406, INF08 202406, INF11 202406, INF18 202406, and INF COMP 202406 were extracted at a reduced volume (i.e., subsampled for extraction) for PFAS due to the nature of the sample matrix; the laboratory stated during this review that these samples were extracted at a reduced volume due to an opaque color and a thin layer of sediment in the containers. The laboratory extracted 125mL of sample rather than the typical 250mL. Therefore, the positive and nondetect results for all PFAS in samples INF02 202406, INF07 202406, INF08 202406, INF11 202406, INF18 202406, and INF COMP 202406 were qualified as estimated (J/UJ) due to subsampling; QLs were elevated accordingly. No analytical dilutions were performed for PFAS.
- The QLs for TSS in samples INF02 202406, INF07 202406, INF08 202406, INF11 202406, INF18 202406, and INF COMP 202406 were 12.6x higher than the associated method blank due to a reduced volume (40 mLs versus the typical 500 mL) used in the sample analysis. There is no adverse impact on the data usability due to this issue since TSS was detected above the QL in these samples. No validation action was required on this basis.
- The results for the following PFAS in the samples listed below were flagged with an “I” by the laboratory indicating that the ion transition ratio did not meet the acceptance limits; thus, the positive results for the listed PFAS in the samples listed below were qualified as estimated (J).
  - PFHxS in samples INF02 202406, INF07 202406, INF08 202406, INF11 202406*, INF COMP 202406, and BIOA-22-202406;
  - PFNA in samples INF08 202406*, INF COMP 202406*, BIOB 202406*, and BIOA-23-202406;
  - PFOS* in sample INF08 202406;
  - PFDS in sample INF COMP 202406;
  - PFUnA* in sample BIOB 202406; and
  - PFDA in sample BIOA-23-202406.

  * These results were also qualified as estimated (J) by the laboratory due to detection between the method detection limit (MDL) and QL.

  Additional results were flagged with an “I” by the laboratory in the MS and MSD performed on sample BIOA-22-202406; however, no validation actions would be taken on this basis so these issues are not summarized above.
- The percent moisture for the biosolids samples in this data set was high (>70% moisture). The laboratory has been contacted during previous rounds of validation review regarding this issue and stated that the biosolids samples were agitated and then immediately aliquoted for extraction after agitation, indicating that a representative sample was extracted for PFAS analysis. No validation actions were taken on this basis.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: INF02 202406

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.4**	~~J~~ J	10	4.8	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluoropentanoic acid (PFPeA)	**3.5**	~~J~~	4.0	0.98	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorohexanoic acid (PFHxA)	**5.6**		4.0	1.2	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluoroheptanoic acid (PFHpA)	**1.8**	~~J~~	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorooctanoic acid (PFOA)	**4.8**		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorononanoic acid (PFNA)	**1.0**	~~J~~	4.0	0.54	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorodecanoic acid (PFDA)	ND	UJ	4.0	0.62	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluoroundecanoic acid (PFUnA)	ND		4.0	2.2	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorobutanesulfonic acid (PFBS)	**3.6**	~~J~~ J	4.0	0.40	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND	UJ	4.0	0.60	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorohexanesulfonic acid (PFHxS)	**6.5**	I J	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	UJ	4.0	0.38	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorooctanesulfonic acid (PFOS)	**6.5**	J	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorononanesulfonic acid (PFNS)	ND	UJ	4.0	0.74	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.9	ng/L		06/14/24 12:05	06/17/24 11:29	1
Perfluorooctanesulfonamide (FOSA)	ND		4.0	2.0	ng/L		06/14/24 12:05	06/17/24 11:29	1
NEtFOSA	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:29	1
NMeFOSA	ND		4.0	0.86	ng/L		06/14/24 12:05	06/17/24 11:29	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 11:29	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 11:29	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 11:29	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:29	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:29	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 11:29	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 11:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 11:29	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 11:29	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:29	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C5 PFPeA	*90*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C2 PFHxA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C4 PFHpA	*93*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C4 PFOA	*101*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C5 PFNA	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C2 PFDA	*95*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C2 PFUnA	*80*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C2 PFDoA	*61*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*
13C2 PFTeDA	*47*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:29*	*1*

Client Sample ID: INF02 202406

Lab Sample ID: 320-113052-1

Date Collected: 06/10/24 23:59
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	88		25 - 150	06/14/24 12:05	06/17/24 11:29	1
18O2 PFHxS	91		25 - 150	06/14/24 12:05	06/17/24 11:29	1
13C4 PFOS	91		25 - 150	06/14/24 12:05	06/17/24 11:29	1
13C8 FOSA	86		10 - 150	06/14/24 12:05	06/17/24 11:29	1
d3-NMeFOSAA	52		25 - 150	06/14/24 12:05	06/17/24 11:29	1
d5-NEtFOSAA	74		25 - 150	06/14/24 12:05	06/17/24 11:29	1
d-N-MeFOSA-M	52		10 - 150	06/14/24 12:05	06/17/24 11:29	1
d-N-EtFOSA-M	68		10 - 150	06/14/24 12:05	06/17/24 11:29	1
d7-N-MeFOSE-M	57		10 - 150	06/14/24 12:05	06/17/24 11:29	1
d9-N-EtFOSE-M	93		10 - 150	06/14/24 12:05	06/17/24 11:29	1
M2-4:2 FTS	163	*5+	25 - 150	06/14/24 12:05	06/17/24 11:29	1
M2-6:2 FTS	294	*5+	25 - 150	06/14/24 12:05	06/17/24 11:29	1
M2-8:2 FTS	224	*5+	25 - 150	06/14/24 12:05	06/17/24 11:29	1
13C3 HFPO-DA	81		25 - 150	06/14/24 12:05	06/17/24 11:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	400		63	24	mg/L			06/17/24 14:16	1

Client Sample ID: INF07 202406

Lab Sample ID: 320-113052-2

Date Collected: 06/10/24 23:59
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	20	J	10	4.8	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluoropentanoic acid (PFPeA)	7.0		4.0	0.98	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorohexanoic acid (PFHxA)	24		4.0	1.2	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluoroheptanoic acid (PFHpA)	3.1	~~J~~	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorooctanoic acid (PFOA)	7.1		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorononanoic acid (PFNA)	ND	UJ	4.0	0.54	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorodecanoic acid (PFDA)	0.70	~~J~~ J	4.0	0.62	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluoroundecanoic acid (PFUnA)	ND	UJ	4.0	2.2	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorobutanesulfonic acid (PFBS)	7.7	J	4.0	0.40	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluoropentanesulfonic acid (PFPeS)	ND	UJ	4.0	0.60	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorohexanesulfonic acid (PFHxS)	6.5	I J	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	UJ	4.0	0.38	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorooctanesulfonic acid (PFOS)	6.1	J	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorononanesulfonic acid (PFNS)	ND	UJ	4.0	0.74	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.9	ng/L		06/14/24 12:05	06/17/24 11:41	1
Perfluorooctanesulfonamide (FOSA)	ND		4.0	2.0	ng/L		06/14/24 12:05	06/17/24 11:41	1

Client Sample ID: INF07 202406

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND	UJ	4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:41	1
NMeFOSA	ND		4.0	0.86	ng/L		06/14/24 12:05	06/17/24 11:41	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 11:41	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 11:41	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 11:41	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:41	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:41	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 11:41	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 11:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 11:41	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 11:41	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:41	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*81*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C5 PFPeA	*90*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C2 PFHxA	*96*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C4 PFHpA	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C4 PFOA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C5 PFNA	*97*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C2 PFDA	*93*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C2 PFUnA	*81*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C2 PFDoA	*64*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C2 PFTeDA	*45*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C3 PFBS	*88*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
18O2 PFHxS	*92*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C4 PFOS	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C8 FOSA	*85*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d3-NMeFOSAA	*46*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d5-NEtFOSAA	*68*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d-N-MeFOSA-M	*47*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d-N-EtFOSA-M	*67*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d7-N-MeFOSE-M	*51*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
d9-N-EtFOSE-M	*91*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
M2-4:2 FTS	*194*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
M2-6:2 FTS	*276*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
M2-8:2 FTS	*214*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*
13C3 HFPO-DA	*85*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:41*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**200**		63	24	mg/L			06/17/24 14:18	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: INF08 202406

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**82**	J	10	4.8	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluoropentanoic acid (PFPeA)	**2.3**	~~J~~	4.0	0.98	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorohexanoic acid (PFHxA)	**4.4**		4.0	1.2	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluoroheptanoic acid (PFHpA)	**0.87**	~~J~~	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorooctanoic acid (PFOA)	**2.7**	~~J~~	4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorononanoic acid (PFNA)	**0.93**	~~J~~ I	4.0	0.54	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorodecanoic acid (PFDA)	ND	UJ	4.0	0.62	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluoroundecanoic acid (PFUnA)	ND		4.0	2.2	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorobutanesulfonic acid (PFBS)	**2.2**	~~J~~ J	4.0	0.40	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND	UJ	4.0	0.60	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorohexanesulfonic acid (PFHxS)	**4.4**	I J	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	UJ	4.0	0.38	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorooctanesulfonic acid (PFOS)	**2.4**	~~J~~ I J	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorononanesulfonic acid (PFNS)	ND	UJ	4.0	0.74	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.9	ng/L		06/14/24 12:05	06/17/24 11:54	1
Perfluorooctanesulfonamide (FOSA)	ND		4.0	2.0	ng/L		06/14/24 12:05	06/17/24 11:54	1
NEtFOSA	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:54	1
NMeFOSA	ND		4.0	0.86	ng/L		06/14/24 12:05	06/17/24 11:54	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 11:54	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 11:54	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 11:54	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 11:54	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:54	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 11:54	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 11:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 11:54	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 11:54	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 11:54	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 11:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*80*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C5 PFPeA	*88*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C2 PFHxA	*103*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C4 PFHpA	*99*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C4 PFOA	*99*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C5 PFNA	*99*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C2 PFDA	*95*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C2 PFUnA	*79*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C2 PFDoA	*66*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C2 PFTeDA	*44*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*

Client Sample ID: INF08 202406

Lab Sample ID: 320-113052-3
Matrix: Water

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*86*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
18O2 PFHxS	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C4 PFOS	*88*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C8 FOSA	*88*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
d3-NMeFOSAA	*44*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
d5-NEtFOSAA	*64*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
d-N-MeFOSA-M	*44*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
d-N-EtFOSA-M	*67*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
d7-N-MeFOSE-M	*46*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
d9-N-EtFOSE-M	*90*		*10 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
M2-4:2 FTS	*162*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
M2-6:2 FTS	*280*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
M2-8:2 FTS	*240*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*
13C3 HFPO-DA	*88*		*25 - 150*	*06/14/24 12:05*	*06/17/24 11:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		63	24	mg/L			06/17/24 14:20	1

Client Sample ID: INF11 202406

Lab Sample ID: 320-113052-4
Matrix: Water

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND	UJ	10	4.8	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluoropentanoic acid (PFPeA)	**1.2**	~~J~~ J	4.0	0.98	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorohexanoic acid (PFHxA)	**3.8**	~~J~~	4.0	1.2	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluoroheptanoic acid (PFHpA)	**0.55**	~~J~~	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorooctanoic acid (PFOA)	**2.7**	~~J~~	4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorononanoic acid (PFNA)	ND	UJ	4.0	0.54	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorodecanoic acid (PFDA)	ND		4.0	0.62	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluoroundecanoic acid (PFUnA)	ND		4.0	2.2	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	~~J~~ J	4.0	0.40	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluoropentanesulfonic acid (PFPeS)	ND	UJ	4.0	0.60	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorohexanesulfonic acid (PFHxS)	**2.0**	~~J~~ I J	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	UJ	4.0	0.38	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorononanesulfonic acid (PFNS)	ND		4.0	0.74	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.9	ng/L		06/14/24 12:05	06/17/24 12:06	1
Perfluorooctanesulfonamide (FOSA)	ND		4.0	2.0	ng/L		06/14/24 12:05	06/17/24 12:06	1
NEtFOSA	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:06	1

Client Sample ID: INF11 202406

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-4

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND	UJ	4.0	0.86	ng/L		06/14/24 12:05	06/17/24 12:06	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 12:06	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 12:06	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 12:06	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:06	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:06	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 12:06	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 12:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 12:06	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 12:06	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:06	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*80*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C5 PFPeA	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C2 PFHxA	*103*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C4 PFHpA	*100*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C4 PFOA	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C5 PFNA	*96*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C2 PFDA	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C2 PFUnA	*79*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C2 PFDoA	*59*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C2 PFTeDA	*40*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C3 PFBS	*90*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
18O2 PFHxS	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C4 PFOS	*87*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C8 FOSA	*75*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d3-NMeFOSAA	*34*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d5-NEtFOSAA	*60*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d-N-MeFOSA-M	*46*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d-N-EtFOSA-M	*61*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d7-N-MeFOSE-M	*40*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
d9-N-EtFOSE-M	*84*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
M2-4:2 FTS	*190*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
M2-6:2 FTS	*277*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
M2-8:2 FTS	*258*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*
13C3 HFPO-DA	*93*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**280**		63	24	mg/L			06/17/24 14:22	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: INF18 202406

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-5

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**12**	J	10	4.8	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluoropentanoic acid (PFPeA)	**7.0**		4.0	0.98	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorohexanoic acid (PFHxA)	**9.8**		4.0	1.2	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluoroheptanoic acid (PFHpA)	**2.2**	~~J~~	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorooctanoic acid (PFOA)	**11**		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorononanoic acid (PFNA)	ND	UJ	4.0	0.54	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorodecanoic acid (PFDA)	ND		4.0	0.62	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluoroundecanoic acid (PFUnA)	ND		4.0	2.2	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorobutanesulfonic acid (PFBS)	**4.9**	J	4.0	0.40	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluoropentanesulfonic acid (PFPeS)	**1.2**	~~J~~ J	4.0	0.60	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorohexanesulfonic acid (PFHxS)	**19**	J	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	UJ	4.0	0.38	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorooctanesulfonic acid (PFOS)	**13**	J	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorononanesulfonic acid (PFNS)	ND	UJ	4.0	0.74	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.0	1.9	ng/L		06/14/24 12:05	06/17/24 12:19	1
Perfluorooctanesulfonamide (FOSA)	ND		4.0	2.0	ng/L		06/14/24 12:05	06/17/24 12:19	1
NEtFOSA	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:19	1
NMeFOSA	ND		4.0	0.86	ng/L		06/14/24 12:05	06/17/24 12:19	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 12:19	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 12:19	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 12:19	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:19	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:19	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 12:19	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 12:19	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 12:19	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 12:19	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:19	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C5 PFPeA	*102*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C2 PFHxA	*112*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C4 PFHpA	*109*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C4 PFOA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C5 PFNA	*103*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C2 PFDA	*103*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C2 PFUnA	*89*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C2 PFDoA	*74*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C2 PFTeDA	*48*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*

Client Sample ID: INF18 202406

Lab Sample ID: 320-113052-5

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*99*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
18O2 PFHxS	*106*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C4 PFOS	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C8 FOSA	*89*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d3-NMeFOSAA	*46*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d5-NEtFOSAA	*80*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d-N-MeFOSA-M	*50*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d-N-EtFOSA-M	*70*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d7-N-MeFOSE-M	*48*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
d9-N-EtFOSE-M	*97*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
M2-4:2 FTS	*183*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
M2-6:2 FTS	*317*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
M2-8:2 FTS	*318*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:19*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		63	24	mg/L			06/17/24 14:24	1

Client Sample ID: INF COMP 202406

Lab Sample ID: 320-113052-6

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**21**	J	10	4.8	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluoropentanoic acid (PFPeA)	**3.5**	~~J~~	4.0	0.98	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorohexanoic acid (PFHxA)	**9.1**		4.0	1.2	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	~~J~~	4.0	0.50	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorooctanoic acid (PFOA)	**5.7**		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorononanoic acid (PFNA)	**1.2**	~~J~~ I	4.0	0.54	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorodecanoic acid (PFDA)	ND	UJ	4.0	0.62	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluoroundecanoic acid (PFUnA)	ND		4.0	2.2	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorododecanoic acid (PFDoA)	ND		4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.0	2.6	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.0	1.5	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorobutanesulfonic acid (PFBS)	**4.0**	J	4.0	0.40	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluoropentanesulfonic acid (PFPeS)	**0.74**	~~J~~ J	4.0	0.60	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorohexanesulfonic acid (PFHxS)	**10**	I J	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	UJ	4.0	0.38	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorooctanesulfonic acid (PFOS)	**6.1**	J	4.0	1.1	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorononanesulfonic acid (PFNS)	ND	UJ	4.0	0.74	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorodecanesulfonic acid (PFDS)	**11**	I J	4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND	UJ	4.0	1.9	ng/L		06/14/24 12:05	06/17/24 12:31	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: INF COMP 202406

Date Collected: 06/10/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-6

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	ND	UJ	4.0	2.0	ng/L		06/14/24 12:05	06/17/24 12:31	1
NEtFOSA	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:31	1
NMeFOSA	ND		4.0	0.86	ng/L		06/14/24 12:05	06/17/24 12:31	1
NMeFOSAA	ND		10	2.4	ng/L		06/14/24 12:05	06/17/24 12:31	1
NEtFOSAA	ND		10	2.6	ng/L		06/14/24 12:05	06/17/24 12:31	1
NMeFOSE	ND		8.0	2.8	ng/L		06/14/24 12:05	06/17/24 12:31	1
NEtFOSE	ND		4.0	1.7	ng/L		06/14/24 12:05	06/17/24 12:31	1
4:2 FTS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:31	1
6:2 FTS	ND		10	5.0	ng/L		06/14/24 12:05	06/17/24 12:31	1
8:2 FTS	ND		4.0	0.92	ng/L		06/14/24 12:05	06/17/24 12:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.0	0.80	ng/L		06/14/24 12:05	06/17/24 12:31	1
HFPO-DA (GenX)	ND		8.0	3.0	ng/L		06/14/24 12:05	06/17/24 12:31	1
9Cl-PF3ONS	ND		4.0	0.48	ng/L		06/14/24 12:05	06/17/24 12:31	1
11Cl-PF3OUdS	ND		4.0	0.64	ng/L		06/14/24 12:05	06/17/24 12:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C5 PFPeA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C2 PFHxA	*100*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C4 PFHpA	*96*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C4 PFOA	*102*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C5 PFNA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C2 PFDA	*94*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C2 PFUnA	*85*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C2 PFDoA	*63*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C2 PFTeDA	*41*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C3 PFBS	*92*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
18O2 PFHxS	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C4 PFOS	*83*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C8 FOSA	*81*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d3-NMeFOSAA	*42*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d5-NEtFOSAA	*67*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d-N-MeFOSA-M	*49*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d-N-EtFOSA-M	*66*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d7-N-MeFOSE-M	*45*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
d9-N-EtFOSE-M	*87*		*10 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
M2-4:2 FTS	*174*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
M2-6:2 FTS	*295*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
M2-8:2 FTS	*265*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*
13C3 HFPO-DA	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 12:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**270**		63	24	mg/L			06/17/24 14:26	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: EFF 202406

Date Collected: 06/11/24 23:59
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**32**		4.6	2.2	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluoropentanoic acid (PFPeA)	**14**		1.8	0.45	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorohexanoic acid (PFHxA)	**14**		1.8	0.53	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluoroheptanoic acid (PFHpA)	**3.1**		1.8	0.23	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorooctanoic acid (PFOA)	**10**		1.8	0.78	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorononanoic acid (PFNA)	**0.91**	**J**	1.8	0.25	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorodecanoic acid (PFDA)	**1.1**	**J**	1.8	0.28	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.51	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.67	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorobutanesulfonic acid (PFBS)	**3.6**		1.8	0.18	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.28	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorohexanesulfonic acid (PFHxS)	**8.2**		1.8	0.52	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorooctanesulfonic acid (PFOS)	**5.8**		1.8	0.50	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.89	ng/L		06/14/24 12:05	06/18/24 14:24	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.90	ng/L		06/14/24 12:05	06/18/24 14:24	1
NEtFOSA	ND		1.8	0.80	ng/L		06/14/24 12:05	06/18/24 14:24	1
NMeFOSA	ND		1.8	0.39	ng/L		06/14/24 12:05	06/18/24 14:24	1
NMeFOSAA	ND		4.6	1.1	ng/L		06/14/24 12:05	06/18/24 14:24	1
NEtFOSAA	ND		4.6	1.2	ng/L		06/14/24 12:05	06/18/24 14:24	1
NMeFOSE	ND		3.7	1.3	ng/L		06/14/24 12:05	06/18/24 14:24	1
NEtFOSE	ND		1.8	0.78	ng/L		06/14/24 12:05	06/18/24 14:24	1
4:2 FTS	ND		1.8	0.22	ng/L		06/14/24 12:05	06/18/24 14:24	1
6:2 FTS	ND		4.6	2.3	ng/L		06/14/24 12:05	06/18/24 14:24	1
8:2 FTS	ND		1.8	0.42	ng/L		06/14/24 12:05	06/18/24 14:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.37	ng/L		06/14/24 12:05	06/18/24 14:24	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		06/14/24 12:05	06/18/24 14:24	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		06/14/24 12:05	06/18/24 14:24	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		06/14/24 12:05	06/18/24 14:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C5 PFPeA	*93*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C2 PFHxA	*103*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C4 PFHpA	*98*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C4 PFOA	*94*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C5 PFNA	*102*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C2 PFDA	*91*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C2 PFUnA	*85*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C2 PFDoA	*74*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C2 PFTeDA	*52*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*

Client Sample ID: EFF 202406

Lab Sample ID: 320-113052-7

Date Collected: 06/11/24 23:59
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*91*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
18O2 PFHxS	*97*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C4 PFOS	*93*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C8 FOSA	*95*		*10 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d3-NMeFOSAA	*88*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d5-NEtFOSAA	*91*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d-N-MeFOSA-M	*80*		*10 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d-N-EtFOSA-M	*71*		*10 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d7-N-MeFOSE-M	*77*		*10 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
d9-N-EtFOSE-M	*78*		*10 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
M2-4:2 FTS	*162*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
M2-6:2 FTS	*151*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
M2-8:2 FTS	*139*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*
13C3 HFPO-DA	*93*		*25 - 150*	*06/14/24 12:05*	*06/18/24 14:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**3.8**	**J**	5.0	1.9	mg/L			06/18/24 17:31	1

Client Sample ID: EFFG 202406

Lab Sample ID: 320-113052-8

Date Collected: 06/11/24 09:48
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**16**		4.8	2.3	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluoropentanoic acid (PFPeA)	**11**		1.9	0.47	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorohexanoic acid (PFHxA)	**13**		1.9	0.56	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluoroheptanoic acid (PFHpA)	**2.5**		1.9	0.24	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorooctanoic acid (PFOA)	**9.3**		1.9	0.82	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorononanoic acid (PFNA)	**1.1**	**J**	1.9	0.26	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorodecanoic acid (PFDA)	**1.0**	**J**	1.9	0.30	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.3	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.71	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorobutanesulfonic acid (PFBS)	**4.3**		1.9	0.19	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.29	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorohexanesulfonic acid (PFHxS)	**8.6**		1.9	0.55	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorooctanesulfonic acid (PFOS)	**5.6**		1.9	0.52	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.36	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.94	ng/L		06/14/24 12:05	06/17/24 13:21	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.95	ng/L		06/14/24 12:05	06/17/24 13:21	1

Client Sample ID: EFFG 202406

Lab Sample ID: 320-113052-8

Date Collected: 06/11/24 09:48
Matrix: Water
Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.9	0.84	ng/L		06/14/24 12:05	06/17/24 13:21	1
NMeFOSA	ND		1.9	0.42	ng/L		06/14/24 12:05	06/17/24 13:21	1
NMeFOSAA	ND		4.8	1.2	ng/L		06/14/24 12:05	06/17/24 13:21	1
NEtFOSAA	ND		4.8	1.3	ng/L		06/14/24 12:05	06/17/24 13:21	1
NMeFOSE	ND		3.9	1.4	ng/L		06/14/24 12:05	06/17/24 13:21	1
NEtFOSE	ND		1.9	0.82	ng/L		06/14/24 12:05	06/17/24 13:21	1
4:2 FTS	ND		1.9	0.23	ng/L		06/14/24 12:05	06/17/24 13:21	1
6:2 FTS	ND		4.8	2.4	ng/L		06/14/24 12:05	06/17/24 13:21	1
8:2 FTS	ND		1.9	0.44	ng/L		06/14/24 12:05	06/17/24 13:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.39	ng/L		06/14/24 12:05	06/17/24 13:21	1
HFPO-DA (GenX)	ND		3.9	1.5	ng/L		06/14/24 12:05	06/17/24 13:21	1
9Cl-PF3ONS	ND		1.9	0.23	ng/L		06/14/24 12:05	06/17/24 13:21	1
11Cl-PF3OUdS	ND		1.9	0.31	ng/L		06/14/24 12:05	06/17/24 13:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C5 PFPeA	*93*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C2 PFHxA	*101*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C4 PFHpA	*97*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C4 PFOA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C5 PFNA	*98*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C2 PFDA	*92*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C2 PFUnA	*87*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C2 PFDoA	*71*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C2 PFTeDA	*47*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C3 PFBS	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
18O2 PFHxS	*97*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C4 PFOS	*92*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C8 FOSA	*94*		*10 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d3-NMeFOSAA	*86*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d5-NEtFOSAA	*91*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d-N-MeFOSA-M	*79*		*10 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d-N-EtFOSA-M	*72*		*10 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d7-N-MeFOSE-M	*78*		*10 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
d9-N-EtFOSE-M	*77*		*10 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
M2-4:2 FTS	*177*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
M2-6:2 FTS	*167*	**5+*	*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
M2-8:2 FTS	*149*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*
13C3 HFPO-DA	*92*		*25 - 150*	*06/14/24 12:05*	*06/17/24 13:21*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**3.0**	**J**	5.0	1.9	mg/L			06/18/24 17:33	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: BIOB 202406

Date Collected: 06/11/24 11:12
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-9

Matrix: Solid
Percent Solids: 5.3

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**4.1**		3.6	0.56	ug/Kg	☼	07/02/24 04:35	07/05/24 00:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*94*		*25 - 150*	*07/02/24 04:35*	*07/05/24 00:59*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		3.6	0.82	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluoropentanoic acid (PFPeA)	ND		3.6	0.74	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluoroheptanoic acid (PFHpA)	ND		3.6	0.68	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorooctanoic acid (PFOA)	**1.4**	**J**	3.6	0.95	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorononanoic acid (PFNA)	**1.9**	~~**J**~~ **I** J	3.6	0.39	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorodecanoic acid (PFDA)	**5.1**		3.6	0.86	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluoroundecanoic acid (PFUnA)	**1.5**	~~**J**~~ **I** J	3.6	0.75	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorododecanoic acid (PFDoA)	**1.9**	**J**	3.6	0.54	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.6	0.38	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorotetradecanoic acid (PFTeA)	**0.68**	**J**	3.6	0.66	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		3.6	0.68	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.66	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		3.6	0.52	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.6	0.88	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.52	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.6	0.93	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.6	0.84	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
Perfluorooctanesulfonamide (FOSA)	**0.65**	**J**	3.6	0.59	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NEtFOSA	ND		3.6	0.84	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NMeFOSA	ND		3.6	0.88	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NMeFOSAA	**11**		3.6	0.41	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NEtFOSAA	**5.3**		3.6	0.86	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NMeFOSE	**5.8**		3.6	0.84	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
NEtFOSE	**1.2**	**J**	3.6	0.50	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
4:2 FTS	ND		3.6	0.91	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
6:2 FTS	ND		3.6	0.48	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
8:2 FTS	ND		3.6	0.63	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.6	0.70	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
HFPO-DA (GenX)	ND		3.6	0.74	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
9Cl-PF3ONS	ND		3.6	0.63	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1
11Cl-PF3OUdS	ND		3.6	0.56	ug/Kg	☼	07/02/24 04:35	07/06/24 09:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*61*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C5 PFPeA	*63*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C4 PFHpA	*91*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C4 PFOA	*96*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C5 PFNA	*87*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*

Client Sample ID: BIOB 202406

Lab Sample ID: 320-113052-9

Date Collected: 06/11/24 11:12
Date Received: 06/13/24 09:30

Matrix: Solid
Percent Solids: 5.3

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*74*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C2 PFUnA	*96*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C2 PFDoA	*80*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C2 PFTeDA	*30*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C3 PFBS	*81*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
18O2 PFHxS	*92*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C4 PFOS	*85*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C8 FOSA	*94*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d3-NMeFOSAA	*74*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d5-NEtFOSAA	*107*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d-N-MeFOSA-M	*61*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d-N-EtFOSA-M	*46*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d7-N-MeFOSE-M	*49*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
d9-N-EtFOSE-M	*69*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
M2-4:2 FTS	*109*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
M2-6:2 FTS	*190*	**5+*	*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
M2-8:2 FTS	*101*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*
13C3 HFPO-DA	*77*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:02*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**9.7**		3.6	0.77	ug/Kg	☼	07/02/24 04:35	07/15/24 18:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*109*		*25 - 150*	*07/02/24 04:35*	*07/15/24 18:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**94.7**		0.1	0.1	%			06/18/24 13:46	1
Percent Solids (ASTM D 2216)	**5.3**		0.1	0.1	%			06/18/24 13:46	1

Client Sample ID: EB01 202406

Lab Sample ID: 320-113052-10

Date Collected: 06/11/24 11:40
Date Received: 06/13/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.4	2.1	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.43	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.51	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.22	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.75	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		06/18/24 11:52	06/19/24 23:32	1

Client Sample ID: EB01 202406

Lab Sample ID: 320-113052-10

Date Collected: 06/11/24 11:40

Matrix: Water

Date Received: 06/13/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.50	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.48	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.86	ng/L		06/18/24 11:52	06/19/24 23:32	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.87	ng/L		06/18/24 11:52	06/19/24 23:32	1
NEtFOSA	ND		1.8	0.77	ng/L		06/18/24 11:52	06/19/24 23:32	1
NMeFOSA	ND		1.8	0.38	ng/L		06/18/24 11:52	06/19/24 23:32	1
NMeFOSAA	ND		4.4	1.1	ng/L		06/18/24 11:52	06/19/24 23:32	1
NEtFOSAA	ND		4.4	1.2	ng/L		06/18/24 11:52	06/19/24 23:32	1
NMeFOSE	ND		3.5	1.2	ng/L		06/18/24 11:52	06/19/24 23:32	1
NEtFOSE	ND		1.8	0.75	ng/L		06/18/24 11:52	06/19/24 23:32	1
4:2 FTS	ND		1.8	0.21	ng/L		06/18/24 11:52	06/19/24 23:32	1
6:2 FTS	ND		4.4	2.2	ng/L		06/18/24 11:52	06/19/24 23:32	1
8:2 FTS	ND		1.8	0.41	ng/L		06/18/24 11:52	06/19/24 23:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		06/18/24 11:52	06/19/24 23:32	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		06/18/24 11:52	06/19/24 23:32	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		06/18/24 11:52	06/19/24 23:32	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		06/18/24 11:52	06/19/24 23:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C5 PFPeA	*87*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C2 PFHxA	*81*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C4 PFHpA	*89*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C4 PFOA	*91*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C5 PFNA	*97*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C2 PFDA	*99*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C2 PFUnA	*76*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C2 PFDoA	*50*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C2 PFTeDA	*79*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C3 PFBS	*89*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
18O2 PFHxS	*91*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C4 PFOS	*91*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C8 FOSA	*79*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d3-NMeFOSAA	*93*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d5-NEtFOSAA	*68*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d-N-MeFOSA-M	*67*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d-N-EtFOSA-M	*59*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d7-N-MeFOSE-M	*55*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
d9-N-EtFOSE-M	*51*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
M2-4:2 FTS	*102*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
M2-6:2 FTS	*124*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
M2-8:2 FTS	*113*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*
13C3 HFPO-DA	*99*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:32*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: BIOA-23- 202406

Date Collected: 06/11/24 12:18
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-11

Matrix: Solid
Percent Solids: 25.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	7.3		0.74	0.11	ug/Kg	☼	07/02/24 04:35	07/05/24 01:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*87*		*25 - 150*	*07/02/24 04:35*	*07/05/24 01:11*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1.5		0.74	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluoropentanoic acid (PFPeA)	4.3		0.74	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluoroheptanoic acid (PFHpA)	0.52	J	0.74	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorooctanoic acid (PFOA)	6.0		0.74	0.20	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorononanoic acid (PFNA)	1.2	I J	0.74	0.081	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorodecanoic acid (PFDA)	14	I J	0.74	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluoroundecanoic acid (PFUnA)	2.1		0.74	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorododecanoic acid (PFDoA)	3.7		0.74	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorotridecanoic acid (PFTrDA)	0.51	J	0.74	0.077	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorotetradecanoic acid (PFTeA)	0.78	J	0.74	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorobutanesulfonic acid (PFBS)	0.35	J	0.74	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.74	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.74	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.74	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorononanesulfonic acid (PFNS)	ND		0.74	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.74	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.74	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
Perfluorooctanesulfonamide (FOSA)	1.2		0.74	0.12	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NEtFOSA	ND		0.74	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NMeFOSA	ND		0.74	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NMeFOSAA	22		0.74	0.085	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NEtFOSAA	13		0.74	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NMeFOSE	16		0.74	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
NEtFOSE	3.1		0.74	0.10	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
4:2 FTS	ND		0.74	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
6:2 FTS	ND		0.74	0.10	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
8:2 FTS	1.2	J	0.74	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.74	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
HFPO-DA (GenX)	ND		0.74	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
9Cl-PF3ONS	ND		0.74	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1
11Cl-PF3OUdS	ND		0.74	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*66*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C5 PFPeA	*59*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C4 PFHpA	*78*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C4 PFOA	*80*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*

Client Sample ID: BIOA-23- 202406

Lab Sample ID: 320-113052-11

Date Collected: 06/11/24 12:18
Date Received: 06/13/24 09:30

Matrix: Solid
Percent Solids: 25.5

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C5 PFNA	*79*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C2 PFDA	*74*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C2 PFUnA	*58*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C2 PFDoA	*38*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C2 PFTeDA	*24*	**5-*	*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C3 PFBS	*75*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
18O2 PFHxS	*83*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C4 PFOS	*84*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C8 FOSA	*58*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
d3-NMeFOSAA	*38*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
d5-NEtFOSAA	*44*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
d-N-MeFOSA-M	*34*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
d-N-EtFOSA-M	*15*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
d7-N-MeFOSE-M	*30*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
d9-N-EtFOSE-M	*14*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
M2-4:2 FTS	*105*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
M2-6:2 FTS	*154*	**5+*	*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
M2-8:2 FTS	*176*	**5+*	*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*
13C3 HFPO-DA	*75*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:12*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**14**		0.74	0.16	ug/Kg	☼	07/02/24 04:35	07/15/24 19:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*76*		*25 - 150*	*07/02/24 04:35*	*07/15/24 19:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**74.5**		0.1	0.1	%			06/18/24 13:46	1
Percent Solids (ASTM D 2216)	**25.5**		0.1	0.1	%			06/18/24 13:46	1

Client Sample ID: EB02 202406

Lab Sample ID: 320-113052-12

Date Collected: 06/11/24 14:00
Date Received: 06/13/24 09:30

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.6	2.2	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorohexanoic acid (PFHxA)	**0.53**	**J**	1.8	0.53	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.23	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.78	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.67	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		06/18/24 11:52	06/19/24 23:43	1

Client Sample ID: EB02 202406

Date Collected: 06/11/24 14:00
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-12

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.52	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.34	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.89	ng/L		06/18/24 11:52	06/19/24 23:43	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.90	ng/L		06/18/24 11:52	06/19/24 23:43	1
NEtFOSA	ND		1.8	0.80	ng/L		06/18/24 11:52	06/19/24 23:43	1
NMeFOSA	ND		1.8	0.39	ng/L		06/18/24 11:52	06/19/24 23:43	1
NMeFOSAA	ND		4.6	1.1	ng/L		06/18/24 11:52	06/19/24 23:43	1
NEtFOSAA	ND		4.6	1.2	ng/L		06/18/24 11:52	06/19/24 23:43	1
NMeFOSE	ND		3.7	1.3	ng/L		06/18/24 11:52	06/19/24 23:43	1
NEtFOSE	ND		1.8	0.78	ng/L		06/18/24 11:52	06/19/24 23:43	1
4:2 FTS	ND		1.8	0.22	ng/L		06/18/24 11:52	06/19/24 23:43	1
6:2 FTS	ND		4.6	2.3	ng/L		06/18/24 11:52	06/19/24 23:43	1
8:2 FTS	ND		1.8	0.42	ng/L		06/18/24 11:52	06/19/24 23:43	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.37	ng/L		06/18/24 11:52	06/19/24 23:43	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		06/18/24 11:52	06/19/24 23:43	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		06/18/24 11:52	06/19/24 23:43	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		06/18/24 11:52	06/19/24 23:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C5 PFPeA	*79*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C2 PFHxA	*78*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C4 PFHpA	*75*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C4 PFOA	*84*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C5 PFNA	*89*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C2 PFDA	*87*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C2 PFUnA	*56*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C2 PFDoA	*35*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C2 PFTeDA	*67*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C3 PFBS	*75*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
18O2 PFHxS	*79*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C4 PFOS	*75*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C8 FOSA	*74*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d3-NMeFOSAA	*50*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d5-NEtFOSAA	*46*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d-N-MeFOSA-M	*52*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d-N-EtFOSA-M	*39*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d7-N-MeFOSE-M	*50*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
d9-N-EtFOSE-M	*41*		*10 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
M2-4:2 FTS	*87*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
M2-6:2 FTS	*107*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
M2-8:2 FTS	*106*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*
13C3 HFPO-DA	*90*		*25 - 150*	*06/18/24 11:52*	*06/19/24 23:43*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: BIOA-22-202406

Date Collected: 06/11/24 14:27
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-13

Matrix: Solid
Percent Solids: 26.7

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	38		0.73	0.11	ug/Kg	☼	07/02/24 04:35	07/05/24 01:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*84*		*25 - 150*	*07/02/24 04:35*	*07/05/24 01:24*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	9.0		0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluoropentanoic acid (PFPeA)	22		0.73	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluoroheptanoic acid (PFHpA)	3.2		0.73	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorooctanoic acid (PFOA)	32		0.73	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorononanoic acid (PFNA)	1.8		0.73	0.080	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorodecanoic acid (PFDA)	18	~~F1~~- J+	0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluoroundecanoic acid (PFUnA)	2.0	~~F1~~- J+	0.73	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorododecanoic acid (PFDoA)	3.9		0.73	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorotridecanoic acid (PFTrDA)	0.43	J	0.73	0.076	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorotetradecanoic acid (PFTeA)	0.94		0.73	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorobutanesulfonic acid (PFBS)	2.0		0.73	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.73	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorohexanesulfonic acid (PFHxS)	1.0	I J	0.73	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.73	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorononanesulfonic acid (PFNS)	ND		0.73	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorodecanesulfonic acid (PFDS)	1.8		0.73	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorododecanesulfonic acid (PFDoS)	ND	~~F1~~-- UJ	0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
Perfluorooctanesulfonamide (FOSA)	1.2		0.73	0.12	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NEtFOSA	ND	~~F1~~--	0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NMeFOSA	ND		0.73	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NMeFOSAA	31	~~F1~~-- J+	0.73	0.084	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NEtFOSAA	12	~~F1~~-- J+	0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NMeFOSE	9.0		0.73	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
NEtFOSE	1.9		0.73	0.10	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
4:2 FTS	ND		0.73	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
6:2 FTS	1.5		0.73	0.098	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
8:2 FTS	0.96		0.73	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.73	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
HFPO-DA (GenX)	ND		0.73	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
9Cl-PF3ONS	ND		0.73	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1
11Cl-PF3OUdS	ND		0.73	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*59*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:22*	*1*
13C5 PFPeA	*63*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:22*	*1*

Client Sample ID: BIOA-22-202406

Lab Sample ID: 320-113052-13

Date Collected: 06/11/24 14:27
Date Received: 06/13/24 09:30

Matrix: Solid
Percent Solids: 26.7

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	75		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C4 PFOA	74		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C5 PFNA	72		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C2 PFDA	63		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C2 PFUnA	64		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C2 PFDoA	49		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C2 PFTeDA	26		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C3 PFBS	69		25 - 150	07/02/24 04:35	07/06/24 09:22	1
18O2 PFHxS	68		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C4 PFOS	67		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C8 FOSA	66		10 - 150	07/02/24 04:35	07/06/24 09:22	1
d3-NMeFOSAA	51		25 - 150	07/02/24 04:35	07/06/24 09:22	1
d5-NEtFOSAA	58		25 - 150	07/02/24 04:35	07/06/24 09:22	1
d-N-MeFOSA-M	41		10 - 150	07/02/24 04:35	07/06/24 09:22	1
d-N-EtFOSA-M	15		10 - 150	07/02/24 04:35	07/06/24 09:22	1
d7-N-MeFOSE-M	41		10 - 150	07/02/24 04:35	07/06/24 09:22	1
d9-N-EtFOSE-M	23		10 - 150	07/02/24 04:35	07/06/24 09:22	1
M2-4:2 FTS	121		25 - 150	07/02/24 04:35	07/06/24 09:22	1
M2-6:2 FTS	125		25 - 150	07/02/24 04:35	07/06/24 09:22	1
M2-8:2 FTS	105		25 - 150	07/02/24 04:35	07/06/24 09:22	1
13C3 HFPO-DA	65		25 - 150	07/02/24 04:35	07/06/24 09:22	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	14		0.73	0.16	ug/Kg	☼	07/02/24 04:35	07/15/24 19:21	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	80		25 - 150	07/02/24 04:35	07/15/24 19:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	73.3		0.1	0.1	%			06/18/24 13:46	1
Percent Solids (ASTM D 2216)	26.7		0.1	0.1	%			06/18/24 13:46	1

Client Sample ID: BIOA-24-202406

Lab Sample ID: 320-113052-14

Date Collected: 06/11/24 14:42
Date Received: 06/13/24 09:30

Matrix: Solid
Percent Solids: 19.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	21		0.96	0.15	ug/Kg	☼	07/02/24 04:35	07/05/24 02:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	83		25 - 150	07/02/24 04:35	07/05/24 02:02	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	6.9		0.96	0.22	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluoropentanoic acid (PFPeA)	21		0.96	0.20	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluoroheptanoic acid (PFHpA)	1.8		0.96	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorooctanoic acid (PFOA)	19		0.96	0.26	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1

Client Sample ID: BIOA-24-202406

Date Collected: 06/11/24 14:42
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-14

Matrix: Solid
Percent Solids: 19.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	**1.5**		0.96	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorodecanoic acid (PFDA)	**12**		0.96	0.23	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluoroundecanoic acid (PFUnA)	**1.9**		0.96	0.20	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorododecanoic acid (PFDoA)	**3.0**		0.96	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorotridecanoic acid (PFTrDA)	**0.31**	**J**	0.96	0.10	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorotetradecanoic acid (PFTeA)	**0.64**	**J**	0.96	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorobutanesulfonic acid (PFBS)	**0.81**	**J**	0.96	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.96	0.18	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.96	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.96	0.24	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorononanesulfonic acid (PFNS)	ND		0.96	0.14	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorodecanesulfonic acid (PFDS)	**1.7**		0.96	0.25	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.96	0.23	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
Perfluorooctanesulfonamide (FOSA)	**0.77**	**J**	0.96	0.16	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NEtFOSA	ND		0.96	0.23	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NMeFOSA	ND		0.96	0.24	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NMeFOSAA	**24**		0.96	0.11	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NEtFOSAA	**10**		0.96	0.23	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NMeFOSE	**6.9**		0.96	0.23	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
NEtFOSE	**1.9**		0.96	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
4:2 FTS	ND		0.96	0.25	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
6:2 FTS	**1.0**		0.96	0.13	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
8:2 FTS	**0.89**	**J**	0.96	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.96	0.19	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
HFPO-DA (GenX)	ND		0.96	0.20	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
9Cl-PF3ONS	ND		0.96	0.17	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1
11Cl-PF3OUdS	ND		0.96	0.15	ug/Kg	☼	07/02/24 04:35	07/06/24 09:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C5 PFPeA	*68*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C4 PFHpA	*84*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C4 PFOA	*82*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C5 PFNA	*81*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C2 PFDA	*83*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C2 PFUnA	*69*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C2 PFDoA	*52*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C2 PFTeDA	*31*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C3 PFBS	*75*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
18O2 PFHxS	*80*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C4 PFOS	*79*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C8 FOSA	*66*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-113052-1

Client Sample ID: BIOA-24-202406

Date Collected: 06/11/24 14:42
Date Received: 06/13/24 09:30

Lab Sample ID: 320-113052-14

Matrix: Solid
Percent Solids: 19.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d3-NMeFOSAA	*43*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
d5-NEtFOSAA	*62*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
d-N-MeFOSA-M	*29*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
d-N-EtFOSA-M	*16*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
d7-N-MeFOSE-M	*30*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
d9-N-EtFOSE-M	*15*		*10 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
M2-4:2 FTS	*127*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
M2-6:2 FTS	*127*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
M2-8:2 FTS	*138*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*
13C3 HFPO-DA	*75*		*25 - 150*	*07/02/24 04:35*	*07/06/24 09:52*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**12**		0.96	0.21	ug/Kg	☼	07/02/24 04:35	07/15/24 20:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*81*		*25 - 150*	*07/02/24 04:35*	*07/15/24 20:11*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**80.1**		0.1	0.1	%			06/18/24 13:46	1
Percent Solids (ASTM D 2216)	**19.9**		0.1	0.1	%			06/18/24 13:46	1

July 2024

Data Quality and Usability Review – July 2024

Data Reviewer: Kristen Morin
Peer Reviewer: Jeff Ramey
Date: 9/3/2024

Madison Metropolitan Sewerage District (MMSD) collected influent and effluent samples at the Nine Springs wastewater treatment plant on July 22 and 23, 2024 as part of ongoing monitoring activities conducted by TRC. Samples were analyzed for the standard list of Wisconsin's 33 per- and polyfluoroalkyl substances (PFAS) by Eurofins in West Sacramento, California and for total suspended solids (TSS) by Eurofins in Chicago, Illinois. The laboratory analytical results were reported in laboratory SDG 320-114072-1.

Samples included in this review are listed below:

- InfComp202407
- EffG202407
- Eff202407

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
Total Suspended Solids (TSS)	Standard Method (SM) 2540D

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or

analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;

- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The data package was found to be complete as received from the laboratory.
- The cooler temperatures upon receipt at both laboratories were within the acceptance criteria (< 10°C).
  - Samples were not shipped to the main laboratory, West Sacramento, CA, until one to two days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the main laboratory. No validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the main laboratory and were received at acceptable temperatures by the laboratory.

- A method blank was analyzed with each analytical batch for PFAS and TSS. Target analytes were not detected in the method blanks.
- No field blank samples were collected with this sample set.
- All samples were extracted and/or prepared and analyzed within the holding time with the following exception. Sample EffG202407 was analyzed for TSS approximately 6 hours outside of the 7-day holding time. No validation actions were taken on this basis since the sample was analyzed on the 7th day after collection.
- The LCS and/or LCSD percent recoveries (%Rs) and relative percent differences, as applicable, for all analytes were within the laboratory's acceptance limits. However, it should be noted that the laboratory acceptance limits for PFAS LCS/LCSDs were set to 50-150% which is the acceptance criteria for values spiked at 1-2x the QLs according to the Wisconsin Method Expectations document; several PFAS compounds were spiked at values higher than 2x the QL. All LCS and LCSD %Rs were within the Wisconsin Method Expectations criteria of 60-135% with the exception of 9Cl-PF3ONS (LCSD at 136%) and 11Cl-PF3OUdS (LCSD at 140%). No validation actions were required on this basis since 9Cl-PF3ONS and 11Cl-PF3OUdS were not detected in the samples in this data set; therefore, the laboratory was not contacted about this issue.
- MS/MSD analyses were not performed on a sample from this data set.
- The isotopically labeled surrogate %Rs were within the laboratory's acceptance limits with the following exceptions.
  - M2-6:2 FTS (203%) recovered above the acceptance limits (25-150%) in sample InfComp202407. No validation actions were required on this basis since 6:2 FTS was not detected in this sample.
  - M2-4:2 FTS recovered above the acceptance limits (25-150%) in samples EffG202407 (171%) and Eff202407 (159%). No validation actions were required on this basis since 4:2 FTS was not detected in these samples.
  - M2-8:2 FTS (161%) recovered above the acceptance limits (25-150%) in sample Eff202407. No validation actions were required on this basis since 8:2 FTS was not detected in this sample.
- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was not performed on a sample from this data set.
- The laboratory noted the following observations in the case narrative. No validation actions were taken on this basis.
  - Samples InfComp202407, EffG202407, and Eff202407 were light brown in color, contained floating particulates, and were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction. In addition, these samples were light green in color following extraction.
  - During the solid phase extraction (SPE) process, sample InfComp202407 contained particulates which clogged the SPE column. The lab also stated that approximately 78.8% of the sample container was filtered through the SPE column (i.e., extracted) at which point the SPE column became clogged. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged it were then extracted using the elution solvent. The laboratory confirmed during previous reviews that samples are spiked with extracted internal standards (or isotopically labeled surrogates) prior to filtration through the SPE column; thus, no validation actions were taken on this basis.

- The QLs met or were below the ranges of QLs suggested in the SAB of 2-5 ng/L for individual PFAS.
- No dilutions were performed on the samples in this data set for PFAS.
- The QL for TSS in sample InfComp202407 was 5.6x higher than the associated method blank due to a reduced volume (90 mLs versus the typical 500 mL) used in the sample analysis. There is no adverse impact on the data usability due to this issue since TSS was detected above the QL in this sample. No validation action was required on this basis.
- The result for PFNA in sample InfComp202407 was flagged with an “I” by the laboratory indicating that the ion transition ratio did not meet the acceptance limits; thus, the positive result for PFNA in sample InfComp202407 was qualified as estimated (J).
- The laboratory noted select continuing calibration verification (CCV) nonconformances in the case narrative. No validation actions were taken on this basis since the actual CCV results were not provided for review.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

Client Sample ID: InfComp202407

Date Collected: 07/22/24 23:59
Date Received: 07/25/24 09:30

Lab Sample ID: 320-114072-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.6**		4.2	2.0	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluoropentanoic acid (PFPeA)	**6.3**		1.7	0.41	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorohexanoic acid (PFHxA)	**9.3**		1.7	0.49	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluoroheptanoic acid (PFHpA)	**2.4**		1.7	0.21	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorooctanoic acid (PFOA)	**6.1**		1.7	0.71	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorononanoic acid (PFNA)	**1.4**	~~J~~ I J	1.7	0.23	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorodecanoic acid (PFDA)	**0.64**	**J**	1.7	0.26	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorobutanesulfonic acid (PFBS)	**4.4**		1.7	0.17	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluoropentanesulfonic acid (PFPeS)	**1.0**	**J**	1.7	0.25	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorohexanesulfonic acid (PFHxS)	**8.5**		1.7	0.48	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorooctanesulfonic acid (PFOS)	**8.1**		1.7	0.45	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.31	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.81	ng/L		07/26/24 04:40	07/26/24 17:15	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.82	ng/L		07/26/24 04:40	07/26/24 17:15	1
NEtFOSA	ND		1.7	0.73	ng/L		07/26/24 04:40	07/26/24 17:15	1
NMeFOSA	ND		1.7	0.36	ng/L		07/26/24 04:40	07/26/24 17:15	1
NMeFOSAA	ND		4.2	1.0	ng/L		07/26/24 04:40	07/26/24 17:15	1
NEtFOSAA	ND		4.2	1.1	ng/L		07/26/24 04:40	07/26/24 17:15	1
NMeFOSE	ND		3.3	1.2	ng/L		07/26/24 04:40	07/26/24 17:15	1
NEtFOSE	ND		1.7	0.71	ng/L		07/26/24 04:40	07/26/24 17:15	1
4:2 FTS	ND		1.7	0.20	ng/L		07/26/24 04:40	07/26/24 17:15	1
6:2 FTS	ND		4.2	2.1	ng/L		07/26/24 04:40	07/26/24 17:15	1
8:2 FTS	ND		1.7	0.38	ng/L		07/26/24 04:40	07/26/24 17:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.33	ng/L		07/26/24 04:40	07/26/24 17:15	1
HFPO-DA (GenX)	ND		3.3	1.3	ng/L		07/26/24 04:40	07/26/24 17:15	1
9Cl-PF3ONS	ND		1.7	0.20	ng/L		07/26/24 04:40	07/26/24 17:15	1
11Cl-PF3OUdS	ND		1.7	0.27	ng/L		07/26/24 04:40	07/26/24 17:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*59*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C5 PFPeA	*69*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C2 PFHxA	*62*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C4 PFHpA	*68*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C4 PFOA	*75*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C5 PFNA	*71*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C2 PFDA	*67*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C2 PFUnA	*51*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C2 PFDoA	*36*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C2 PFTeDA	*27*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*

Client Sample ID: InfComp202407

Lab Sample ID: 320-114072-1
Date Collected: 07/22/24 23:59
Matrix: Water
Date Received: 07/25/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*55*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
18O2 PFHxS	*55*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C4 PFOS	*52*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C8 FOSA	*50*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d3-NMeFOSAA	*37*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d5-NEtFOSAA	*41*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d-N-MeFOSA-M	*18*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d-N-EtFOSA-M	*42*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d7-N-MeFOSE-M	*26*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
d9-N-EtFOSE-M	*36*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
M2-4:2 FTS	*109*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
M2-6:2 FTS	*203*	**5+*	*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
M2-8:2 FTS	*140*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*
13C3 HFPO-DA	*74*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:15*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**190**		28	11	mg/L			07/29/24 02:13	1

Client Sample ID: EffG202407

Lab Sample ID: 320-114072-2
Date Collected: 07/23/24 09:58
Matrix: Water
Date Received: 07/25/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**11**		4.2	2.0	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluoropentanoic acid (PFPeA)	**14**		1.7	0.41	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorohexanoic acid (PFHxA)	**15**		1.7	0.49	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluoroheptanoic acid (PFHpA)	**2.8**		1.7	0.21	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorooctanoic acid (PFOA)	**9.1**		1.7	0.71	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorononanoic acid (PFNA)	**1.1**	**J**	1.7	0.23	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorodecanoic acid (PFDA)	**1.0**	**J**	1.7	0.26	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorobutanesulfonic acid (PFBS)	**5.7**		1.7	0.17	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluoropentanesulfonic acid (PFPeS)	**0.59**	**J**	1.7	0.25	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorohexanesulfonic acid (PFHxS)	**7.6**		1.7	0.48	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorooctanesulfonic acid (PFOS)	**7.2**		1.7	0.45	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.31	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		07/26/24 04:40	07/26/24 17:25	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.81	ng/L		07/26/24 04:40	07/26/24 17:25	1

Client Sample ID: EffG202407

Lab Sample ID: 320-114072-2

Date Collected: 07/23/24 09:58

Matrix: Water

Date Received: 07/25/24 09:30

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	**0.87**	**J**	1.7	0.82	ng/L		07/26/24 04:40	07/26/24 17:25	1
NEtFOSA	ND		1.7	0.73	ng/L		07/26/24 04:40	07/26/24 17:25	1
NMeFOSA	ND		1.7	0.36	ng/L		07/26/24 04:40	07/26/24 17:25	1
NMeFOSAA	**1.0**	**J**	4.2	1.0	ng/L		07/26/24 04:40	07/26/24 17:25	1
NEtFOSAA	ND		4.2	1.1	ng/L		07/26/24 04:40	07/26/24 17:25	1
NMeFOSE	ND		3.4	1.2	ng/L		07/26/24 04:40	07/26/24 17:25	1
NEtFOSE	ND		1.7	0.71	ng/L		07/26/24 04:40	07/26/24 17:25	1
4:2 FTS	ND		1.7	0.20	ng/L		07/26/24 04:40	07/26/24 17:25	1
6:2 FTS	ND		4.2	2.1	ng/L		07/26/24 04:40	07/26/24 17:25	1
8:2 FTS	ND		1.7	0.39	ng/L		07/26/24 04:40	07/26/24 17:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		07/26/24 04:40	07/26/24 17:25	1
HFPO-DA (GenX)	ND		3.4	1.3	ng/L		07/26/24 04:40	07/26/24 17:25	1
9Cl-PF3ONS	ND		1.7	0.20	ng/L		07/26/24 04:40	07/26/24 17:25	1
11Cl-PF3OUdS	ND		1.7	0.27	ng/L		07/26/24 04:40	07/26/24 17:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C5 PFPeA	*91*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C2 PFHxA	*88*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C4 PFHpA	*107*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C4 PFOA	*98*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C5 PFNA	*102*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C2 PFDA	*110*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C2 PFUnA	*116*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C2 PFDoA	*132*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C2 PFTeDA	*74*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C3 PFBS	*83*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
18O2 PFHxS	*88*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C4 PFOS	*87*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C8 FOSA	*116*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d3-NMeFOSAA	*91*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d5-NEtFOSAA	*109*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d-N-MeFOSA-M	*91*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d-N-EtFOSA-M	*97*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d7-N-MeFOSE-M	*93*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
d9-N-EtFOSE-M	*91*		*10 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
M2-4:2 FTS	*171*	**5+*	*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
M2-6:2 FTS	*114*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
M2-8:2 FTS	*148*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*
13C3 HFPO-DA	*110*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:25*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**5.4**		5.0	1.9	mg/L			07/30/24 15:57	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

Client Sample ID: Eff202407

Date Collected: 07/23/24 23:59
Date Received: 07/25/24 09:30

Lab Sample ID: 320-114072-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**11**		4.5	2.1	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluoropentanoic acid (PFPeA)	**16**		1.8	0.44	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorohexanoic acid (PFHxA)	**17**		1.8	0.52	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluoroheptanoic acid (PFHpA)	**3.4**		1.8	0.22	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorooctanoic acid (PFOA)	**9.4**		1.8	0.76	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorononanoic acid (PFNA)	**1.2**	**J**	1.8	0.24	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorodecanoic acid (PFDA)	**1.2**	**J**	1.8	0.28	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorobutanesulfonic acid (PFBS)	**5.6**		1.8	0.18	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluoropentanesulfonic acid (PFPeS)	**0.59**	**J**	1.8	0.27	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorohexanesulfonic acid (PFHxS)	**8.8**		1.8	0.51	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorooctanesulfonic acid (PFOS)	**7.3**		1.8	0.48	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.87	ng/L		07/26/24 04:40	07/26/24 17:36	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.88	ng/L		07/26/24 04:40	07/26/24 17:36	1
NEtFOSA	ND		1.8	0.78	ng/L		07/26/24 04:40	07/26/24 17:36	1
NMeFOSA	ND		1.8	0.38	ng/L		07/26/24 04:40	07/26/24 17:36	1
NMeFOSAA	**1.1**	**J**	4.5	1.1	ng/L		07/26/24 04:40	07/26/24 17:36	1
NEtFOSAA	ND		4.5	1.2	ng/L		07/26/24 04:40	07/26/24 17:36	1
NMeFOSE	ND		3.6	1.3	ng/L		07/26/24 04:40	07/26/24 17:36	1
NEtFOSE	ND		1.8	0.76	ng/L		07/26/24 04:40	07/26/24 17:36	1
4:2 FTS	ND		1.8	0.21	ng/L		07/26/24 04:40	07/26/24 17:36	1
6:2 FTS	ND		4.5	2.2	ng/L		07/26/24 04:40	07/26/24 17:36	1
8:2 FTS	ND		1.8	0.41	ng/L		07/26/24 04:40	07/26/24 17:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		07/26/24 04:40	07/26/24 17:36	1
HFPO-DA (GenX)	ND		3.6	1.3	ng/L		07/26/24 04:40	07/26/24 17:36	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		07/26/24 04:40	07/26/24 17:36	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		07/26/24 04:40	07/26/24 17:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*75*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C5 PFPeA	*88*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C2 PFHxA	*84*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C4 PFHpA	*94*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C4 PFOA	*99*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C5 PFNA	*105*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C2 PFDA	*106*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C2 PFUnA	*117*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C2 PFDoA	*118*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*
13C2 PFTeDA	*72*		*25 - 150*	*07/26/24 04:40*	*07/26/24 17:36*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114072-1

Client Sample ID: Eff202407

Date Collected: 07/23/24 23:59
Date Received: 07/25/24 09:30

Lab Sample ID: 320-114072-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	83		25 - 150	07/26/24 04:40	07/26/24 17:36	1
18O2 PFHxS	82		25 - 150	07/26/24 04:40	07/26/24 17:36	1
13C4 PFOS	88		25 - 150	07/26/24 04:40	07/26/24 17:36	1
13C8 FOSA	113		10 - 150	07/26/24 04:40	07/26/24 17:36	1
d3-NMeFOSAA	97		25 - 150	07/26/24 04:40	07/26/24 17:36	1
d5-NEtFOSAA	121		25 - 150	07/26/24 04:40	07/26/24 17:36	1
d-N-MeFOSA-M	88		10 - 150	07/26/24 04:40	07/26/24 17:36	1
d-N-EtFOSA-M	90		10 - 150	07/26/24 04:40	07/26/24 17:36	1
d7-N-MeFOSE-M	92		10 - 150	07/26/24 04:40	07/26/24 17:36	1
d9-N-EtFOSE-M	88		10 - 150	07/26/24 04:40	07/26/24 17:36	1
M2-4:2 FTS	159	*5+	25 - 150	07/26/24 04:40	07/26/24 17:36	1
M2-6:2 FTS	147		25 - 150	07/26/24 04:40	07/26/24 17:36	1
M2-8:2 FTS	161	*5+	25 - 150	07/26/24 04:40	07/26/24 17:36	1
13C3 HFPO-DA	98		25 - 150	07/26/24 04:40	07/26/24 17:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	4.6	J	5.0	1.9	mg/L			07/30/24 15:58	1

August 2024

Data Quality and Usability Review – August 2024

Data Reviewer: Kristen Morin
Peer Reviewer: Jeff Ramey
Date: 9/5/2024

Madison Metropolitan Sewerage District (MMSD) collected influent and effluent samples at the Nine Springs wastewater treatment plant on August 12 and 13, 2024 as part of ongoing monitoring activities conducted by TRC. A sample of high-performance liquid chromatography (HPLC) grade water was also collected because HPLC grade water had been used during some previous sampling events for decontamination and was used during the May 2024 sampling event for the collection of the equipment blank, but had not been analyzed for per- and polyfluoroalkyl substances (PFAS) by the supplier or as a part of the ongoing monitoring. Samples were analyzed for the standard list of Wisconsin's 33 PFAS by Eurofins in West Sacramento, California and for total suspended solids (TSS) by Eurofins in Chicago, Illinois. The laboratory analytical results were reported in laboratory SDG 320-114573-1.

Samples included in this review are listed below:

- Eff-202408
- HPLC GRADE WATER-202408
- Eff-G-202408
- Inf-Comp-202408

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
Total Suspended Solids (TSS)	Standard Method (SM) 2540D

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;

- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The data package was found to be complete as received from the laboratory.
- The cooler temperatures upon receipt at both laboratories were within the acceptance criteria (< 10°C).
  - Samples were not shipped to the main laboratory, West Sacramento, CA, until two to three days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the main laboratory. No

validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the main laboratory and were received at acceptable temperatures by the laboratory.

  - A discrepancy was noted with the cooler temperature recorded by Eurofins Chicago. The corrected cooler temperature was listed as 1.1 on the COC but was listed as 1.9 on the Login Sample Receipt Checklist. Since both recorded temperatures were within the acceptance limits, the laboratory was not contacted about this issue.

- A method blank was analyzed with each analytical batch for PFAS and TSS. Target analytes were not detected in the method blanks.
- A sample of HPLC grade water (HPLC GRADE WATER-202408) was collected with this sample set as a quality control sample associated with previous sampling. Target analytes were not detected in this blank.
- All samples were extracted and/or prepared and analyzed within the holding time with the following exception. Sample Eff-G-202408 was analyzed for TSS approximately 8.5 hours outside of the 7-day holding time. No validation actions were taken on this basis since the sample was analyzed on the 7th day after collection.
- The LCS and/or LCSD percent recoveries (%Rs) and relative percent differences, as applicable, for all analytes were within the laboratory's acceptance limits. However, it should be noted that the laboratory acceptance limits for PFAS LCS/LCSDs were set to 50-150% which is the acceptance criteria for values spiked at 1-2x the QLs according to the Wisconsin Method Expectations document; several PFAS compounds were spiked at values higher than 2x the QL. All LCS and LCSD %Rs were within the Wisconsin Method Expectations criteria of 60-135%; therefore, the laboratory was not contacted about this issue. No validation actions were taken on this basis.
- MS/MSD analyses were not performed on a sample from this data set.
- The isotopically labeled surrogate %Rs were within the laboratory's acceptance limits with the following exception.
  - M2-4:2 FTS (152%) recovered above the acceptance limits (25-150%) in sample Eff-202408. No validation actions were required on this basis since 4:2 FTS was not detected in this sample.
- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was not performed on a sample from this data set.
- The laboratory noted the following observations in the case narrative. No validation actions were taken on this basis.
  - Samples Inf-Comp-202408, Eff-G-202408, and Eff-202408 were yellow in color prior to extraction.
  - Sample Inf-Comp-202408 was observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction. In addition, during the solid phase extraction (SPE) process, sample Inf-Comp-202408 contained particulates which clogged the SPE column. The lab also stated that approximately 46% of the sample container was filtered through the SPE column (i.e., extracted) at which point the SPE column became clogged. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged it were then extracted using the elution solvent. The laboratory confirmed during previous reviews that samples are spiked with extracted internal standards (or isotopically labeled surrogates) prior to filtration through the SPE column; thus, no validation actions were taken on this basis.

- Select QLs were slightly outside of the ranges of QLs suggested in the SAB of 2-5 ng/L for individual PFAS due to adjustment of the QLs for sample-specific volumes used for extraction.
- No dilutions were performed on the samples in this data set for PFAS.
- The QL for TSS in sample Inf-Comp-202408 was 10x higher than the associated method blank due to a reduced volume (50 mLs versus the typical 500 mL) used in the sample analysis. There is no adverse impact on the data usability due to this issue since TSS was detected above the QL in this sample. No validation action was required on this basis.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114573-1

Client Sample ID: Inf-Comp-202408

Date Collected: 08/12/24 23:59
Date Received: 08/15/24 09:25

Lab Sample ID: 320-114573-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.6**		5.4	2.6	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluoropentanoic acid (PFPeA)	**3.2**		2.2	0.53	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorohexanoic acid (PFHxA)	**6.0**		2.2	0.62	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	2.2	0.27	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorooctanoic acid (PFOA)	**4.9**		2.2	0.92	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorononanoic acid (PFNA)	ND		2.2	0.29	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorodecanoic acid (PFDA)	ND		2.2	0.33	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluoroundecanoic acid (PFUnA)	ND		2.2	1.2	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorododecanoic acid (PFDoA)	ND		2.2	0.59	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.2	1.4	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.2	0.79	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorobutanesulfonic acid (PFBS)	**3.3**		2.2	0.22	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.2	0.32	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.2	0.20	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.2	0.58	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorononanesulfonic acid (PFNS)	ND		2.2	0.40	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.2	0.34	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.2	1.0	ng/L		08/16/24 08:07	08/17/24 08:13	1
Perfluorooctanesulfonamide (FOSA)	ND		2.2	1.1	ng/L		08/16/24 08:07	08/17/24 08:13	1
NEtFOSA	ND		2.2	0.94	ng/L		08/16/24 08:07	08/17/24 08:13	1
NMeFOSA	ND		2.2	0.46	ng/L		08/16/24 08:07	08/17/24 08:13	1
NEtFOSAA	ND		5.4	1.4	ng/L		08/16/24 08:07	08/17/24 08:13	1
NMeFOSE	ND		4.3	1.5	ng/L		08/16/24 08:07	08/17/24 08:13	1
NEtFOSE	ND		2.2	0.92	ng/L		08/16/24 08:07	08/17/24 08:13	1
4:2 FTS	ND		2.2	0.26	ng/L		08/16/24 08:07	08/17/24 08:13	1
6:2 FTS	ND		5.4	2.7	ng/L		08/16/24 08:07	08/17/24 08:13	1
8:2 FTS	ND		2.2	0.50	ng/L		08/16/24 08:07	08/17/24 08:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.2	0.43	ng/L		08/16/24 08:07	08/17/24 08:13	1
HFPO-DA (GenX)	ND		4.3	1.6	ng/L		08/16/24 08:07	08/17/24 08:13	1
9Cl-PF3ONS	ND		2.2	0.26	ng/L		08/16/24 08:07	08/17/24 08:13	1
11Cl-PF3OUdS	ND		2.2	0.34	ng/L		08/16/24 08:07	08/17/24 08:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*41*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C5 PFPeA	*48*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C2 PFHxA	*55*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C4 PFHpA	*50*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C4 PFOA	*54*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C5 PFNA	*49*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C2 PFDA	*51*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C2 PFUnA	*41*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C2 PFDoA	*34*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C2 PFTeDA	*26*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C3 PFBS	*43*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C4 PFOS	*43*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C8 FOSA	*36*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*

Client Sample ID: Inf-Comp-202408

Lab Sample ID: 320-114573-1

Date Collected: 08/12/24 23:59
Matrix: Water
Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*33*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
d-N-MeFOSA-M	*31*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
d-N-EtFOSA-M	*25*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
d7-N-MeFOSE-M	*25*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
d9-N-EtFOSE-M	*33*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
M2-4:2 FTS	*90*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
M2-6:2 FTS	*137*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
M2-8:2 FTS	*137*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*
13C3 HFPO-DA	*47*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:13*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**7.9**		2.2	0.61	ng/L		08/16/24 08:07	08/19/24 20:53	1
NMeFOSAA	ND		5.4	1.3	ng/L		08/16/24 08:07	08/19/24 20:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*47*		*25 - 150*	*08/16/24 08:07*	*08/19/24 20:53*	*1*
d3-NMeFOSAA	*37*		*25 - 150*	*08/16/24 08:07*	*08/19/24 20:53*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**240**		50	19	mg/L			08/16/24 16:49	1

Client Sample ID: Eff-G-202408

Lab Sample ID: 320-114573-2

Date Collected: 08/13/24 08:02
Matrix: Water
Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.2**		5.0	2.4	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluoropentanoic acid (PFPeA)	**11**		2.0	0.49	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorohexanoic acid (PFHxA)	**11**		2.0	0.59	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluoroheptanoic acid (PFHpA)	**2.4**		2.0	0.25	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorooctanoic acid (PFOA)	**8.3**		2.0	0.86	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorodecanoic acid (PFDA)	**0.84**	**J**	2.0	0.31	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.56	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.74	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorobutanesulfonic acid (PFBS)	**4.0**		2.0	0.20	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluoropentanesulfonic acid (PFPeS)	**0.58**	**J**	2.0	0.30	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorohexanesulfonic acid (PFHxS)	**7.9**		2.0	0.58	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorooctanesulfonic acid (PFOS)	**5.9**		2.0	0.55	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		08/16/24 08:07	08/17/24 08:26	1

Client Sample ID: Eff-G-202408

Lab Sample ID: 320-114573-2

Date Collected: 08/13/24 08:02
Date Received: 08/15/24 09:25

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.98	ng/L		08/16/24 08:07	08/17/24 08:26	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.99	ng/L		08/16/24 08:07	08/17/24 08:26	1
NEtFOSA	ND		2.0	0.88	ng/L		08/16/24 08:07	08/17/24 08:26	1
NMeFOSA	ND		2.0	0.43	ng/L		08/16/24 08:07	08/17/24 08:26	1
NMeFOSAA	ND		5.0	1.2	ng/L		08/16/24 08:07	08/17/24 08:26	1
NEtFOSAA	ND		5.0	1.3	ng/L		08/16/24 08:07	08/17/24 08:26	1
NMeFOSE	ND		4.0	1.4	ng/L		08/16/24 08:07	08/17/24 08:26	1
NEtFOSE	ND		2.0	0.86	ng/L		08/16/24 08:07	08/17/24 08:26	1
6:2 FTS	ND		5.0	2.5	ng/L		08/16/24 08:07	08/17/24 08:26	1
8:2 FTS	ND		2.0	0.46	ng/L		08/16/24 08:07	08/17/24 08:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		08/16/24 08:07	08/17/24 08:26	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		08/16/24 08:07	08/17/24 08:26	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		08/16/24 08:07	08/17/24 08:26	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		08/16/24 08:07	08/17/24 08:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C5 PFPeA	*103*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C2 PFHxA	*108*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C4 PFHpA	*96*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C4 PFOA	*104*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C5 PFNA	*101*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C2 PFDA	*97*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C2 PFUnA	*86*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C2 PFDoA	*77*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C2 PFTeDA	*56*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C3 PFBS	*86*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
18O2 PFHxS	*104*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C4 PFOS	*85*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C8 FOSA	*91*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d3-NMeFOSAA	*86*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d5-NEtFOSAA	*87*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d-N-MeFOSA-M	*80*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d-N-EtFOSA-M	*76*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d7-N-MeFOSE-M	*75*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
d9-N-EtFOSE-M	*82*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
M2-6:2 FTS	*141*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
M2-8:2 FTS	*117*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*
13C3 HFPO-DA	*98*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:26*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 FTS	ND		2.0	0.24	ng/L		08/16/24 08:07	08/19/24 21:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*137*		*25 - 150*	*08/16/24 08:07*	*08/19/24 21:07*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-114573-1

Client Sample ID: Eff-G-202408

Lab Sample ID: 320-114573-2
Date Collected: 08/13/24 08:02
Matrix: Water
Date Received: 08/15/24 09:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	7.0		5.0	1.9	mg/L			08/20/24 16:34	1

Client Sample ID: Eff-202408

Lab Sample ID: 320-114573-3
Date Collected: 08/13/24 23:59
Matrix: Water
Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	9.5		5.2	2.5	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluoropentanoic acid (PFPeA)	13		2.1	0.51	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorohexanoic acid (PFHxA)	14		2.1	0.60	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluoroheptanoic acid (PFHpA)	2.4		2.1	0.26	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorooctanoic acid (PFOA)	8.3		2.1	0.88	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorononanoic acid (PFNA)	ND		2.1	0.28	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorodecanoic acid (PFDA)	0.89	J	2.1	0.32	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluoroundecanoic acid (PFUnA)	ND		2.1	1.1	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorododecanoic acid (PFDoA)	ND		2.1	0.57	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.1	1.3	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.1	0.75	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorobutanesulfonic acid (PFBS)	4.9		2.1	0.21	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluoropentanesulfonic acid (PFPeS)	0.70	J	2.1	0.31	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorohexanesulfonic acid (PFHxS)	8.6		2.1	0.59	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.1	0.20	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorooctanesulfonic acid (PFOS)	6.1		2.1	0.56	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorononanesulfonic acid (PFNS)	ND		2.1	0.38	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.1	0.33	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.1	1.0	ng/L		08/16/24 08:07	08/17/24 08:39	1
Perfluorooctanesulfonamide (FOSA)	ND		2.1	1.0	ng/L		08/16/24 08:07	08/17/24 08:39	1
NEtFOSA	ND		2.1	0.90	ng/L		08/16/24 08:07	08/17/24 08:39	1
NMeFOSA	ND		2.1	0.44	ng/L		08/16/24 08:07	08/17/24 08:39	1
NMeFOSAA	ND		5.2	1.2	ng/L		08/16/24 08:07	08/17/24 08:39	1
NEtFOSAA	ND		5.2	1.3	ng/L		08/16/24 08:07	08/17/24 08:39	1
NMeFOSE	ND		4.1	1.4	ng/L		08/16/24 08:07	08/17/24 08:39	1
NEtFOSE	ND		2.1	0.88	ng/L		08/16/24 08:07	08/17/24 08:39	1
6:2 FTS	ND		5.2	2.6	ng/L		08/16/24 08:07	08/17/24 08:39	1
8:2 FTS	ND		2.1	0.47	ng/L		08/16/24 08:07	08/17/24 08:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.1	0.41	ng/L		08/16/24 08:07	08/17/24 08:39	1
HFPO-DA (GenX)	ND		4.1	1.5	ng/L		08/16/24 08:07	08/17/24 08:39	1
9Cl-PF3ONS	ND		2.1	0.25	ng/L		08/16/24 08:07	08/17/24 08:39	1
11Cl-PF3OUdS	ND		2.1	0.33	ng/L		08/16/24 08:07	08/17/24 08:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*75*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C5 PFPeA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C2 PFHxA	*109*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*

Client Sample ID: Eff-202408

Lab Sample ID: 320-114573-3

Date Collected: 08/13/24 23:59
Matrix: Water
Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*98*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C4 PFOA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C5 PFNA	*95*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C2 PFDA	*98*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C2 PFUnA	*83*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C2 PFDoA	*79*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C2 PFTeDA	*53*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C3 PFBS	*88*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
18O2 PFHxS	*97*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C4 PFOS	*93*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C8 FOSA	*93*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d3-NMeFOSAA	*82*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d-N-MeFOSA-M	*80*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d-N-EtFOSA-M	*78*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d7-N-MeFOSE-M	*75*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
d9-N-EtFOSE-M	*81*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
M2-6:2 FTS	*142*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
M2-8:2 FTS	*111*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*
13C3 HFPO-DA	*99*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:39*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 FTS	ND		2.1	0.25	ng/L		08/16/24 08:07	08/19/24 21:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*152*	**5+*	*25 - 150*	*08/16/24 08:07*	*08/19/24 21:21*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**4.4**	**J**	5.0	1.9	mg/L			08/20/24 16:37	1

Client Sample ID: HPLC GRADE WATER-202408

Lab Sample ID: 320-114573-4

Date Collected: 08/13/24 08:15
Matrix: Water
Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		5.0	2.4	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	1.3	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		08/16/24 08:07	08/17/24 08:51	1

Client Sample ID: HPLC GRADE WATER-202408

Lab Sample ID: 320-114573-4

Date Collected: 08/13/24 08:15

Matrix: Water

Date Received: 08/15/24 09:25

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.30	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.0	0.19	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.37	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.0	0.97	ng/L		08/16/24 08:07	08/17/24 08:51	1
Perfluorooctanesulfonamide (FOSA)	ND		2.0	0.98	ng/L		08/16/24 08:07	08/17/24 08:51	1
NEtFOSA	ND		2.0	0.87	ng/L		08/16/24 08:07	08/17/24 08:51	1
NMeFOSA	ND		2.0	0.43	ng/L		08/16/24 08:07	08/17/24 08:51	1
NMeFOSAA	ND		5.0	1.2	ng/L		08/16/24 08:07	08/17/24 08:51	1
NEtFOSAA	ND		5.0	1.3	ng/L		08/16/24 08:07	08/17/24 08:51	1
NMeFOSE	ND		4.0	1.4	ng/L		08/16/24 08:07	08/17/24 08:51	1
NEtFOSE	ND		2.0	0.85	ng/L		08/16/24 08:07	08/17/24 08:51	1
4:2 FTS	ND		2.0	0.24	ng/L		08/16/24 08:07	08/17/24 08:51	1
6:2 FTS	ND		5.0	2.5	ng/L		08/16/24 08:07	08/17/24 08:51	1
8:2 FTS	ND		2.0	0.46	ng/L		08/16/24 08:07	08/17/24 08:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		08/16/24 08:07	08/17/24 08:51	1
HFPO-DA (GenX)	ND		4.0	1.5	ng/L		08/16/24 08:07	08/17/24 08:51	1
9Cl-PF3ONS	ND		2.0	0.24	ng/L		08/16/24 08:07	08/17/24 08:51	1
11Cl-PF3OUdS	ND		2.0	0.32	ng/L		08/16/24 08:07	08/17/24 08:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C5 PFPeA	*103*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C2 PFHxA	*98*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C4 PFHpA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C4 PFOA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C5 PFNA	*101*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C2 PFDA	*100*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C2 PFUnA	*89*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C2 PFDoA	*97*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C2 PFTeDA	*94*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C3 PFBS	*86*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
18O2 PFHxS	*105*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C4 PFOS	*94*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C8 FOSA	*98*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d3-NMeFOSAA	*86*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d5-NEtFOSAA	*84*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d-N-MeFOSA-M	*90*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d-N-EtFOSA-M	*80*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d7-N-MeFOSE-M	*99*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
d9-N-EtFOSE-M	*103*		*10 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
M2-4:2 FTS	*97*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
M2-6:2 FTS	*106*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
M2-8:2 FTS	*94*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*
13C3 HFPO-DA	*97*		*25 - 150*	*08/16/24 08:07*	*08/17/24 08:51*	*1*

September 2024

Data Quality and Usability Review – September 2024

Data Reviewer: Kristen Morin
Peer Reviewer: Jeff Ramey
Date: 11/7/2024

Madison Metropolitan Sewerage District (MMSD) collected influent, effluent, and biosolids samples at the Nine Springs wastewater treatment plant on September 16 and 17, 2024 as part of ongoing monitoring activities conducted by TRC. Samples were analyzed for the standard list of Wisconsin's 33 per- and polyfluoroalkyl substances (PFAS) and total oxidizable precursor (TOP) assay PFAS by Eurofins in West Sacramento, California and total suspended solids (TSS) by Eurofins in Chicago, Illinois. The laboratory analytical results were reported in laboratory SDG 320-115509-1 (Revision 1, dated 10/17/24).

Samples included in this review are listed below:

- BIO-A-22-202409
- BIO-A-24-202409
- EFF-202409
- INF-07-202409
- INF-11-202409
- INF-COMP-202409
- EB02-202409
- BIO-A-23-202409
- BIO-B-202409
- INF-02-202409
- INF-08-202409
- INF-18-202409
- EB01-202409

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
PFAS TOP Assay (33 Analytes)	Laboratory SOP using Isotope Dilution/WI Method Criteria
Total Suspended Solids (TSS)	Standard Method (SM) 2540D
Total Solids*	ASTM D 2216*

Notes:

* The laboratory does not hold NELAP accreditation for total solids.

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data

in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The revised data package was found to be complete as received from the laboratory with the following note. The sample identification (ID) on the container label for the sample EFF-202409 did not match the information listed on the Chain-of-Custody (COC); the container label for this sample listed the sample ID as EFF-COMP-202409. The sample was logged in according to the ID listed on the COC.
- The cooler temperatures upon receipt at the laboratories were within the acceptance criteria (< 10°C).
  - Select samples were not shipped to the main laboratory, West Sacramento, CA, until one to two days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the main laboratory. No validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the main laboratory and were received at acceptable temperatures by the laboratory.
- A method blank was analyzed with each analytical batch for PFAS (total and TOP assay) and TSS. The following table summarizes the compounds detected in the method blanks, the associated samples, and the validation actions.

Blank ID	Compound	Blank Concentration	Validation Action
MB 320-801202/1-A (post-TOP assay)	PFBA	9.09 J ng/L	The positive post-TOP assay results for PFBA, PFPeA, PFHxA, PFHpA, and PFOA in sample EFF-202409 were qualified as nondetects (U) at the reported concentrations since the results were > the QL and <10x the blank concentrations.
	PFPeA	7.66 ng/L	
	PFHxA	4.41 J ng/L	
	PFHpA	3.70 J ng/L	
	PFOA	3.76 J ng/L	
Associated sample: EFF-202409			
MB 320-801580/1-A (post-TOP assay)	PFBA	0.397 J µg/Kg	No validation actions were required on this basis since the results for PFBA were >10x the blank concentration in the post-TOP assay analyses of the associated samples.
Associated samples: BIO-A-22-202409, BIO-A-23-202409, BIO-A-24-202409, BIO-B-202409			

- Two equipment blanks (EB01-202409 and EB02-202409) were collected and analyzed for total PFAS. No target compounds were detected in the equipment blanks.
- All samples were extracted and/or prepared and analyzed within the holding time.
- The LCS and LCSD percent recoveries (%Rs) and relative percent differences (RPDs), as applicable, for all analytes were within the laboratory's acceptance limits except as noted in the table below. Note that the laboratory's acceptance limits for TOP assay LCS/LCSDs were different than those specified in the WI Method Criteria; the laboratory's acceptance limits are listed below but the WI Method Criteria (60-135%) were also used in the evaluation of the data.

LCS/LCSD ID	Compound	LCS/ LCSD %Rs	RPD (%)	LCS/LCSD %R/RPD Limits	Validation Actions
LCS 320-801201/2-A/ LCSD 320-801201/3-A (pre-TOP assay)	NEtFOSA	52/49	-	78-168/-	The nondetect results for pre-TOP assay NEtFOSA and pre-TOP assay NMeFOSA were qualified as estimated (UJ) in sample EFF-202409.
	NMeFOSA	57/53	-	67-154/-	
Associated sample: EFF-202409					

LCS/LCSD ID	Compound	LCS/ LCSD %Rs	RPD (%)	LCS/LCSD %R/RPD Limits	Validation Actions
LCS 320-801202/2-A/ LCSD 320-801202/3-A (post-TOP assay)*	PFDA	129/-	-	130-190/-	Professional judgement was used and no validation actions were taken on this basis since these compounds recovered within the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%. See **Additional note** below.
	PFTrDA	82/-	-	85-145/-	
	11Cl-PF3OUdS	53/-	-	45-105/-	Professional judgement was used and the nondetect result for post-TOP assay 11Cl-PF3OUdS was qualified as estimated (UJ) in sample EFF-202409 since this compound recovered below the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%.
	NEtFOSAA	-/-	51	-/30	No validation action was required on this basis since post-TOP assay NEtFOSAA was not detected in sample EFF-202409.
Associated sample: EFF-202409					
LCS 320-801580/2-A/ LCSD 320-801580/3-A (post-TOP assay)	PFHxA	195/199	-	208-257/-	Professional judgement was used and the positive results for post-TOP assay PFHxA and post-TOP assay PFHpA were qualified as estimated (J) in samples BIO-A-22-202409, BIO-A-23-202409, BIO-A-24-202409, and BIO-B-202409. See **Additional note** below.
	PFHpA	186/181	-	189-267/-	
	11Cl-PF3OUdS	59/-	-	46-106/-	Professional judgement was used and the nondetect results for post-TOP assay 11Cl-PF3OUdS were qualified as estimated (UJ) in samples BIO-A-22-202409, BIO-A-23-202409, BIO-A-24-202409, and BIO-B-202409 since this compound recovered below the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%.
	FOSA	-/-	36	-/30	No validation action was required on this basis since the listed compounds were not detected in the post-TOP assay analyses of the associated samples.
	8:2 FTS	-/-	42	-/30	
	NMeFOSE	-/-	200	-/30	
Associated samples: BIO-A-22-202409, BIO-A-23-202409, BIO-A-24-202409, BIO-B-202409					
-: Met criteria					
Additional note: The laboratory also stated in the case narrative that enhanced post-TOP assay LCS/LCSD %Rs for several additional compounds (PFPeA, PFHxA, PFHpA, PFOA, PFNA, and PFDA, also known as perfluoroalkyl carboxylic acids [PFCAs]), were consistent with the expected oxidation of the precursor analytes. Although the %Rs for several additional PFCAs were above the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%, these compounds were within the laboratory's acceptance criteria; therefore, these post-TOP assay LCS/LCSD %Rs were still considered to be in control as a result of the additional precursors added to the spiking solution. It should also be noted that the laboratory stated in the case narrative that zero %R of precursor analytes (i.e., ADONA, 4:2 FTS, 6:2 FTS, 8:2 FTS, FOSA, NMeFOSAA, NEtFOSAA, NEtFOSA, NMeFOSA, NMeFOSE, and NEtFOSE) is also expected due to the oxidation of these compounds during the TOP Assay procedure; 0 %R was observed for the listed precursors. No validation actions were taken on this basis.					

- MS/MSD analyses were not performed on a sample from this data set.

- The reverse surrogate (M2-4:2 FTS) was within the laboratory's acceptance limits (0-10%) in the post-TOP assay analyses. The following table summarizes the remaining isotopically labeled surrogate %Rs that were outside of the laboratory's acceptance limits, the associated samples, and the validation actions.

Sample ID	Surrogate	%R	%R Acceptance Limits	Validation Action*
INF-02-202409 (total PFAS)	13C2 PFTeDA	18	25-150	The nondetect results for total PFTeA were qualified as estimated (UJ) in samples INF-02-202409, INF-07-202409, INF-08-202409, INF-11-202409, INF-18-202409, and INF-COMP-202409.
INF-07-202409 (total PFAS)		24		
INF-08-202409 (total PFAS)		17		
INF-11-202409 (total PFAS)		16		
INF-18-202409 (total PFAS)		17		
INF-COMP-202409 (total PFAS)		19		
INF-02-202409 (total PFAS)	M2-6:2 FTS	167		No validation action was required on this basis since 6:2 FTS was not detected in the total PFAS analyses of these samples.
INF-08-202409 (total PFAS)		156		
INF-COMP-202409 (total PFAS)		153		
BIO-A-22-202409 (total PFAS)	M2-4:2 FTS	153		No validation action was required on this basis since 4:2 FTS was not detected in the total PFAS analysis of this sample.
	M2-6:2 FTS	159		The positive result for total 6:2 FTS was qualified as estimated (J) in sample BIO-A-22-202409.
BIO-B-202409 (total PFAS)	M2-4:2 FTS	191		No validation action was required on this basis since 4:2 FTS and 6:2 FTS were not detected in the total PFAS analysis of this sample.
	M2-6:2 FTS	213		
BIO-B-202409 (pre-TOP assay)	M2-4:2 FTS	156		No validation action was required on this basis since 4:2 FTS, 6:2 FTS, and 8:2 FTS were not detected in the pre-TOP assay analysis of this sample.
	M2-6:2 FTS	191		
	M2-8:2 FTS	160		
BIO-A-23-202409 (total PFAS)	M2-4:2 FTS	207		No validation action was required on this basis since 4:2 FTS and 8:2 FTS were not detected in the total PFAS analysis of this sample.
	M2-8:2 FTS	162		
BIO-A-23-202409 (pre-TOP assay)	M2-4:2 FTS	158		No validation action was required on this basis since 4:2 FTS was not detected in the pre-TOP assay analysis of this sample.
	M2-6:2 FTS	181		The positive results for pre-TOP assay 6:2 FTS and pre-TOP assay 8:2 FTS were qualified as estimated (J) in sample BIO-A-23-202409.
	M2-8:2 FTS	155		
BIO-A-24-202409 (total PFAS)	M2-4:2 FTS	225		No validation action was required on this basis since 4:2 FTS was not detected in the total PFAS analysis of this sample.
	M2-6:2 FTS	187		The positive result for total 6:2 FTS was qualified as estimated (J) in sample BIO-A-24-202409.
BIO-A-24-202409 (pre-TOP assay)	M2-6:2 FTS	160	25-150	No validation action was required on this basis since 6:2 FTS was not detected in the pre-TOP assay analysis of this sample.

* Note that select results were also qualified as estimated (J) by the laboratory due to detection between the method detection limit (MDL) and QL.

- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was performed on sample EFF-202409 for TSS. All criteria were met.
- The laboratory noted the following observations in the case narrative. No validation actions were taken on this basis.
  - Sample EFF-202409 was yellow in color and had particulates present in the bottle prior to extraction for pre- and post-TOP assay.
  - Samples INF-02-202409, INF-07-202409, INF-08-202409, INF-11-202409, INF-18-202409, INF-COMP-202409, and EFF-202409 were yellow in color and contained particulates in the bottle prior to extraction and were yellow in color after extraction/final volume for total PFAS. Further, during the solid phase extraction (SPE) process, these samples contained non-settable particulates which clogged the SPE column for total PFAS. The volumes of the samples that was extracted via SPE prior to the clogging of the SPE cartridge are as follows: 74%, 61%, 76%, 55%, 57%, and 72%. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge was then extracted using the elution solvent. The laboratory confirmed during previous reviews that samples are spiked with extracted internal standards (or isotopically labeled surrogates) prior to filtration through the SPE column; thus, no validation actions were taken on this basis.
  - Sample EB02-202409 was observed to have floating particulates present in the sample bottle prior to extraction for total PFAS.
  - Samples BIOA-22-202409, BIO-B-202409, BIO-A-23-202409, and BIO-A-24-202409 were light yellow in color following concentration for total PFAS.
- Select sample QLs were outside of the ranges of QLs suggested in the SAB of 2-5 ng/L and 1-5 ug/kg per individual PFAS due to sample volume, low total solids, and/or dilution (as noted below).
- A 10-fold dilution was performed on sample BIO-A-23-202409 for total 6:2 FTS and total 8:2 FTS due to high isotopically labeled surrogate recoveries in the undiluted analysis (as stated in an e-mail from the laboratory prior to submittal of the laboratory report). QLs were elevated accordingly by the laboratory.
- Due to the matrix, the initial volumes used for the following samples deviated from the standard procedure for total PFAS (i.e., 1.16-1.48 grams of sample was extracted versus the typical 5 grams): BIOA-22-202409, BIO-B-202409, BIO-A-23-202409, and BIO-A-24-202409. QLs were elevated accordingly by the laboratory.
- The QLs for TSS in samples INF-02-202409, INF-07-202409, INF-08-202409, INF-11-202409, INF-18-202409, and INF-COMP-202409 were 7.2-10x higher than the associated method blank due to a reduced volume (50-70 mLs versus the typical 500 mL) used in the sample analyses. There is no adverse impact on the data usability due to this issue since TSS was detected above the QL in these samples. No validation action was required on this basis.
- The results for the following PFAS in the samples listed below were flagged with an “I” by the laboratory indicating that the ion transition ratio did not meet the acceptance limits; thus, the positive results for the listed PFAS in the samples listed below were qualified as estimated (J).
  - Total PFHxA in sample INF-02-202409;
  - Post-TOP assay PFNA* in samples EFF-202409 and BIO-B-202409;

- Total PFHxS* in samples BIO-A-22-202409, BIO-A-23-202409, BIO-A-24-202409, and BIO-B-202409;
- Total PFOS in samples BIO-A-22-202409, BIO-A-23-202409, and BIO-A-24-202409;
- Pre-TOP assay PFHxS* in sample BIO-B-202409;
- Pre-TOP assay PFOS in sample BIO-B-202409;
- Total PFDS* in samples BIO-A-23-202409 and BIO-A-24-202409;
- Pre-TOP assay PFNA* in samples BIO-A-23-202409 and BIO-A-24-202409;
- Pre-TOP assay PFUnA* in sample BIO-A-23-202409; and
- Total PFTrDA* in sample BIO-A-24-202409.

  * This result was also qualified as estimated (J) by the laboratory due to detection < the QL.

- The percent moisture for all biosolids samples in this data set was high (>70% moisture). The laboratory has been contacted during previous rounds of validation review regarding this issue and stated that the biosolids samples were agitated and then immediately aliquoted for extraction after agitation, indicating that a representative sample was extracted for PFAS analysis. No validation actions were taken on this basis.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: INF-02-202409

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.0**		4.4	2.1	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluoropentanoic acid (PFPeA)	**3.2**		1.8	0.43	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorohexanoic acid (PFHxA)	**4.5**	I J	1.8	0.51	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluoroheptanoic acid (PFHpA)	**0.97**	J	1.8	0.22	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorooctanoic acid (PFOA)	**2.0**		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.8	0.65	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorobutanesulfonic acid (PFBS)	**0.84**	J	1.8	0.18	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorohexanesulfonic acid (PFHxS)	**3.2**		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.86	ng/L		09/27/24 05:24	09/27/24 17:36	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.87	ng/L		09/27/24 05:24	09/27/24 17:36	1
NEtFOSA	ND		1.8	0.77	ng/L		09/27/24 05:24	09/27/24 17:36	1
NMeFOSA	ND		1.8	0.38	ng/L		09/27/24 05:24	09/27/24 17:36	1
NMeFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 17:36	1
NEtFOSAA	ND		4.4	1.2	ng/L		09/27/24 05:24	09/27/24 17:36	1
NMeFOSE	ND		3.5	1.2	ng/L		09/27/24 05:24	09/27/24 17:36	1
NEtFOSE	ND		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 17:36	1
4:2 FTS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 17:36	1
6:2 FTS	ND		4.4	2.2	ng/L		09/27/24 05:24	09/27/24 17:36	1
8:2 FTS	ND		1.8	0.41	ng/L		09/27/24 05:24	09/27/24 17:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		09/27/24 05:24	09/27/24 17:36	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		09/27/24 05:24	09/27/24 17:36	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 17:36	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 17:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C5 PFPeA	*77*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C2 PFHxA	*85*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C4 PFHpA	*91*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C4 PFOA	*91*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C5 PFNA	*85*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C2 PFDA	*79*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C2 PFUnA	*64*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C2 PFDoA	*50*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C2 PFTeDA	*18*	*5-	*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C3 PFBS	*72*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*

Client Sample ID: INF-02-202409

Lab Sample ID: 320-115509-1

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*78*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C4 PFOS	*73*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C8 FOSA	*61*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d3-NMeFOSAA	*54*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d5-NEtFOSAA	*67*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d-N-MeFOSA-M	*53*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d-N-EtFOSA-M	*40*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d7-N-MeFOSE-M	*46*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
d9-N-EtFOSE-M	*38*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
M2-4:2 FTS	*108*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
M2-6:2 FTS	*167*	**5+*	*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
M2-8:2 FTS	*129*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*
13C3 HFPO-DA	*83*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:36*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**270**		50	19	mg/L			09/23/24 15:45	1

Client Sample ID: INF-07-202409

Lab Sample ID: 320-115509-2

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14**		4.3	2.1	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluoropentanoic acid (PFPeA)	**6.2**		1.7	0.42	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorohexanoic acid (PFHxA)	**14**		1.7	0.50	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluoroheptanoic acid (PFHpA)	**2.1**		1.7	0.21	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorooctanoic acid (PFOA)	**3.8**		1.7	0.73	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.7	0.63	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorobutanesulfonic acid (PFBS)	**5.9**		1.7	0.17	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.26	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorohexanesulfonic acid (PFHxS)	**4.3**		1.7	0.49	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorooctanesulfonic acid (PFOS)	**2.9**		1.7	0.46	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.32	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.83	ng/L		09/27/24 05:24	09/27/24 17:50	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.84	ng/L		09/27/24 05:24	09/27/24 17:50	1
NEtFOSA	ND		1.7	0.75	ng/L		09/27/24 05:24	09/27/24 17:50	1

Client Sample ID: INF-07-202409

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		1.7	0.37	ng/L		09/27/24 05:24	09/27/24 17:50	1
NMeFOSAA	ND		4.3	1.0	ng/L		09/27/24 05:24	09/27/24 17:50	1
NEtFOSAA	ND		4.3	1.1	ng/L		09/27/24 05:24	09/27/24 17:50	1
NMeFOSE	ND		3.4	1.2	ng/L		09/27/24 05:24	09/27/24 17:50	1
NEtFOSE	ND		1.7	0.73	ng/L		09/27/24 05:24	09/27/24 17:50	1
4:2 FTS	ND		1.7	0.21	ng/L		09/27/24 05:24	09/27/24 17:50	1
6:2 FTS	ND		4.3	2.1	ng/L		09/27/24 05:24	09/27/24 17:50	1
8:2 FTS	ND		1.7	0.39	ng/L		09/27/24 05:24	09/27/24 17:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		09/27/24 05:24	09/27/24 17:50	1
HFPO-DA (GenX)	ND		3.4	1.3	ng/L		09/27/24 05:24	09/27/24 17:50	1
9Cl-PF3ONS	ND		1.7	0.21	ng/L		09/27/24 05:24	09/27/24 17:50	1
11Cl-PF3OUdS	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 17:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*60*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C5 PFPeA	*71*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C2 PFHxA	*79*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C4 PFHpA	*80*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C4 PFOA	*83*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C5 PFNA	*80*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C2 PFDA	*71*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C2 PFUnA	*65*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C2 PFDoA	*53*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C2 PFTeDA	*24*	**5-*	*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C3 PFBS	*69*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
18O2 PFHxS	*75*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C4 PFOS	*70*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C8 FOSA	*60*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d3-NMeFOSAA	*53*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d5-NEtFOSAA	*68*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d-N-MeFOSA-M	*54*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d-N-EtFOSA-M	*45*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d7-N-MeFOSE-M	*48*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
d9-N-EtFOSE-M	*44*		*10 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
M2-4:2 FTS	*124*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
M2-6:2 FTS	*129*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
M2-8:2 FTS	*118*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*
13C3 HFPO-DA	*73*		*25 - 150*	*09/27/24 05:24*	*09/27/24 17:50*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**190**		36	14	mg/L			09/23/24 15:47	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: INF-08-202409

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.2**		4.3	2.1	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluoropentanoic acid (PFPeA)	**5.6**		1.7	0.42	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorohexanoic acid (PFHxA)	**5.6**		1.7	0.50	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluoroheptanoic acid (PFHpA)	**0.80**	**J**	1.7	0.22	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorooctanoic acid (PFOA)	**1.5**	**J**	1.7	0.73	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.95	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.7	0.63	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorobutanesulfonic acid (PFBS)	**1.6**	**J**	1.7	0.17	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.26	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorohexanesulfonic acid (PFHxS)	**1.9**		1.7	0.49	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.46	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.32	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.28	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.83	ng/L		09/27/24 05:24	09/27/24 18:04	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.84	ng/L		09/27/24 05:24	09/27/24 18:04	1
NEtFOSA	ND		1.7	0.75	ng/L		09/27/24 05:24	09/27/24 18:04	1
NMeFOSA	ND		1.7	0.37	ng/L		09/27/24 05:24	09/27/24 18:04	1
NMeFOSAA	ND		4.3	1.0	ng/L		09/27/24 05:24	09/27/24 18:04	1
NEtFOSAA	ND		4.3	1.1	ng/L		09/27/24 05:24	09/27/24 18:04	1
NMeFOSE	ND		3.4	1.2	ng/L		09/27/24 05:24	09/27/24 18:04	1
NEtFOSE	ND		1.7	0.73	ng/L		09/27/24 05:24	09/27/24 18:04	1
4:2 FTS	ND		1.7	0.21	ng/L		09/27/24 05:24	09/27/24 18:04	1
6:2 FTS	ND		4.3	2.2	ng/L		09/27/24 05:24	09/27/24 18:04	1
8:2 FTS	ND		1.7	0.40	ng/L		09/27/24 05:24	09/27/24 18:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		09/27/24 05:24	09/27/24 18:04	1
HFPO-DA (GenX)	ND		3.4	1.3	ng/L		09/27/24 05:24	09/27/24 18:04	1
9Cl-PF3ONS	ND		1.7	0.21	ng/L		09/27/24 05:24	09/27/24 18:04	1
11Cl-PF3OUdS	ND		1.7	0.28	ng/L		09/27/24 05:24	09/27/24 18:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C5 PFPeA	*67*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C2 PFHxA	*82*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C4 PFHpA	*83*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C4 PFOA	*88*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C5 PFNA	*86*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C2 PFDA	*77*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C2 PFUnA	*65*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C2 PFDoA	*49*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C2 PFTeDA	*17*	**5-*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C3 PFBS	*73*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*

Client Sample ID: INF-08-202409

Lab Sample ID: 320-115509-3

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*81*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C4 PFOS	*74*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C8 FOSA	*61*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d3-NMeFOSAA	*51*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d5-NEtFOSAA	*68*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d-N-MeFOSA-M	*50*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d-N-EtFOSA-M	*40*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d7-N-MeFOSE-M	*44*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
d9-N-EtFOSE-M	*39*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
M2-4:2 FTS	*102*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
M2-6:2 FTS	*156*	**5+*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
M2-8:2 FTS	*126*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*
13C3 HFPO-DA	*78*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:04*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		50	19	mg/L			09/23/24 15:49	1

Client Sample ID: INF-11-202409

Lab Sample ID: 320-115509-4

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.1**	**J**	4.3	2.0	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluoropentanoic acid (PFPeA)	**2.3**		1.7	0.42	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorohexanoic acid (PFHxA)	**2.5**		1.7	0.50	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluoroheptanoic acid (PFHpA)	**0.45**	**J**	1.7	0.21	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorooctanoic acid (PFOA)	**1.2**	**J**	1.7	0.73	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.23	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.26	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.94	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.7	0.62	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorobutanesulfonic acid (PFBS)	**0.82**	**J**	1.7	0.17	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.26	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorohexanesulfonic acid (PFHxS)	**2.0**		1.7	0.49	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.16	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.46	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.32	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.83	ng/L		09/27/24 05:24	09/27/24 18:18	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.84	ng/L		09/27/24 05:24	09/27/24 18:18	1
NEtFOSA	ND		1.7	0.74	ng/L		09/27/24 05:24	09/27/24 18:18	1
NMeFOSA	ND		1.7	0.37	ng/L		09/27/24 05:24	09/27/24 18:18	1

Client Sample ID: INF-11-202409

Lab Sample ID: 320-115509-4

Date Collected: 09/16/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSAA	ND		4.3	1.0	ng/L		09/27/24 05:24	09/27/24 18:18	1
NEtFOSAA	ND		4.3	1.1	ng/L		09/27/24 05:24	09/27/24 18:18	1
NMeFOSE	ND		3.4	1.2	ng/L		09/27/24 05:24	09/27/24 18:18	1
NEtFOSE	ND		1.7	0.73	ng/L		09/27/24 05:24	09/27/24 18:18	1
4:2 FTS	ND		1.7	0.20	ng/L		09/27/24 05:24	09/27/24 18:18	1
6:2 FTS	ND		4.3	2.1	ng/L		09/27/24 05:24	09/27/24 18:18	1
8:2 FTS	ND		1.7	0.39	ng/L		09/27/24 05:24	09/27/24 18:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		09/27/24 05:24	09/27/24 18:18	1
HFPO-DA (GenX)	ND		3.4	1.3	ng/L		09/27/24 05:24	09/27/24 18:18	1
9Cl-PF3ONS	ND		1.7	0.20	ng/L		09/27/24 05:24	09/27/24 18:18	1
11Cl-PF3OUdS	ND		1.7	0.27	ng/L		09/27/24 05:24	09/27/24 18:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C5 PFPeA	*63*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C2 PFHxA	*64*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C4 PFHpA	*69*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C4 PFOA	*66*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C5 PFNA	*67*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C2 PFDA	*60*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C2 PFUnA	*54*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C2 PFDoA	*45*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C2 PFTeDA	*16*	**5-*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C3 PFBS	*58*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
18O2 PFHxS	*61*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C4 PFOS	*57*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C8 FOSA	*45*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d3-NMeFOSAA	*42*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d5-NEtFOSAA	*53*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d-N-MeFOSA-M	*44*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d-N-EtFOSA-M	*32*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d7-N-MeFOSE-M	*39*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
d9-N-EtFOSE-M	*36*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
M2-4:2 FTS	*90*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
M2-6:2 FTS	*124*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
M2-8:2 FTS	*98*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*
13C3 HFPO-DA	*61*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:18*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		50	19	mg/L			09/23/24 15:51	1

Client Sample ID: INF-18-202409

Lab Sample ID: 320-115509-5

Date Collected: 09/16/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.7**		4.5	2.2	ng/L		09/27/24 05:24	09/27/24 18:32	1

Client Sample ID: INF-18-202409

Date Collected: 09/16/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-5

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**4.6**		1.8	0.44	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorohexanoic acid (PFHxA)	**7.4**		1.8	0.52	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluoroheptanoic acid (PFHpA)	**1.9**		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorooctanoic acid (PFOA)	**7.9**		1.8	0.76	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.99	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.8	0.66	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorobutanesulfonic acid (PFBS)	**3.5**		1.8	0.18	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluoropentanesulfonic acid (PFPeS)	**1.2**	**J**	1.8	0.27	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorohexanesulfonic acid (PFHxS)	**15**		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorooctanesulfonic acid (PFOS)	**7.1**		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.87	ng/L		09/27/24 05:24	09/27/24 18:32	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.88	ng/L		09/27/24 05:24	09/27/24 18:32	1
NEtFOSA	ND		1.8	0.78	ng/L		09/27/24 05:24	09/27/24 18:32	1
NMeFOSA	ND		1.8	0.39	ng/L		09/27/24 05:24	09/27/24 18:32	1
NMeFOSAA	ND		4.5	1.1	ng/L		09/27/24 05:24	09/27/24 18:32	1
NEtFOSAA	ND		4.5	1.2	ng/L		09/27/24 05:24	09/27/24 18:32	1
NMeFOSE	ND		3.6	1.3	ng/L		09/27/24 05:24	09/27/24 18:32	1
NEtFOSE	ND		1.8	0.76	ng/L		09/27/24 05:24	09/27/24 18:32	1
4:2 FTS	ND		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 18:32	1
6:2 FTS	**6.4**		4.5	2.2	ng/L		09/27/24 05:24	09/27/24 18:32	1
8:2 FTS	ND		1.8	0.41	ng/L		09/27/24 05:24	09/27/24 18:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		09/27/24 05:24	09/27/24 18:32	1
HFPO-DA (GenX)	ND		3.6	1.3	ng/L		09/27/24 05:24	09/27/24 18:32	1
9Cl-PF3ONS	ND		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 18:32	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		09/27/24 05:24	09/27/24 18:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C5 PFPeA	*62*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C2 PFHxA	*65*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C4 PFHpA	*67*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C4 PFOA	*64*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C5 PFNA	*67*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C2 PFDA	*60*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C2 PFUnA	*53*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C2 PFDoA	*47*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C2 PFTeDA	*17*	**5-*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*
13C3 PFBS	*54*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:32*	*1*

Client Sample ID: INF-18-202409

Lab Sample ID: 320-115509-5

Date Collected: 09/16/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	59		25 - 150	09/27/24 05:24	09/27/24 18:32	1
13C4 PFOS	53		25 - 150	09/27/24 05:24	09/27/24 18:32	1
13C8 FOSA	47		10 - 150	09/27/24 05:24	09/27/24 18:32	1
d3-NMeFOSAA	41		25 - 150	09/27/24 05:24	09/27/24 18:32	1
d5-NEtFOSAA	56		25 - 150	09/27/24 05:24	09/27/24 18:32	1
d-N-MeFOSA-M	44		10 - 150	09/27/24 05:24	09/27/24 18:32	1
d-N-EtFOSA-M	37		10 - 150	09/27/24 05:24	09/27/24 18:32	1
d7-N-MeFOSE-M	42		10 - 150	09/27/24 05:24	09/27/24 18:32	1
d9-N-EtFOSE-M	40		10 - 150	09/27/24 05:24	09/27/24 18:32	1
M2-4:2 FTS	81		25 - 150	09/27/24 05:24	09/27/24 18:32	1
M2-6:2 FTS	117		25 - 150	09/27/24 05:24	09/27/24 18:32	1
M2-8:2 FTS	90		25 - 150	09/27/24 05:24	09/27/24 18:32	1
13C3 HFPO-DA	63		25 - 150	09/27/24 05:24	09/27/24 18:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	220		50	19	mg/L			09/23/24 15:53	1

Client Sample ID: INF-COMP-202409

Lab Sample ID: 320-115509-6

Date Collected: 09/16/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	7.7		4.4	2.1	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluoropentanoic acid (PFPeA)	3.8		1.8	0.44	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorohexanoic acid (PFHxA)	7.4		1.8	0.52	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluoroheptanoic acid (PFHpA)	1.3	J	1.8	0.22	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorooctanoic acid (PFOA)	4.0		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.8	0.65	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorobutanesulfonic acid (PFBS)	2.2		1.8	0.18	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorohexanesulfonic acid (PFHxS)	6.6		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorooctanesulfonic acid (PFOS)	3.8		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.86	ng/L		09/27/24 05:24	09/27/24 18:46	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.87	ng/L		09/27/24 05:24	09/27/24 18:46	1
NEtFOSA	ND		1.8	0.77	ng/L		09/27/24 05:24	09/27/24 18:46	1

Client Sample ID: INF-COMP-202409

Lab Sample ID: 320-115509-6

Date Collected: 09/16/24 23:59

Matrix: Water

Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		1.8	0.38	ng/L		09/27/24 05:24	09/27/24 18:46	1
NMeFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 18:46	1
NEtFOSAA	ND		4.4	1.2	ng/L		09/27/24 05:24	09/27/24 18:46	1
NMeFOSE	ND		3.6	1.2	ng/L		09/27/24 05:24	09/27/24 18:46	1
NEtFOSE	ND		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 18:46	1
4:2 FTS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 18:46	1
6:2 FTS	ND		4.4	2.2	ng/L		09/27/24 05:24	09/27/24 18:46	1
8:2 FTS	ND		1.8	0.41	ng/L		09/27/24 05:24	09/27/24 18:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		09/27/24 05:24	09/27/24 18:46	1
HFPO-DA (GenX)	ND		3.6	1.3	ng/L		09/27/24 05:24	09/27/24 18:46	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 18:46	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 18:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*62*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C5 PFPeA	*81*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C2 PFHxA	*82*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C4 PFHpA	*86*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C4 PFOA	*84*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C5 PFNA	*84*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C2 PFDA	*78*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C2 PFUnA	*65*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C2 PFDoA	*52*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C2 PFTeDA	*19*	**5-*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C3 PFBS	*73*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
18O2 PFHxS	*75*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C4 PFOS	*69*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C8 FOSA	*57*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d3-NMeFOSAA	*50*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d5-NEtFOSAA	*65*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d-N-MeFOSA-M	*51*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d-N-EtFOSA-M	*40*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d7-N-MeFOSE-M	*48*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
d9-N-EtFOSE-M	*39*		*10 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
M2-4:2 FTS	*102*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
M2-6:2 FTS	*153*	**5+*	*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
M2-8:2 FTS	*113*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*
13C3 HFPO-DA	*83*		*25 - 150*	*09/27/24 05:24*	*09/27/24 18:46*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**240**		50	19	mg/L			09/23/24 15:55	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: EFF-202409

Date Collected: 09/17/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.1**		4.4	2.1	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluoropentanoic acid (PFPeA)	**20**		1.8	0.43	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorohexanoic acid (PFHxA)	**15**		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluoroheptanoic acid (PFHpA)	**1.8**		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorooctanoic acid (PFOA)	**6.6**		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.1	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.64	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorobutanesulfonic acid (PFBS)	**4.3**		1.8	0.18	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluoropentanesulfonic acid (PFPeS)	**0.38**	**J**	1.8	0.26	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorohexanesulfonic acid (PFHxS)	**7.0**		1.8	0.50	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorooctanesulfonic acid (PFOS)	**3.6**		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.85	ng/L		09/27/24 05:24	09/27/24 19:28	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.86	ng/L		09/27/24 05:24	09/27/24 19:28	1
NEtFOSA	ND		1.8	0.77	ng/L		09/27/24 05:24	09/27/24 19:28	1
NMeFOSA	ND		1.8	0.38	ng/L		09/27/24 05:24	09/27/24 19:28	1
NMeFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 19:28	1
NEtFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 19:28	1
NMeFOSE	ND		3.5	1.2	ng/L		09/27/24 05:24	09/27/24 19:28	1
NEtFOSE	ND		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 19:28	1
4:2 FTS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:28	1
6:2 FTS	ND		4.4	2.2	ng/L		09/27/24 05:24	09/27/24 19:28	1
8:2 FTS	ND		1.8	0.40	ng/L		09/27/24 05:24	09/27/24 19:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		09/27/24 05:24	09/27/24 19:28	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		09/27/24 05:24	09/27/24 19:28	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:28	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 19:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C5 PFPeA	*96*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C2 PFHxA	*105*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C4 PFHpA	*104*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C4 PFOA	*100*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C5 PFNA	*101*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C2 PFDA	*100*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C2 PFUnA	*94*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C2 PFDoA	*78*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C2 PFTeDA	*47*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*

Client Sample ID: EFF-202409

Lab Sample ID: 320-115509-7

Date Collected: 09/17/24 23:59

Matrix: Water

Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*94*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
18O2 PFHxS	*97*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C4 PFOS	*92*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C8 FOSA	*102*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d3-NMeFOSAA	*117*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d5-NEtFOSAA	*119*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d-N-MeFOSA-M	*97*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d-N-EtFOSA-M	*87*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d7-N-MeFOSE-M	*87*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
d9-N-EtFOSE-M	*80*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
M2-4:2 FTS	*113*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
M2-6:2 FTS	*81*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
M2-8:2 FTS	*77*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*
13C3 HFPO-DA	*100*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:28*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**13**		13	6.0	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluoropentanoic acid (PFPeA)	**16**		5.0	1.2	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorohexanoic acid (PFHxA)	**14**		5.0	1.4	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluoroheptanoic acid (PFHpA)	**2.1**	**J**	5.0	0.63	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorooctanoic acid (PFOA)	**8.7**		5.0	2.1	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorononanoic acid (PFNA)	ND		5.0	0.68	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorodecanoic acid (PFDA)	**0.91**	**J**	5.0	0.78	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	3.2	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	0.73	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorobutanesulfonic acid (PFBS)	**4.8**	**J**	5.0	0.50	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorohexanesulfonic acid (PFHxS)	**7.7**		5.0	0.43	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorooctanesulfonic acid (PFOS)	**4.5**	**J**	5.0	0.80	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		09/23/24 07:15	09/26/24 13:31	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	0.88	ng/L		09/23/24 07:15	09/26/24 13:31	1
NMeFOSAA	ND		13	3.0	ng/L		09/23/24 07:15	09/26/24 13:31	1
NEtFOSAA	ND		13	3.3	ng/L		09/23/24 07:15	09/26/24 13:31	1
4:2 FTS	ND		5.0	0.60	ng/L		09/23/24 07:15	09/26/24 13:31	1
6:2 FTS	ND		13	6.3	ng/L		09/23/24 07:15	09/26/24 13:31	1
8:2 FTS	ND		5.0	1.2	ng/L		09/23/24 07:15	09/26/24 13:31	1
NEtFOSA	ND	~~*~~ UJ	5.0	2.2	ng/L		09/23/24 07:15	09/26/24 13:31	1
NMeFOSA	ND	~~*~~ UJ	5.0	1.1	ng/L		09/23/24 07:15	09/26/24 13:31	1
NMeFOSE	ND		10	3.5	ng/L		09/23/24 07:15	09/26/24 13:31	1

Client Sample ID: EFF-202409

Lab Sample ID: 320-115509-7

Date Collected: 09/17/24 23:59

Matrix: Water

Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSE	ND		5.0	2.2	ng/L		09/23/24 07:15	09/26/24 13:31	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		09/23/24 07:15	09/26/24 13:31	1
9Cl-PF3ONS	ND		5.0	0.60	ng/L		09/23/24 07:15	09/26/24 13:31	1
11Cl-PF3OUdS	ND		5.0	0.80	ng/L		09/23/24 07:15	09/26/24 13:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		09/23/24 07:15	09/26/24 13:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*84*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C4 PFBA	*85*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C5 PFPeA	*92*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C2 PFHxA	*97*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C4 PFHpA	*97*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C4 PFOA	*91*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C5 PFNA	*90*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C2 PFDA	*91*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C2 PFUnA	*83*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C2 PFDoA	*76*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C2 PFTeDA	*66*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C3 PFBS	*87*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
18O2 PFHxS	*89*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C4 PFOS	*84*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d3-NMeFOSAA	*73*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d5-NEtFOSAA	*81*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
M2-4:2 FTS	*115*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
M2-6:2 FTS	*94*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
M2-8:2 FTS	*98*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d-N-MeFOSA-M	*76*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d-N-EtFOSA-M	*70*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d7-N-MeFOSE-M	*69*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
d9-N-EtFOSE-M	*68*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*
13C3 HFPO-DA	*89*		*25 - 150*	*09/23/24 07:15*	*09/26/24 13:31*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**36**	~~B~~ - U	13	6.0	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluoropentanoic acid (PFPeA)	**36**	~~B~~ - U	5.0	1.2	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorohexanoic acid (PFHxA)	**29**	~~B~~ - U	5.0	1.4	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluoroheptanoic acid (PFHpA)	**12**	~~B~~ - U	5.0	0.63	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorooctanoic acid (PFOA)	**15**	~~B~~ - U	5.0	2.1	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorononanoic acid (PFNA)	**3.2**	~~J~~ I J	5.0	0.68	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorodecanoic acid (PFDA)	**1.8**	J ~~*~~	5.0	0.78	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	2.8	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorotridecanoic acid (PFTrDA)	ND	~~*~~	5.0	3.2	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	0.73	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorobutanesulfonic acid (PFBS)	**3.7**	J	5.0	0.50	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	0.75	ng/L		09/23/24 07:21	09/26/24 16:06	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: EFF-202409

Date Collected: 09/17/24 23:59
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	**7.6**		5.0	0.43	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	0.48	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorooctanesulfonic acid (PFOS)	**4.4**	**J**	5.0	0.80	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	0.40	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.4	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		09/23/24 07:21	09/26/24 16:06	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	0.88	ng/L		09/23/24 07:21	09/26/24 16:06	1
NMeFOSAA	ND		13	3.0	ng/L		09/23/24 07:21	09/26/24 16:06	1
NEtFOSAA	ND	~~*1~~	13	3.3	ng/L		09/23/24 07:21	09/26/24 16:06	1
4:2 FTS	ND		5.0	0.60	ng/L		09/23/24 07:21	09/26/24 16:06	1
6:2 FTS	ND		13	6.3	ng/L		09/23/24 07:21	09/26/24 16:06	1
8:2 FTS	ND		5.0	1.2	ng/L		09/23/24 07:21	09/26/24 16:06	1
NEtFOSA	ND		5.0	2.2	ng/L		09/23/24 07:21	09/26/24 16:06	1
NMeFOSA	ND		5.0	1.1	ng/L		09/23/24 07:21	09/26/24 16:06	1
NMeFOSE	ND		10	3.5	ng/L		09/23/24 07:21	09/26/24 16:06	1
NEtFOSE	ND		5.0	2.2	ng/L		09/23/24 07:21	09/26/24 16:06	1
HFPO-DA (GenX)	ND		10	3.8	ng/L		09/23/24 07:21	09/26/24 16:06	1
9Cl-PF3ONS	ND		5.0	0.60	ng/L		09/23/24 07:21	09/26/24 16:06	1
11Cl-PF3OUdS	ND	UJ	5.0	0.80	ng/L		09/23/24 07:21	09/26/24 16:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.0	ng/L		09/23/24 07:21	09/26/24 16:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*80*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C4 PFBA	*91*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C5 PFPeA	*92*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C2 PFHxA	*94*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C4 PFHpA	*99*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C4 PFOA	*94*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C5 PFNA	*94*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C2 PFDA	*96*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C2 PFUnA	*85*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C2 PFDoA	*81*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C2 PFTeDA	*77*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C3 PFBS	*88*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
18O2 PFHxS	*95*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C4 PFOS	*92*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d3-NMeFOSAA	*79*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d5-NEtFOSAA	*81*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
M2-6:2 FTS	*75*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
M2-8:2 FTS	*95*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d-N-MeFOSA-M	*65*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d-N-EtFOSA-M	*61*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d7-N-MeFOSE-M	*73*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
d9-N-EtFOSE-M	*74*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*
13C3 HFPO-DA	*90*		*25 - 150*	*09/23/24 07:21*	*09/26/24 16:06*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: EFF-202409

Lab Sample ID: 320-115509-7
Date Collected: 09/17/24 23:59
Matrix: Water
Date Received: 09/19/24 09:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	8.4		5.0	1.9	mg/L			09/24/24 16:52	1

Client Sample ID: EB01-202409

Lab Sample ID: 320-115509-8
Date Collected: 09/17/24 07:10
Matrix: Water
Date Received: 09/19/24 09:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.5	2.1	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.44	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.52	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.76	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.2	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.29	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.87	ng/L		09/27/24 05:24	09/27/24 19:42	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.88	ng/L		09/27/24 05:24	09/27/24 19:42	1
NEtFOSA	ND		1.8	0.78	ng/L		09/27/24 05:24	09/27/24 19:42	1
NMeFOSA	ND		1.8	0.38	ng/L		09/27/24 05:24	09/27/24 19:42	1
NMeFOSAA	ND		4.5	1.1	ng/L		09/27/24 05:24	09/27/24 19:42	1
NEtFOSAA	ND		4.5	1.2	ng/L		09/27/24 05:24	09/27/24 19:42	1
NMeFOSE	ND		3.6	1.3	ng/L		09/27/24 05:24	09/27/24 19:42	1
NEtFOSE	ND		1.8	0.76	ng/L		09/27/24 05:24	09/27/24 19:42	1
4:2 FTS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:42	1
6:2 FTS	ND		4.5	2.2	ng/L		09/27/24 05:24	09/27/24 19:42	1
8:2 FTS	ND		1.8	0.41	ng/L		09/27/24 05:24	09/27/24 19:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		09/27/24 05:24	09/27/24 19:42	1
HFPO-DA (GenX)	ND		3.6	1.3	ng/L		09/27/24 05:24	09/27/24 19:42	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:42	1
11Cl-PF3OUdS	ND		1.8	0.29	ng/L		09/27/24 05:24	09/27/24 19:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C5 PFPeA	*101*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C2 PFHxA	*105*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C4 PFHpA	*103*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*

Client Sample ID: EB01-202409

Lab Sample ID: 320-115509-8

Date Collected: 09/17/24 07:10
Date Received: 09/19/24 09:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*101*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C5 PFNA	*103*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C2 PFDA	*103*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C2 PFUnA	*100*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C2 PFDoA	*94*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C2 PFTeDA	*85*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C3 PFBS	*95*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
18O2 PFHxS	*98*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C4 PFOS	*96*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C8 FOSA	*106*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
d3-NMeFOSAA	*127*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
d5-NEtFOSAA	*120*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
d-N-MeFOSA-M	*98*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
d-N-EtFOSA-M	*95*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
d7-N-MeFOSE-M	*101*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
d9-N-EtFOSE-M	*100*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
M2-4:2 FTS	*81*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
M2-6:2 FTS	*72*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
M2-8:2 FTS	*74*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*
13C3 HFPO-DA	*107*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:42*	*1*

Client Sample ID: BIO-A-22-202409

Lab Sample ID: 320-115509-9

Date Collected: 09/17/24 07:37
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**10**		3.2	0.73	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluoropentanoic acid (PFPeA)	**22**		3.2	0.65	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorohexanoic acid (PFHxA)	**40**		3.2	0.49	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluoroheptanoic acid (PFHpA)	**4.1**		3.2	0.61	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorooctanoic acid (PFOA)	**33**		3.2	0.85	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorononanoic acid (PFNA)	**2.0**	**J**	3.2	0.35	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorodecanoic acid (PFDA)	**15**		3.2	0.77	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluoroundecanoic acid (PFUnA)	**1.8**	**J**	3.2	0.67	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorododecanoic acid (PFDoA)	**4.8**		3.2	0.48	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorotridecanoic acid (PFTrDA)	**0.57**	**J**	3.2	0.33	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorotetradecanoic acid (PFTeA)	**1.3**	**J**	3.2	0.59	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorobutanesulfonic acid (PFBS)	**3.4**		3.2	0.61	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.2	0.59	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorohexanesulfonic acid (PFHxS)	**1.8**	~~**J**~~ **I** J	3.2	0.46	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.2	0.78	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorooctanesulfonic acid (PFOS)	**18**	**I** J	3.2	0.69	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1

Client Sample ID: BIO-A-22-202409

Date Collected: 09/17/24 07:37
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-9

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanesulfonic acid (PFNS)	ND		3.2	0.46	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorodecanesulfonic acid (PFDS)	**2.2**	**J**	3.2	0.83	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.2	0.75	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
Perfluorooctanesulfonamide (FOSA)	**1.1**	**J**	3.2	0.53	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NEtFOSA	ND		3.2	0.75	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NMeFOSA	ND		3.2	0.78	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NMeFOSAA	**36**		3.2	0.37	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NEtFOSAA	**12**		3.2	0.77	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NMeFOSE	**9.3**		3.2	0.75	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
NEtFOSE	**3.1**	**J**	3.2	0.45	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
4:2 FTS	ND		3.2	0.81	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
6:2 FTS	**2.2**	~~J~~ -- J	3.2	0.43	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
8:2 FTS	**1.3**	**J**	3.2	0.56	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.2	0.62	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
HFPO-DA (GenX)	ND		3.2	0.65	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
9Cl-PF3ONS	ND		3.2	0.56	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1
11Cl-PF3OUdS	ND		3.2	0.49	ug/Kg	☼	09/25/24 04:42	09/26/24 02:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C5 PFPeA	*80*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C2 PFHxA	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C4 PFHpA	*83*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C4 PFOA	*83*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C5 PFNA	*79*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C2 PFDA	*59*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C2 PFUnA	*89*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C2 PFDoA	*71*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C2 PFTeDA	*56*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C3 PFBS	*76*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
18O2 PFHxS	*81*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C4 PFOS	*67*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C8 FOSA	*59*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d3-NMeFOSAA	*72*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d5-NEtFOSAA	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d-N-MeFOSA-M	*55*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d-N-EtFOSA-M	*58*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d7-N-MeFOSE-M	*52*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
d9-N-EtFOSE-M	*66*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
M2-4:2 FTS	*153*	**5+*	*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
M2-6:2 FTS	*159*	**5+*	*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
M2-8:2 FTS	*70*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*
13C3 HFPO-DA	*77*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:45*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.1**		3.7	0.85	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1

Client Sample ID: BIO-A-22-202409

Date Collected: 09/17/24 07:37
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-9

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**18**		3.7	0.76	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorohexanoic acid (PFHxA)	**26**		3.7	0.57	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluoroheptanoic acid (PFHpA)	**3.2**	**J**	3.7	0.70	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorooctanoic acid (PFOA)	**21**		3.7	0.98	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorononanoic acid (PFNA)	**1.5**	**J**	3.7	0.41	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorodecanoic acid (PFDA)	**8.9**		3.7	0.89	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluoroundecanoic acid (PFUnA)	**1.0**	**J**	3.7	0.78	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorododecanoic acid (PFDoA)	**1.8**	**J**	3.7	0.56	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.7	0.39	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		3.7	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorobutanesulfonic acid (PFBS)	**4.6**		3.7	0.70	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.7	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorohexanesulfonic acid (PFHxS)	**2.0**	**J**	3.7	0.54	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.7	0.91	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorooctanesulfonic acid (PFOS)	**11**		3.7	0.80	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorononanesulfonic acid (PFNS)	ND		3.7	0.54	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.7	0.96	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
Perfluorooctanesulfonamide (FOSA)	ND		3.7	0.61	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NMeFOSA	ND		3.7	0.91	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NEtFOSA	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NMeFOSAA	**10**		3.7	0.43	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NEtFOSAA	**2.8**	**J**	3.7	0.89	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NMeFOSE	**2.7**	**J**	3.7	0.87	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
NEtFOSE	**2.2**	**J**	3.7	0.52	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
4:2 FTS	ND		3.7	0.95	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
6:2 FTS	**1.1**	**J**	3.7	0.50	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
8:2 FTS	ND		3.7	0.65	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
HFPO-DA (GenX)	ND		3.7	0.76	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
9Cl-PF3ONS	ND		3.7	0.65	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
11Cl-PF3OUdS	ND		3.7	0.57	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.7	0.72	ug/Kg	☼	09/24/24 03:38	09/27/24 01:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C5 PFPeA	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C2 PFHxA	*97*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C4 PFHpA	*97*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C4 PFOA	*94*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C5 PFNA	*99*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C2 PFDA	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C2 PFUnA	*96*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C2 PFDoA	*90*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*

Client Sample ID: BIO-A-22-202409

Date Collected: 09/17/24 07:37
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-9

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*77*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C3 PFBS	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
18O2 PFHxS	*91*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C4 PFOS	*83*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C8 FOSA	*76*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
M2-4:2 FTS	*94*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
M2-6:2 FTS	*132*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
M2-8:2 FTS	*109*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
13C3 HFPO-DA	*86*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d3-NMeFOSAA	*91*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d5-NEtFOSAA	*101*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d-N-MeFOSA-M	*70*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d-N-EtFOSA-M	*78*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d7-N-MeFOSE-M	*70*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*
d9-N-EtFOSE-M	*79*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:28*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**110**	~~B~~	3.7	0.85	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluoropentanoic acid (PFPeA)	**59**		3.7	0.76	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorohexanoic acid (PFHxA)	**55**	~~*-~~ J	3.7	0.57	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluoroheptanoic acid (PFHpA)	**21**	~~*-~~ J	3.7	0.70	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorooctanoic acid (PFOA)	**52**		3.7	0.98	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorononanoic acid (PFNA)	**9.1**		3.7	0.41	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorodecanoic acid (PFDA)	**13**		3.7	0.89	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluoroundecanoic acid (PFUnA)	**3.5**	**J**	3.7	0.78	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorododecanoic acid (PFDoA)	**3.3**	**J**	3.7	0.56	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorotridecanoic acid (PFTrDA)	**1.2**	**J**	3.7	0.39	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorotetradecanoic acid (PFTeA)	**1.4**	**J**	3.7	0.68	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorobutanesulfonic acid (PFBS)	**10**		3.7	0.70	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.7	0.68	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorohexanesulfonic acid (PFHxS)	**1.9**	**J**	3.7	0.54	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.7	0.91	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorooctanesulfonic acid (PFOS)	**11**		3.7	0.80	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorononanesulfonic acid (PFNS)	ND		3.7	0.54	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.7	0.96	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
Perfluorooctanesulfonamide (FOSA)	ND	~~*1~~	3.7	0.61	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NMeFOSAA	ND		3.7	0.43	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NEtFOSAA	ND		3.7	0.89	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
4:2 FTS	ND		3.7	0.95	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
6:2 FTS	ND		3.7	0.50	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1

Client Sample ID: BIO-A-22-202409

Lab Sample ID: 320-115509-9

Date Collected: 09/17/24 07:37
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 27.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	ND	~~*1~~	3.7	0.65	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NEtFOSA	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NMeFOSA	ND		3.7	0.91	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NMeFOSE	ND	~~*1~~	3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
NEtFOSE	ND		3.7	0.52	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
HFPO-DA (GenX)	ND		3.7	0.76	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
9Cl-PF3ONS	ND		3.7	0.65	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
11Cl-PF3OUdS	ND	UJ	3.7	0.57	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.7	0.72	ug/Kg	☼	09/24/24 03:45	09/27/24 03:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C4 PFBA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C5 PFPeA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C2 PFHxA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C4 PFHpA	*99*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C4 PFOA	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C5 PFNA	*98*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C2 PFDA	*99*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C2 PFUnA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C2 PFDoA	*88*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C2 PFTeDA	*83*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C3 PFBS	*86*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
18O2 PFHxS	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C4 PFOS	*89*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d3-NMeFOSAA	*89*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d5-NEtFOSAA	*89*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
M2-6:2 FTS	*76*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
M2-8:2 FTS	*86*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d-N-MeFOSA-M	*79*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d-N-EtFOSA-M	*75*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d7-N-MeFOSE-M	*84*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
d9-N-EtFOSE-M	*82*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*
13C3 HFPO-DA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**73.0**		0.1	0.1	%			09/25/24 10:47	1
Percent Solids (ASTM D 2216)	**27.0**		0.1	0.1	%			09/25/24 10:47	1

Client Sample ID: BIO-B-202409

Lab Sample ID: 320-115509-10

Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 6.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		11	2.6	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluoropentanoic acid (PFPeA)	ND		11	2.3	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorohexanoic acid (PFHxA)	ND		11	1.8	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1

Client Sample ID: BIO-B-202409

Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-10

Matrix: Solid
Percent Solids: 6.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		11	2.1	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorooctanoic acid (PFOA)	ND		11	3.0	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorononanoic acid (PFNA)	ND		11	1.2	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorodecanoic acid (PFDA)	ND		11	2.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluoroundecanoic acid (PFUnA)	ND		11	2.4	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorododecanoic acid (PFDoA)	**1.9**	**J**	11	1.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorotridecanoic acid (PFTrDA)	ND		11	1.2	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorotetradecanoic acid (PFTeA)	ND		11	2.1	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorobutanesulfonic acid (PFBS)	ND		11	2.1	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluoropentanesulfonic acid (PFPeS)	ND		11	2.1	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorohexanesulfonic acid (PFHxS)	**2.9**	**~~J~~ I J**	11	1.6	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		11	2.8	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorononanesulfonic acid (PFNS)	ND		11	1.6	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		11	2.9	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		11	2.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
Perfluorooctanesulfonamide (FOSA)	ND		11	1.9	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NEtFOSA	ND		11	2.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NMeFOSA	ND		11	2.8	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NMeFOSAA	**12**		11	1.3	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NEtFOSAA	**4.9**	**J**	11	2.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NMeFOSE	**7.2**	**J**	11	2.7	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
NEtFOSE	**1.9**	**J**	11	1.6	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
4:2 FTS	ND		11	2.9	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
6:2 FTS	ND		11	1.5	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
8:2 FTS	ND		11	2.0	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		11	2.2	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
HFPO-DA (GenX)	ND		11	2.3	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
9Cl-PF3ONS	ND		11	2.0	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1
11Cl-PF3OUdS	ND		11	1.8	ug/Kg	☼	09/25/24 04:42	09/26/24 02:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C5 PFPeA	*78*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C2 PFHxA	*87*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C4 PFHpA	*91*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C4 PFOA	*97*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C5 PFNA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C2 PFDA	*75*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C2 PFUnA	*92*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C2 PFDoA	*77*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C2 PFTeDA	*42*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C3 PFBS	*82*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
18O2 PFHxS	*87*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C4 PFOS	*79*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
13C8 FOSA	*71*		*10 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*
d3-NMeFOSAA	*78*		*25 - 150*	*09/25/24 04:42*	*09/26/24 02:59*	*1*

Client Sample ID: BIO-B-202409

Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-10

Matrix: Solid
Percent Solids: 6.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	85		25 - 150	09/25/24 04:42	09/26/24 02:59	1
d-N-MeFOSA-M	55		10 - 150	09/25/24 04:42	09/26/24 02:59	1
d-N-EtFOSA-M	63		10 - 150	09/25/24 04:42	09/26/24 02:59	1
d7-N-MeFOSE-M	49		10 - 150	09/25/24 04:42	09/26/24 02:59	1
d9-N-EtFOSE-M	69		10 - 150	09/25/24 04:42	09/26/24 02:59	1
M2-4:2 FTS	191	*5+	25 - 150	09/25/24 04:42	09/26/24 02:59	1
M2-6:2 FTS	213	*5+	25 - 150	09/25/24 04:42	09/26/24 02:59	1
M2-8:2 FTS	95		25 - 150	09/25/24 04:42	09/26/24 02:59	1
13C3 HFPO-DA	79		25 - 150	09/25/24 04:42	09/26/24 02:59	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**17**		11	2.4	ug/Kg	☼	09/25/24 04:42	10/02/24 21:49	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	92		25 - 150	09/25/24 04:42	10/02/24 21:49	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		16	3.7	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluoropentanoic acid (PFPeA)	ND		16	3.3	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorohexanoic acid (PFHxA)	**2.5**	**J**	16	2.5	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluoroheptanoic acid (PFHpA)	ND		16	3.0	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorooctanoic acid (PFOA)	ND		16	4.2	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorononanoic acid (PFNA)	ND		16	1.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorodecanoic acid (PFDA)	ND		16	3.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluoroundecanoic acid (PFUnA)	ND		16	3.3	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorododecanoic acid (PFDoA)	ND		16	2.4	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		16	1.7	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		16	2.9	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		16	3.0	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		16	2.9	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorohexanesulfonic acid (PFHxS)	**5.9**	**J I J**	16	2.3	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		16	3.9	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorooctanesulfonic acid (PFOS)	**18**	**I J**	16	3.4	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorononanesulfonic acid (PFNS)	ND		16	2.3	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		16	4.1	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		16	3.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
Perfluorooctanesulfonamide (FOSA)	ND		16	2.6	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NMeFOSA	ND		16	3.9	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NEtFOSA	ND		16	3.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NMeFOSAA	**9.2**	**J**	16	1.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NEtFOSAA	**5.3**	**J**	16	3.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NMeFOSE	**6.5**	**J**	16	3.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
NEtFOSE	**3.5**	**J**	16	2.2	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
4:2 FTS	ND		16	4.1	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: BIO-B-202409

Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-10

Matrix: Solid
Percent Solids: 6.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
6:2 FTS	ND		16	2.2	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
8:2 FTS	ND		16	2.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
HFPO-DA (GenX)	ND		16	3.3	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
9Cl-PF3ONS	ND		16	2.8	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
11Cl-PF3OUdS	ND		16	2.5	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		16	3.1	ug/Kg	☼	09/24/24 03:38	09/27/24 01:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C5 PFPeA	*84*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C2 PFHxA	*92*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C4 PFHpA	*95*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C4 PFOA	*97*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C5 PFNA	*101*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C2 PFDA	*105*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C2 PFUnA	*99*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C2 PFDoA	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C2 PFTeDA	*29*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C3 PFBS	*85*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
18O2 PFHxS	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C4 PFOS	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C8 FOSA	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
M2-4:2 FTS	*156*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
M2-6:2 FTS	*191*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
M2-8:2 FTS	*160*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
13C3 HFPO-DA	*86*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d3-NMeFOSAA	*85*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d5-NEtFOSAA	*96*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d-N-MeFOSA-M	*67*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d-N-EtFOSA-M	*69*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d7-N-MeFOSE-M	*58*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*
d9-N-EtFOSE-M	*69*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:42*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**130**	~~B~~	16	3.8	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluoropentanoic acid (PFPeA)	**61**		16	3.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorohexanoic acid (PFHxA)	**28**	~~*~~ J	16	2.5	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluoroheptanoic acid (PFHpA)	**20**	~~*~~ J	16	3.1	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorooctanoic acid (PFOA)	**35**		16	4.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorononanoic acid (PFNA)	**13**	~~J~~ I J	16	1.8	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorodecanoic acid (PFDA)	**7.8**	**J**	16	3.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluoroundecanoic acid (PFUnA)	**5.3**	**J**	16	3.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorododecanoic acid (PFDoA)	**3.9**	**J**	16	2.5	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorotridecanoic acid (PFTrDA)	**1.7**	**J**	16	1.7	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorotetradecanoic acid (PFTeA)	ND		16	3.0	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorobutanesulfonic acid (PFBS)	ND		16	3.1	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1

Client Sample ID: BIO-B-202409

Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-10

Matrix: Solid
Percent Solids: 6.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid (PFPeS)	ND		16	3.0	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		16	2.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		16	4.0	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorooctanesulfonic acid (PFOS)	**11**	**J**	16	3.5	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorononanesulfonic acid (PFNS)	ND		16	2.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		16	4.3	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		16	3.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
Perfluorooctanesulfonamide (FOSA)	ND	~~*1~~	16	2.7	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NMeFOSAA	ND		16	1.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NEtFOSAA	ND		16	3.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
4:2 FTS	ND		16	4.2	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
6:2 FTS	ND		16	2.2	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
8:2 FTS	ND	~~*1~~	16	2.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NEtFOSA	ND		16	3.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NMeFOSA	ND		16	4.0	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NMeFOSE	ND	~~*1~~	16	3.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
NEtFOSE	ND		16	2.3	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
HFPO-DA (GenX)	ND		16	3.4	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
9Cl-PF3ONS	ND		16	2.9	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
11Cl-PF3OUdS	ND	UJ	16	2.5	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		16	3.2	ug/Kg	☼	09/24/24 03:45	09/27/24 03:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*89*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C4 PFBA	*93*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C5 PFPeA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C2 PFHxA	*97*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C4 PFHpA	*100*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C4 PFOA	*93*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C5 PFNA	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C2 PFDA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C2 PFUnA	*89*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C2 PFDoA	*85*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C2 PFTeDA	*73*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C3 PFBS	*88*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
18O2 PFHxS	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
13C4 PFOS	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d3-NMeFOSAA	*81*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d5-NEtFOSAA	*80*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
M2-6:2 FTS	*73*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
M2-8:2 FTS	*86*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d-N-MeFOSA-M	*79*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d-N-EtFOSA-M	*73*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d7-N-MeFOSE-M	*83*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*
d9-N-EtFOSE-M	*82*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*

Client Sample ID: BIO-B-202409

Lab Sample ID: 320-115509-10

Date Collected: 09/17/24 08:02
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 6.0

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 03:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**94.0**		0.1	0.1	%			09/25/24 10:47	1
Percent Solids (ASTM D 2216)	**6.0**		0.1	0.1	%			09/25/24 10:47	1

Client Sample ID: BIO-A-23-202409

Lab Sample ID: 320-115509-11

Date Collected: 09/17/24 08:40
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.9**		2.5	0.58	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluoropentanoic acid (PFPeA)	**12**		2.5	0.52	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorohexanoic acid (PFHxA)	**18**		2.5	0.39	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	2.5	0.48	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorooctanoic acid (PFOA)	**14**		2.5	0.67	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorononanoic acid (PFNA)	**1.7**	**J**	2.5	0.28	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorodecanoic acid (PFDA)	**11**		2.5	0.61	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluoroundecanoic acid (PFUnA)	**2.0**	**J**	2.5	0.53	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorododecanoic acid (PFDoA)	**4.5**		2.5	0.38	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorotridecanoic acid (PFTrDA)	**0.52**	**J**	2.5	0.27	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorotetradecanoic acid (PFTeA)	**1.5**	**J**	2.5	0.47	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorobutanesulfonic acid (PFBS)	**1.1**	**J**	2.5	0.48	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.5	0.47	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**	~~**J**~~ **I** J	2.5	0.37	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		2.5	0.62	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorooctanesulfonic acid (PFOS)	**17**	**I** J	2.5	0.55	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorononanesulfonic acid (PFNS)	ND		2.5	0.37	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorodecanesulfonic acid (PFDS)	**1.0**	~~**J**~~ **I** J	2.5	0.66	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.5	0.60	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
Perfluorooctanesulfonamide (FOSA)	**1.3**	**J**	2.5	0.42	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NEtFOSA	**1.2**	**J**	2.5	0.60	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NMeFOSA	ND		2.5	0.62	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NMeFOSAA	**27**		2.5	0.29	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NEtFOSAA	**11**		2.5	0.61	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NMeFOSE	**14**		2.5	0.60	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
NEtFOSE	**3.4**		2.5	0.36	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
4:2 FTS	ND		2.5	0.65	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1

Client Sample ID: BIO-A-23-202409

Date Collected: 09/17/24 08:40
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-11

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.5	0.49	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
HFPO-DA (GenX)	ND		2.5	0.52	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
9Cl-PF3ONS	ND		2.5	0.44	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1
11Cl-PF3OUdS	ND		2.5	0.39	ug/Kg	☼	09/25/24 04:42	09/26/24 03:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C5 PFPeA	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C2 PFHxA	*98*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C4 PFHpA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C4 PFOA	*99*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C5 PFNA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C2 PFDA	*91*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C2 PFUnA	*92*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C2 PFDoA	*65*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C2 PFTeDA	*39*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C3 PFBS	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
18O2 PFHxS	*92*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C4 PFOS	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C8 FOSA	*74*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d3-NMeFOSAA	*52*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d5-NEtFOSAA	*88*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d-N-MeFOSA-M	*47*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d-N-EtFOSA-M	*19*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d7-N-MeFOSE-M	*42*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
d9-N-EtFOSE-M	*22*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
M2-4:2 FTS	*207*	**5+*	*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*
13C3 HFPO-DA	*84*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:13*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
6:2 FTS	ND		25	3.4	ug/Kg	☼	09/25/24 04:42	10/01/24 13:05	10
8:2 FTS	ND		25	4.4	ug/Kg	☼	09/25/24 04:42	10/01/24 13:05	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*116*		*25 - 150*	*09/25/24 04:42*	*10/01/24 13:05*	*10*
M2-8:2 FTS	*162*	**5+*	*25 - 150*	*09/25/24 04:42*	*10/01/24 13:05*	*10*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.1**		3.6	0.82	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluoropentanoic acid (PFPeA)	**12**		3.6	0.73	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorohexanoic acid (PFHxA)	**15**		3.6	0.55	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	3.6	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorooctanoic acid (PFOA)	**13**		3.6	0.95	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorononanoic acid (PFNA)	**1.4**	**J I J**	3.6	0.39	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorodecanoic acid (PFDA)	**8.2**		3.6	0.85	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluoroundecanoic acid (PFUnA)	**1.4**	**J I J**	3.6	0.75	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorododecanoic acid (PFDoA)	**2.9**	**J**	3.6	0.53	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1

Client Sample ID: BIO-A-23-202409

Date Collected: 09/17/24 08:40
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-11

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTrDA)	ND		3.6	0.37	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorotetradecanoic acid (PFTeA)	**0.72**	**J**	3.6	0.66	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorobutanesulfonic acid (PFBS)	**3.1**	**J**	3.6	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.66	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorohexanesulfonic acid (PFHxS)	**1.5**	**J**	3.6	0.52	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.6	0.88	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorooctanesulfonic acid (PFOS)	**13**		3.6	0.77	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.52	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorodecanesulfonic acid (PFDS)	**1.1**	**J**	3.6	0.93	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.6	0.84	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
Perfluorooctanesulfonamide (FOSA)	**0.88**	**J**	3.6	0.59	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NMeFOSA	ND		3.6	0.88	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NEtFOSA	ND		3.6	0.84	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NMeFOSAA	**14**		3.6	0.41	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NEtFOSAA	**6.1**		3.6	0.85	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NMeFOSE	**8.3**		3.6	0.84	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
NEtFOSE	**3.6**		3.6	0.50	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
4:2 FTS	ND		3.6	0.91	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
6:2 FTS	**1.2**	~~J~~ - J	3.6	0.48	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
8:2 FTS	**1.2**	~~J~~ - J	3.6	0.62	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
HFPO-DA (GenX)	ND		3.6	0.73	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
9Cl-PF3ONS	ND		3.6	0.62	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
11Cl-PF3OUdS	ND		3.6	0.55	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.6	0.69	ug/Kg	☼	09/24/24 03:38	09/27/24 01:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C5 PFPeA	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C2 PFHxA	*98*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C4 PFHpA	*95*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C4 PFOA	*93*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C5 PFNA	*98*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C2 PFDA	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C2 PFUnA	*96*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C2 PFDoA	*82*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C2 PFTeDA	*43*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C3 PFBS	*85*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
18O2 PFHxS	*91*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C4 PFOS	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
13C8 FOSA	*82*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
M2-4:2 FTS	*158*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
M2-6:2 FTS	*181*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
M2-8:2 FTS	*155*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: BIO-A-23-202409

Date Collected: 09/17/24 08:40
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-11

Matrix: Solid
Percent Solids: 27.0

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
d3-NMeFOSAA	*69*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
d5-NEtFOSAA	*94*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
d-N-MeFOSA-M	*55*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
d-N-EtFOSA-M	*51*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
d7-N-MeFOSE-M	*46*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*
d9-N-EtFOSE-M	*60*		*25 - 150*	*09/24/24 03:38*	*09/27/24 01:56*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**160**	~~B~~	3.7	0.84	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluoropentanoic acid (PFPeA)	**72**		3.7	0.76	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorohexanoic acid (PFHxA)	**50**	~~*~~ J	3.7	0.57	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluoroheptanoic acid (PFHpA)	**25**	~~*~~ J	3.7	0.70	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorooctanoic acid (PFOA)	**50**		3.7	0.98	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorononanoic acid (PFNA)	**15**		3.7	0.40	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorodecanoic acid (PFDA)	**17**		3.7	0.88	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluoroundecanoic acid (PFUnA)	**5.7**		3.7	0.77	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorododecanoic acid (PFDoA)	**6.2**		3.7	0.55	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorotridecanoic acid (PFTrDA)	**1.6**	**J**	3.7	0.38	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorotetradecanoic acid (PFTeA)	**2.1**	**J**	3.7	0.68	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorobutanesulfonic acid (PFBS)	**21**		3.7	0.70	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.7	0.68	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorohexanesulfonic acid (PFHxS)	**1.5**	**J**	3.7	0.53	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.7	0.90	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorooctanesulfonic acid (PFOS)	**14**		3.7	0.79	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorononanesulfonic acid (PFNS)	ND		3.7	0.53	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorodecanesulfonic acid (PFDS)	**1.2**	**J**	3.7	0.95	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
Perfluorooctanesulfonamide (FOSA)	ND	~~*1~~	3.7	0.60	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NMeFOSAA	ND		3.7	0.42	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NEtFOSAA	ND		3.7	0.88	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
4:2 FTS	ND		3.7	0.94	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
6:2 FTS	ND		3.7	0.49	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
8:2 FTS	ND	~~*1~~	3.7	0.64	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NEtFOSA	ND		3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NMeFOSA	ND		3.7	0.90	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NMeFOSE	ND	~~*1~~	3.7	0.87	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
NEtFOSE	ND		3.7	0.51	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
HFPO-DA (GenX)	ND		3.7	0.76	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
9Cl-PF3ONS	ND		3.7	0.64	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1

Client Sample ID: BIO-A-23-202409

Lab Sample ID: 320-115509-11

Date Collected: 09/17/24 08:40
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 27.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	ND	UJ	3.7	0.57	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.7	0.71	ug/Kg	☼	09/24/24 03:45	09/27/24 04:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*98*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C4 PFBA	*93*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C5 PFPeA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C2 PFHxA	*99*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C4 PFHpA	*100*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C4 PFOA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C5 PFNA	*98*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C2 PFDA	*96*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C2 PFUnA	*93*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C2 PFDoA	*87*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C2 PFTeDA	*84*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C3 PFBS	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
18O2 PFHxS	*101*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C4 PFOS	*93*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d3-NMeFOSAA	*88*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d5-NEtFOSAA	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
M2-6:2 FTS	*82*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
M2-8:2 FTS	*100*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d-N-MeFOSA-M	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d-N-EtFOSA-M	*88*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d7-N-MeFOSE-M	*83*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
d9-N-EtFOSE-M	*81*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*
13C3 HFPO-DA	*91*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:02*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**73.0**		0.1	0.1	%			09/25/24 10:47	1
Percent Solids (ASTM D 2216)	**27.0**		0.1	0.1	%			09/25/24 10:47	1

Client Sample ID: EB02-202409

Lab Sample ID: 320-115509-12

Date Collected: 09/17/24 09:10
Date Received: 09/19/24 09:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.4	2.1	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.43	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.51	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.22	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.1	ng/L		09/27/24 05:24	09/27/24 19:56	1

Client Sample ID: EB02-202409

Lab Sample ID: 320-115509-12

Date Collected: 09/17/24 09:10
Date Received: 09/19/24 09:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.27	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.50	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.48	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.86	ng/L		09/27/24 05:24	09/27/24 19:56	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.87	ng/L		09/27/24 05:24	09/27/24 19:56	1
NEtFOSA	ND		1.8	0.77	ng/L		09/27/24 05:24	09/27/24 19:56	1
NMeFOSA	ND		1.8	0.38	ng/L		09/27/24 05:24	09/27/24 19:56	1
NMeFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 19:56	1
NEtFOSAA	ND		4.4	1.1	ng/L		09/27/24 05:24	09/27/24 19:56	1
NMeFOSE	ND		3.5	1.2	ng/L		09/27/24 05:24	09/27/24 19:56	1
NEtFOSE	ND		1.8	0.75	ng/L		09/27/24 05:24	09/27/24 19:56	1
4:2 FTS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:56	1
6:2 FTS	ND		4.4	2.2	ng/L		09/27/24 05:24	09/27/24 19:56	1
8:2 FTS	ND		1.8	0.41	ng/L		09/27/24 05:24	09/27/24 19:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		09/27/24 05:24	09/27/24 19:56	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		09/27/24 05:24	09/27/24 19:56	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		09/27/24 05:24	09/27/24 19:56	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		09/27/24 05:24	09/27/24 19:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C5 PFPeA	*98*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C2 PFHxA	*104*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C4 PFHpA	*98*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C4 PFOA	*98*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C5 PFNA	*97*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C2 PFDA	*99*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C2 PFUnA	*99*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C2 PFDoA	*96*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C2 PFTeDA	*86*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C3 PFBS	*96*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
18O2 PFHxS	*98*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C4 PFOS	*95*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C8 FOSA	*106*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d3-NMeFOSAA	*128*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d5-NEtFOSAA	*120*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d-N-MeFOSA-M	*93*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d-N-EtFOSA-M	*90*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d7-N-MeFOSE-M	*93*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
d9-N-EtFOSE-M	*94*		*10 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
M2-4:2 FTS	*82*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
M2-6:2 FTS	*73*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*

Client Sample ID: EB02-202409

Lab Sample ID: 320-115509-12

Date Collected: 09/17/24 09:10
Date Received: 09/19/24 09:00
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-8:2 FTS	*76*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*
13C3 HFPO-DA	*97*		*25 - 150*	*09/27/24 05:24*	*09/27/24 19:56*	*1*

Client Sample ID: BIO-A-24-202409

Lab Sample ID: 320-115509-13

Date Collected: 09/17/24 09:53
Date Received: 09/19/24 09:00
Matrix: Solid
Percent Solids: 20.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.7**		3.4	0.78	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluoropentanoic acid (PFPeA)	**9.4**		3.4	0.70	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorohexanoic acid (PFHxA)	**9.3**		3.4	0.53	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluoroheptanoic acid (PFHpA)	ND		3.4	0.65	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorooctanoic acid (PFOA)	**6.0**		3.4	0.90	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorononanoic acid (PFNA)	**1.1**	**J**	3.4	0.37	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorodecanoic acid (PFDA)	**5.7**		3.4	0.82	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluoroundecanoic acid (PFUnA)	**1.5**	**J**	3.4	0.71	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorododecanoic acid (PFDoA)	**3.0**	**J**	3.4	0.51	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorotridecanoic acid (PFTrDA)	**0.39**	**~~J~~ I J**	3.4	0.36	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorotetradecanoic acid (PFTeA)	**0.74**	**J**	3.4	0.63	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorobutanesulfonic acid (PFBS)	ND		3.4	0.65	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.4	0.63	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorohexanesulfonic acid (PFHxS)	**1.3**	**~~J~~ I J**	3.4	0.49	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.4	0.83	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorooctanesulfonic acid (PFOS)	**14**	**I J**	3.4	0.73	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorononanesulfonic acid (PFNS)	ND		3.4	0.49	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorodecanesulfonic acid (PFDS)	**1.2**	**~~J~~ I J**	3.4	0.88	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.4	0.80	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
Perfluorooctanesulfonamide (FOSA)	**0.73**	**J**	3.4	0.56	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NEtFOSA	ND		3.4	0.80	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NMeFOSA	ND		3.4	0.83	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NMeFOSAA	**20**		3.4	0.39	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NEtFOSAA	**8.0**		3.4	0.82	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NMeFOSE	**9.3**		3.4	0.80	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
NEtFOSE	**2.3**	**J**	3.4	0.48	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
4:2 FTS	ND		3.4	0.87	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
6:2 FTS	**0.58**	**~~J~~ J**	3.4	0.46	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
8:2 FTS	**0.63**	**J**	3.4	0.59	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.4	0.66	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
HFPO-DA (GenX)	ND		3.4	0.70	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1
9Cl-PF3ONS	ND		3.4	0.59	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1

Client Sample ID: BIO-A-24-202409

Date Collected: 09/17/24 09:53
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-13

Matrix: Solid
Percent Solids: 20.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	ND		3.4	0.53	ug/Kg	☼	09/25/24 04:42	09/26/24 03:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C5 PFPeA	*89*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C2 PFHxA	*95*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C4 PFHpA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C4 PFOA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C5 PFNA	*95*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C2 PFDA	*59*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C2 PFUnA	*96*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C2 PFDoA	*71*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C2 PFTeDA	*41*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C3 PFBS	*83*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
18O2 PFHxS	*92*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C4 PFOS	*80*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C8 FOSA	*62*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d3-NMeFOSAA	*58*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d5-NEtFOSAA	*92*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d-N-MeFOSA-M	*49*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d-N-EtFOSA-M	*38*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d7-N-MeFOSE-M	*43*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
d9-N-EtFOSE-M	*50*		*10 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
M2-4:2 FTS	*225*	**5+*	*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
M2-6:2 FTS	*187*	**5+*	*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
M2-8:2 FTS	*114*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*
13C3 HFPO-DA	*86*		*25 - 150*	*09/25/24 04:42*	*09/26/24 03:27*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.8**	**J**	4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluoropentanoic acid (PFPeA)	**10**		4.7	0.97	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorohexanoic acid (PFHxA)	**8.1**		4.7	0.73	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluoroheptanoic acid (PFHpA)	ND		4.7	0.89	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorooctanoic acid (PFOA)	**5.9**		4.7	1.3	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorononanoic acid (PFNA)	**1.1**	~~J~~ I J	4.7	0.52	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorodecanoic acid (PFDA)	**4.2**	**J**	4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluoroundecanoic acid (PFUnA)	**1.1**	**J**	4.7	0.99	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorododecanoic acid (PFDoA)	**2.3**	**J**	4.7	0.70	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.7	0.49	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		4.7	0.87	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J**	4.7	0.89	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.7	0.87	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorohexanesulfonic acid (PFHxS)	**1.7**	**J**	4.7	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.7	1.2	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1

Client Sample ID: BIO-A-24-202409

Date Collected: 09/17/24 09:53
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-13

Matrix: Solid
Percent Solids: 20.9

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**11**		4.7	1.0	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorononanesulfonic acid (PFNS)	ND		4.7	0.68	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorodecanesulfonic acid (PFDS)	**1.2**	**J**	4.7	1.2	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
Perfluorooctanesulfonamide (FOSA)	ND		4.7	0.78	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NMeFOSA	ND		4.7	1.2	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NEtFOSA	ND		4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NMeFOSAA	**14**		4.7	0.54	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NEtFOSAA	**4.9**		4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NMeFOSE	**6.7**		4.7	1.1	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
NEtFOSE	**2.8**	**J**	4.7	0.66	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
4:2 FTS	ND		4.7	1.2	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
6:2 FTS	ND		4.7	0.63	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
8:2 FTS	ND		4.7	0.82	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
HFPO-DA (GenX)	ND		4.7	0.97	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
9Cl-PF3ONS	ND		4.7	0.82	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
11Cl-PF3OUdS	ND		4.7	0.73	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.7	0.92	ug/Kg	☼	09/24/24 03:38	09/27/24 02:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C5 PFPeA	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C2 PFHxA	*93*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C4 PFHpA	*96*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C4 PFOA	*95*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C5 PFNA	*101*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C2 PFDA	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C2 PFUnA	*98*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C2 PFDoA	*84*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C2 PFTeDA	*40*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C3 PFBS	*85*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
18O2 PFHxS	*89*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C4 PFOS	*87*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C8 FOSA	*81*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
M2-4:2 FTS	*140*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
M2-6:2 FTS	*160*	**5+*	*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
M2-8:2 FTS	*141*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
13C3 HFPO-DA	*80*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d3-NMeFOSAA	*73*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d5-NEtFOSAA	*95*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d-N-MeFOSA-M	*55*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d-N-EtFOSA-M	*60*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d7-N-MeFOSE-M	*45*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*
d9-N-EtFOSE-M	*60*		*25 - 150*	*09/24/24 03:38*	*09/27/24 02:10*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: BIO-A-24-202409

Date Collected: 09/17/24 09:53
Date Received: 09/19/24 09:00

Lab Sample ID: 320-115509-13

Matrix: Solid
Percent Solids: 20.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**70**	~~B~~	4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluoropentanoic acid (PFPeA)	**34**		4.6	0.95	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorohexanoic acid (PFHxA)	**21**	~~*~~ J	4.6	0.71	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluoroheptanoic acid (PFHpA)	**13**	~~*~~ J	4.6	0.88	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorooctanoic acid (PFOA)	**25**		4.6	1.2	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorononanoic acid (PFNA)	**6.9**		4.6	0.51	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorodecanoic acid (PFDA)	**6.2**		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluoroundecanoic acid (PFUnA)	**2.7**	J	4.6	0.97	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorododecanoic acid (PFDoA)	**3.0**	J	4.6	0.69	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorotridecanoic acid (PFTrDA)	**0.95**	J	4.6	0.48	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorotetradecanoic acid (PFTeA)	**1.2**	J	4.6	0.85	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorobutanesulfonic acid (PFBS)	**4.0**	J	4.6	0.88	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.6	0.85	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**	J	4.6	0.67	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorooctanesulfonic acid (PFOS)	**8.0**		4.6	1.0	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorononanesulfonic acid (PFNS)	ND		4.6	0.67	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		4.6	1.2	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
Perfluorooctanesulfonamide (FOSA)	ND	~~*1~~	4.6	0.76	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NMeFOSAA	ND		4.6	0.53	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NEtFOSAA	ND		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
4:2 FTS	ND		4.6	1.2	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
6:2 FTS	ND		4.6	0.62	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
8:2 FTS	ND	~~*1~~	4.6	0.81	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NEtFOSA	ND		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NMeFOSA	ND		4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NMeFOSE	ND	~~*1~~	4.6	1.1	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
NEtFOSE	ND		4.6	0.65	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
HFPO-DA (GenX)	ND		4.6	0.95	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
9Cl-PF3ONS	ND		4.6	0.81	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
11Cl-PF3OUdS	ND	UJ	4.6	0.71	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.6	0.90	ug/Kg	☼	09/24/24 03:45	09/27/24 04:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C4 PFBA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C5 PFPeA	*94*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C2 PFHxA	*99*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C4 PFHpA	*102*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C4 PFOA	*92*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*
13C5 PFNA	*96*		*25 - 150*	*09/24/24 03:45*	*09/27/24 04:17*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-115509-1

Client Sample ID: BIO-A-24-202409

Lab Sample ID: 320-115509-13

Date Collected: 09/17/24 09:53
Date Received: 09/19/24 09:00

Matrix: Solid
Percent Solids: 20.9

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	98		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C2 PFUnA	93		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C2 PFDoA	87		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C2 PFTeDA	82		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C3 PFBS	94		25 - 150	09/24/24 03:45	09/27/24 04:17	1
18O2 PFHxS	101		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C4 PFOS	92		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d3-NMeFOSAA	79		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d5-NEtFOSAA	95		25 - 150	09/24/24 03:45	09/27/24 04:17	1
M2-4:2 FTS	0		0 - 10	09/24/24 03:45	09/27/24 04:17	1
M2-6:2 FTS	82		25 - 150	09/24/24 03:45	09/27/24 04:17	1
M2-8:2 FTS	93		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d-N-MeFOSA-M	88		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d-N-EtFOSA-M	76		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d7-N-MeFOSE-M	82		25 - 150	09/24/24 03:45	09/27/24 04:17	1
d9-N-EtFOSE-M	77		25 - 150	09/24/24 03:45	09/27/24 04:17	1
13C3 HFPO-DA	91		25 - 150	09/24/24 03:45	09/27/24 04:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	79.1		0.1	0.1	%			09/25/24 10:47	1
Percent Solids (ASTM D 2216)	20.9		0.1	0.1	%			09/25/24 10:47	1

October 2024

Data Quality and Usability Review – October 2024

Data Reviewer: Kristen Morin
Peer Reviewer: Jeff Ramey
Date: 11/7/2024

Madison Metropolitan Sewerage District (MMSD) collected influent and effluent samples at the Nine Springs wastewater treatment plant on October 14 and 15, 2024 as part of ongoing monitoring activities conducted by TRC. Samples were analyzed for the standard list of Wisconsin's 33 PFAS by Eurofins in West Sacramento, California and for total suspended solids (TSS) by Eurofins in Chicago, Illinois. The laboratory analytical results were reported in laboratory SDG 320-116240-1 (Revision 1, dated 11/4/24).

Samples included in this review are listed below:

- INF-Comp-20241014
- EFF-20241015

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
Total Suspended Solids (TSS)	Standard Method (SM) 2540D

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;

- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The revised data package was found to be complete as received from the laboratory.
- The cooler temperatures upon receipt at both laboratories were within the acceptance criteria (< 10°C).
  - Samples were not shipped to the main laboratory, West Sacramento, CA, until one to two days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the main laboratory. No validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the main laboratory and were received at acceptable temperatures by the laboratory.
- A method blank was analyzed with each analytical batch for PFAS and TSS. Target analytes were not detected in the method blanks.
- All samples were extracted and/or prepared and analyzed within the holding time.

- The LCS and/or LCSD percent recoveries (%Rs) and relative percent differences, as applicable, for all analytes were within the laboratory's acceptance limits.
- MS/MSD analyses were not performed on a sample from this data set.
- The following table summarizes the isotopically labeled surrogate %Rs that were outside of the laboratory's acceptance limits, the associated samples, and the validation actions.

Sample ID	Surrogate	%R	%R Acceptance Limits	Validation Action*
INF-Comp-20241014	13C2 PFTeDA	23	25-150	The nondetect result for PFTeA was qualified as estimated (UJ) in sample INF-Comp-20241014.
	M2-6:2 FTS	203		No validation action was required on this basis since 6:2 FTS and 8:2 FTS were not detected in this sample.
	M2-8:2 FTS	156		

- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was not performed on a sample from this data set.
- The laboratory noted the following observations in the case narrative. No validation actions were taken on this basis.
  - Samples INF-Comp-20241014 and EFF-20241015 were light yellow in color and were observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction and were light yellow in color following extraction.
  - During the solid phase extraction (SPE) process, sample INF-Comp-20241014 contained particulates which clogged the SPE column. The lab also stated that approximately 77% of the sample container was filtered through the SPE column (i.e., extracted) at which point the SPE column became clogged. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged it were then extracted using the elution solvent. The laboratory confirmed during previous reviews that samples are spiked with extracted internal standards (or isotopically labeled surrogates) prior to filtration through the SPE column; thus, no validation actions were taken on this basis.
- Select QLs were slightly outside of the ranges of QLs suggested in the SAB of 2-5 ng/L for individual PFAS due to adjustment of the QLs for sample-specific volumes used for extraction.
- No dilutions were performed on the samples in this data set for PFAS.
- The QL for TSS in sample INF-Comp-20241014 was 8.4x higher than the associated method blank due to a reduced volume (60 mLs versus the typical 500 mL) used in the sample analysis. There is no adverse impact on the data usability due to this issue since TSS was detected above the QL in this sample. No validation action was required on this basis.
- The results for PFNA in samples INF-Comp-20241014 and EFF-20241015 were flagged with an "I" by the laboratory indicating that the ion transition ratio did not meet the acceptance limits; thus, the positive results for PFNA in these two samples were qualified as estimated (J). These results were also qualified as estimated (J) by the laboratory due to detection < the QL.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-116240-1

Client Sample ID: INF-Comp-20241014

Lab Sample ID: 320-116240-1

Date Collected: 10/14/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.6**		4.7	2.2	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoropentanoic acid (PFPeA)	**4.9**		1.9	0.46	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorohexanoic acid (PFHxA)	**9.2**		1.9	0.54	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	1.9	0.23	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorooctanoic acid (PFOA)	**5.3**		1.9	0.80	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorononanoic acid (PFNA)	**1.1**	~~**J**~~ **I** J	1.9	0.25	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorodecanoic acid (PFDA)	**0.53**	**J**	1.9	0.29	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	1.2	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.9	0.68	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorobutanesulfonic acid (PFBS)	**3.3**		1.9	0.19	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoropentanesulfonic acid (PFPeS)	**0.81**	**J**	1.9	0.28	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorohexanesulfonic acid (PFHxS)	**6.7**		1.9	0.53	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.18	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorooctanesulfonic acid (PFOS)	**4.4**		1.9	0.51	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.35	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.91	ng/L		10/18/24 04:24	10/19/24 07:00	1
Perfluorooctanesulfonamide (FOSA)	**0.94**	**J**	1.9	0.92	ng/L		10/18/24 04:24	10/19/24 07:00	1
NEtFOSA	ND		1.9	0.81	ng/L		10/18/24 04:24	10/19/24 07:00	1
NMeFOSA	ND		1.9	0.40	ng/L		10/18/24 04:24	10/19/24 07:00	1
NMeFOSAA	ND		4.7	1.1	ng/L		10/18/24 04:24	10/19/24 07:00	1
NEtFOSAA	ND		4.7	1.2	ng/L		10/18/24 04:24	10/19/24 07:00	1
NMeFOSE	**2.8**	**J**	3.7	1.3	ng/L		10/18/24 04:24	10/19/24 07:00	1
NEtFOSE	ND		1.9	0.80	ng/L		10/18/24 04:24	10/19/24 07:00	1
4:2 FTS	ND		1.9	0.22	ng/L		10/18/24 04:24	10/19/24 07:00	1
6:2 FTS	ND		4.7	2.3	ng/L		10/18/24 04:24	10/19/24 07:00	1
8:2 FTS	ND		1.9	0.43	ng/L		10/18/24 04:24	10/19/24 07:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.37	ng/L		10/18/24 04:24	10/19/24 07:00	1
HFPO-DA (GenX)	ND		3.7	1.4	ng/L		10/18/24 04:24	10/19/24 07:00	1
9Cl-PF3ONS	ND		1.9	0.22	ng/L		10/18/24 04:24	10/19/24 07:00	1
11Cl-PF3OUdS	ND		1.9	0.30	ng/L		10/18/24 04:24	10/19/24 07:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*78*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C5 PFPeA	*68*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFHxA	*89*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C4 PFHpA	*84*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C4 PFOA	*83*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C5 PFNA	*86*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFDA	*81*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFUnA	*61*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C2 PFDoA	*34*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*

Client Sample ID: INF-Comp-20241014

Lab Sample ID: 320-116240-1

Date Collected: 10/14/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFTeDA	*23*	**5-*	*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C3 PFBS	*69*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
18O2 PFHxS	*75*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C4 PFOS	*63*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C8 FOSA	*57*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d3-NMeFOSAA	*53*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d5-NEtFOSAA	*55*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d-N-MeFOSA-M	*21*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d-N-EtFOSA-M	*42*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d7-N-MeFOSE-M	*33*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
d9-N-EtFOSE-M	*38*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
M2-4:2 FTS	*126*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
M2-6:2 FTS	*203*	**5+*	*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
M2-8:2 FTS	*156*	**5+*	*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*
13C3 HFPO-DA	*83*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:00*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**220**		42	16	mg/L			10/18/24 16:03	1

Client Sample ID: EFF-20241015

Lab Sample ID: 320-116240-2

Date Collected: 10/15/24 23:59
Matrix: Water
Date Received: 10/17/24 09:10

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.9**		4.4	2.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoropentanoic acid (PFPeA)	**16**		1.8	0.43	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorohexanoic acid (PFHxA)	**16**		1.8	0.51	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoroheptanoic acid (PFHpA)	**2.0**		1.8	0.22	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorooctanoic acid (PFOA)	**7.7**		1.8	0.75	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorononanoic acid (PFNA)	**0.70**	~~J~~ I J	1.8	0.24	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorodecanoic acid (PFDA)	**0.70**	**J**	1.8	0.27	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.64	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.18	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoropentanesulfonic acid (PFPeS)	**0.70**	**J**	1.8	0.26	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorohexanesulfonic acid (PFHxS)	**7.5**		1.8	0.50	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorooctanesulfonic acid (PFOS)	**3.8**		1.8	0.47	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		10/18/24 04:24	10/19/24 07:10	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.85	ng/L		10/18/24 04:24	10/19/24 07:10	1

Client Sample ID: EFF-20241015

Lab Sample ID: 320-116240-2

Date Collected: 10/15/24 23:59
Date Received: 10/17/24 09:10

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	**2.2**		1.8	0.86	ng/L		10/18/24 04:24	10/19/24 07:10	1
NEtFOSA	ND		1.8	0.76	ng/L		10/18/24 04:24	10/19/24 07:10	1
NMeFOSA	ND		1.8	0.38	ng/L		10/18/24 04:24	10/19/24 07:10	1
NMeFOSAA	ND		4.4	1.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
NEtFOSAA	ND		4.4	1.1	ng/L		10/18/24 04:24	10/19/24 07:10	1
NMeFOSE	ND		3.5	1.2	ng/L		10/18/24 04:24	10/19/24 07:10	1
NEtFOSE	ND		1.8	0.75	ng/L		10/18/24 04:24	10/19/24 07:10	1
4:2 FTS	ND		1.8	0.21	ng/L		10/18/24 04:24	10/19/24 07:10	1
6:2 FTS	ND		4.4	2.2	ng/L		10/18/24 04:24	10/19/24 07:10	1
8:2 FTS	ND		1.8	0.40	ng/L		10/18/24 04:24	10/19/24 07:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		10/18/24 04:24	10/19/24 07:10	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		10/18/24 04:24	10/19/24 07:10	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		10/18/24 04:24	10/19/24 07:10	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		10/18/24 04:24	10/19/24 07:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C5 PFPeA	*73*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFHxA	*97*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C4 PFHpA	*91*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C4 PFOA	*108*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C5 PFNA	*105*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFDA	*96*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFUnA	*96*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFDoA	*79*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C2 PFTeDA	*45*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C3 PFBS	*81*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
18O2 PFHxS	*87*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C4 PFOS	*89*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C8 FOSA	*91*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d3-NMeFOSAA	*91*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d5-NEtFOSAA	*102*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d-N-MeFOSA-M	*72*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d-N-EtFOSA-M	*70*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d7-N-MeFOSE-M	*66*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
d9-N-EtFOSE-M	*58*		*10 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
M2-4:2 FTS	*131*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
M2-6:2 FTS	*115*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
M2-8:2 FTS	*111*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*
13C3 HFPO-DA	*91*		*25 - 150*	*10/18/24 04:24*	*10/19/24 07:10*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**5.4**		5.0	1.9	mg/L			10/21/24 16:48	1

November 2024

Data Quality and Usability Review – November 2024

Data Reviewer: Jessica Esser
Peer Reviewer: Kristen Morin
Date: 12/27/2024

Madison Metropolitan Sewerage District (MMSD) collected influent and effluent samples at the Nine Springs wastewater treatment plant on November 11 and 12, 2024 as part of ongoing monitoring activities conducted by TRC. Samples were analyzed for the standard list of Wisconsin's 33 per- and polyfluoroalkyl substances (PFAS) and total suspended solids (TSS) by Eurofins in West Sacramento, California. The laboratory analytical results were reported in laboratory SDG 320-117014-1 (Revision 1, dated 12/19/24).

Samples included in this review are listed below:

- Inf-Comp-202411
- Eff-202411

Each sample was analyzed for the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
TSS*	Standard Method (SM) 2540D

Notes:
* The laboratory does not hold NELAP or Wisconsin accreditation for TSS.

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or

analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;

- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The revised data package was found to be complete as received from the laboratory.
- The TSS analysis was performed at the Eurofins West Sacramento, California laboratory without NELAP or Wisconsin certification. This analysis is usually conducted in the Eurofins Chicago, Illinois laboratory; however, due to an oversight, the samples were not shipped to Chicago for analysis within the recommended holding time for TSS. TRC authorized the analysis to be conducted in West Sacramento within recommended holding time. No validation actions were taken on this basis.

- The cooler temperature upon receipt at the laboratory was within the acceptance criteria (< 10°C).
  - Samples were not shipped to the laboratory until one to two days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the laboratory. No validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the laboratory and were received at an acceptable temperature by the laboratory.
- A method blank was analyzed with each analytical batch for PFAS and TSS. Target analytes were not detected in the method blanks.
- All samples were extracted and/or prepared and analyzed within the holding time.
- The LCS and/or LCSD percent recoveries (%Rs) and relative percent differences (RPDs), as applicable, for all analytes were within the laboratory's acceptance limits.
- MS/MSD analyses were not performed on a sample from this data set.
- The following table summarizes the isotopically labeled surrogate %Rs that were outside of the laboratory's acceptance limits, the associated samples, and the validation actions.

Sample ID	Surrogate	%R	%R Acceptance Limits	Validation Action*
Inf-Comp-202411	13C2 PFTeDA	9	25-150	The nondetect result for PFTeA was qualified as estimated (UJ) in sample Inf-Comp-202411.
	M2-6:2 FTS	167		No validation action was required on this basis since 6:2 FTS was not detected in this sample.

* Note that based on professional judgement, a "significantly low" limit of 5% was used for rejection criteria.

- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was performed on sample Inf-Comp-20211 for TSS. The RPD was within the laboratory's acceptance limit.
- The laboratory noted the following observations in the case narrative for the PFAS analyses. No validation actions were taken on this basis.
  - Sample Eff-202411 was light brown in color prior to extraction and was light green in color following extraction.
  - Sample Inf-Comp-202411 was light brown in color and was observed to have a thin layer of sediment present in the bottom of the bottle prior to extraction; this sample was light green in color following extraction. Additionally, during the solid phase extraction (SPE) process, sample Inf-Comp-202411 contained non-settable particulates which clogged the SPE column. The lab also stated that approximately 61% of the sample container was filtered through the SPE column (i.e., extracted) at which point the SPE column became clogged. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged it were then extracted using the elution solvent. The laboratory confirmed during previous reviews that samples are spiked with extracted internal standards (or isotopically labeled surrogates) prior to filtration through the SPE column; thus, no validation actions were taken on this basis.
- Select QLs were slightly below the ranges of QLs suggested in the SAB of 2-5 ng/L for individual PFAS due to adjustment of the QLs for sample-specific volumes used for extraction.

- No dilutions were performed on the samples in this data set for PFAS.
- The QL for TSS in sample Inf-Comp-202411 was approximately 2.5x higher than the associated method blank due to a reduced volume (100 mLs versus the typical 250 mL) used in the sample analysis; the case narrative noted that attempting to use a larger volume of this sample resulted in overload of the filter and that this sample was a non-homogenous, viscous, cloudy liquid. In addition, the QL for TSS in sample Eff-Comp-202411 was approximately 4x lower than the associated method blank due to an increased volume (1,000 mLs versus the typical 250 mL) used in the sample analysis; the laboratory stated during this review that an increased volume is used for clean samples to ensure that they meet the minimum method requirement of 2.5 mg of filtered solids. There is no adverse impact on the data usability due to these issues since TSS was detected above the QL in both samples. No validation action was required on this basis.
- The ion transition ratios were within the acceptance limits for all samples in this data set for PFAS. However, the laboratory noted in the case narrative and through the use of a "CI" qualifier that samples Inf-Comp-202411 and Eff-202411 had chromatographic interferences that could adversely impact the identification and quantitation of PFBA, PFPeA, and/or PFBS; the laboratory noted that the interference could cause false positive results. Therefore, the positive results for PFBA and PFPeA in sample Inf-Comp-202411, and PFBA and PFBS in sample Eff-202411 were qualified as estimated (J+) with a potential high bias.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117014-1

Client Sample ID: Inf-Comp-202411

Date Collected: 11/11/24 23:59
Date Received: 11/14/24 09:15

Lab Sample ID: 320-117014-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.5**	~~CI~~ J+	4.4	2.1	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluoropentanoic acid (PFPeA)	**5.7**	~~CI~~ J+	1.8	0.43	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorohexanoic acid (PFHxA)	**10**		1.8	0.51	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluoroheptanoic acid (PFHpA)	**2.1**		1.8	0.22	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorooctanoic acid (PFOA)	**7.0**		1.8	0.75	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorononanoic acid (PFNA)	**0.98**	**J**	1.8	0.24	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorodecanoic acid (PFDA)	**0.41**	**J**	1.8	0.27	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.97	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.48	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	1.1	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.8	0.64	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorobutanesulfonic acid (PFBS)	**5.2**		1.8	0.18	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluoropentanesulfonic acid (PFPeS)	**0.77**	**J**	1.8	0.26	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorohexanesulfonic acid (PFHxS)	**11**		1.8	0.50	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.17	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorooctanesulfonic acid (PFOS)	**19**		1.8	0.48	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.33	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.28	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.86	ng/L		11/15/24 05:31	11/18/24 15:28	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.86	ng/L		11/15/24 05:31	11/18/24 15:28	1
NEtFOSA	ND		1.8	0.77	ng/L		11/15/24 05:31	11/18/24 15:28	1
NMeFOSA	ND		1.8	0.38	ng/L		11/15/24 05:31	11/18/24 15:28	1
NMeFOSAA	**1.1**	**J**	4.4	1.1	ng/L		11/15/24 05:31	11/18/24 15:28	1
NEtFOSAA	ND		4.4	1.1	ng/L		11/15/24 05:31	11/18/24 15:28	1
NMeFOSE	**3.7**		3.5	1.2	ng/L		11/15/24 05:31	11/18/24 15:28	1
NEtFOSE	ND		1.8	0.75	ng/L		11/15/24 05:31	11/18/24 15:28	1
4:2 FTS	ND		1.8	0.21	ng/L		11/15/24 05:31	11/18/24 15:28	1
6:2 FTS	ND		4.4	2.2	ng/L		11/15/24 05:31	11/18/24 15:28	1
8:2 FTS	ND		1.8	0.41	ng/L		11/15/24 05:31	11/18/24 15:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.35	ng/L		11/15/24 05:31	11/18/24 15:28	1
HFPO-DA (GenX)	ND		3.5	1.3	ng/L		11/15/24 05:31	11/18/24 15:28	1
9Cl-PF3ONS	ND		1.8	0.21	ng/L		11/15/24 05:31	11/18/24 15:28	1
11Cl-PF3OUdS	ND		1.8	0.28	ng/L		11/15/24 05:31	11/18/24 15:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*45*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C5 PFPeA	*60*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C2 PFHxA	*73*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C4 PFHpA	*65*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C4 PFOA	*67*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C5 PFNA	*62*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C2 PFDA	*51*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C2 PFUnA	*45*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C2 PFDoA	*35*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C2 PFTeDA	*9*	**5-*	*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*

Client Sample ID: Inf-Comp-202411

Lab Sample ID: 320-117014-1

Date Collected: 11/11/24 23:59
Matrix: Water
Date Received: 11/14/24 09:15

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*58*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
18O2 PFHxS	*60*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C4 PFOS	*51*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C8 FOSA	*37*		*10 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
d3-NMeFOSAA	*25*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
d5-NEtFOSAA	*37*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
d-N-MeFOSA-M	*31*		*10 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
d-N-EtFOSA-M	*14*		*10 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
d7-N-MeFOSE-M	*32*		*10 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
d9-N-EtFOSE-M	*23*		*10 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
M2-4:2 FTS	*96*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
M2-6:2 FTS	*167*	**5+*	*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
M2-8:2 FTS	*127*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*
13C3 HFPO-DA	*58*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:28*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**210**		13	13	mg/L			11/18/24 13:02	1

Client Sample ID: Eff-202411

Lab Sample ID: 320-117014-2

Date Collected: 11/12/24 23:59
Matrix: Water
Date Received: 11/14/24 09:15

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.6**	~~CI~~ J+	4.2	2.0	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluoropentanoic acid (PFPeA)	**16**		1.7	0.41	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorohexanoic acid (PFHxA)	**17**		1.7	0.49	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluoroheptanoic acid (PFHpA)	**2.3**		1.7	0.21	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorooctanoic acid (PFOA)	**9.2**		1.7	0.71	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorononanoic acid (PFNA)	**1.0**	**J**	1.7	0.23	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorodecanoic acid (PFDA)	**0.64**	**J**	1.7	0.26	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.92	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	1.1	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.61	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorobutanesulfonic acid (PFBS)	**5.8**	~~CI~~ J+	1.7	0.17	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluoropentanesulfonic acid (PFPeS)	**0.75**	**J**	1.7	0.25	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorohexanesulfonic acid (PFHxS)	**11**		1.7	0.48	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.27**	**J**	1.7	0.16	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorooctanesulfonic acid (PFOS)	**17**		1.7	0.45	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.31	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.27	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.81	ng/L		11/15/24 05:31	11/18/24 15:42	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.82	ng/L		11/15/24 05:31	11/18/24 15:42	1

Client Sample ID: Eff-202411

Date Collected: 11/12/24 23:59
Date Received: 11/14/24 09:15

Lab Sample ID: 320-117014-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		1.7	0.73	ng/L		11/15/24 05:31	11/18/24 15:42	1
NMeFOSA	ND		1.7	0.36	ng/L		11/15/24 05:31	11/18/24 15:42	1
NMeFOSAA	ND		4.2	1.0	ng/L		11/15/24 05:31	11/18/24 15:42	1
NEtFOSAA	ND		4.2	1.1	ng/L		11/15/24 05:31	11/18/24 15:42	1
NMeFOSE	ND		3.4	1.2	ng/L		11/15/24 05:31	11/18/24 15:42	1
NEtFOSE	ND		1.7	0.71	ng/L		11/15/24 05:31	11/18/24 15:42	1
4:2 FTS	ND		1.7	0.20	ng/L		11/15/24 05:31	11/18/24 15:42	1
6:2 FTS	ND		4.2	2.1	ng/L		11/15/24 05:31	11/18/24 15:42	1
8:2 FTS	ND		1.7	0.39	ng/L		11/15/24 05:31	11/18/24 15:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.34	ng/L		11/15/24 05:31	11/18/24 15:42	1
HFPO-DA (GenX)	ND		3.4	1.3	ng/L		11/15/24 05:31	11/18/24 15:42	1
9Cl-PF3ONS	ND		1.7	0.20	ng/L		11/15/24 05:31	11/18/24 15:42	1
11Cl-PF3OUdS	ND		1.7	0.27	ng/L		11/15/24 05:31	11/18/24 15:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C5 PFPeA	*94*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C2 PFHxA	*107*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C4 PFHpA	*98*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C4 PFOA	*98*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C5 PFNA	*97*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C2 PFDA	*99*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C2 PFUnA	*98*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C2 PFDoA	*84*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C2 PFTeDA	*51*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C3 PFBS	*99*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
18O2 PFHxS	*97*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C4 PFOS	*91*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C8 FOSA	*94*		*10 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
d3-NMeFOSAA	*86*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
d5-NEtFOSAA	*93*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
d-N-MeFOSA-M	*85*		*10 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
d-N-EtFOSA-M	*80*		*10 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
d7-N-MeFOSE-M	*92*		*10 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
d9-N-EtFOSE-M	*83*		*10 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
M2-4:2 FTS	*140*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
M2-6:2 FTS	*111*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
M2-8:2 FTS	*99*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*
13C3 HFPO-DA	*90*		*25 - 150*	*11/15/24 05:31*	*11/18/24 15:42*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**5.2**		1.3	1.3	mg/L			11/18/24 13:02	1

December 2024

Data Quality and Usability Review – December 2024

Data Reviewer: Jessica Esser
Peer Reviewer: Kristen Morin
Date: 2/10/2025

Madison Metropolitan Sewerage District (MMSD) collected influent, effluent, and biosolids samples at the Nine Springs wastewater treatment plant on December 9 and 10, 2024 as part of ongoing monitoring activities conducted by TRC. Samples were analyzed for the standard list of Wisconsin's 33 per- and polyfluoroalkyl substances (PFAS) and total oxidizable precursor (TOP) assay PFAS by Eurofins in West Sacramento, California, and total suspended solids (TSS) by Eurofins in Chicago, Illinois. The laboratory analytical results were reported in laboratory SDG 320-117663-1 (Revision 2, dated 2/7/25).

Samples included in this review are listed below:

- BIO-A-22-202412
- BIO-A-24-202412
- Eff-202412
- Inf-07-202412
- Inf-11-202412
- Inf-Comp-202412
- EB02-202412
- BIO-A-23-202412
- BIO-B-202412
- Inf-02-202412
- Inf-08-202412
- Inf-18-202412
- EB01-202412

Each sample was analyzed for one or more of the following constituents:

Analyte Group	Method
PFAS (33 Analytes)	Modified EPA Method 537 and laboratory standard operating procedure (SOP) using Isotope Dilution/WI Method Criteria
PFAS TOP Assay (33 Analytes)	Laboratory SOP using Isotope Dilution/WI Method Criteria
TSS	Standard Method (SM) 2540D
Total Solids*	ASTM D 2216*

Notes:

* The laboratory does not hold NELAP or Wisconsin accreditation for total solids.

TRC performed a limited validation of the laboratory data to assess data usability. The following sections summarize the data validation procedure and the results of the validation.

Data Usability Review Procedure

The analytical data were reviewed using the USEPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (EPA 910-R-18-001), November 2018, USEPA National Functional Guidelines for High Resolution Superfund Methods Data Review (EPA 542-R-20-007), November 2020, and Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations, Document # EA-19-0001, WDNR, December 2019 as guidance for data review. EPA 910-R-18-001 applies to method 537 and drinking water matrices only but the guidance can be applied in part or in whole to evaluate data

in non-drinking water matrices. The following items were specifically included in the evaluation of the data:

- Data completeness;
- Sample receipt, as noted in the cover page or case narrative;
- Technical holding times for analyses;
- Quantitation limits (QLs) compared to the ranges of QLs suggested in the Sampling and Analysis Blueprint (SAB) of 2-5 ng/L and 1-5 ug/kg per individual PFAS, as appropriate;
- Data for method blanks, equipment blanks, and field blanks. Method blanks are used to assess potential contamination arising from laboratory sample preparation and/or analytical procedures. Field and equipment blanks are used to assess potential contamination arising from field procedures;
- Data for laboratory control samples (LCSs) and laboratory control sample duplicates (LCSDs), when performed. The LCSs and/or LCSDs are used to assess the accuracy and precision of the analytical method using a clean matrix;
- Percent recoveries for matrix spike (MS) and matrix spike duplicate (MSD), when performed on project samples. Percent recoveries are calculated for each analyte spiked and used to assess bias due to sample matrix effects;
- Percent recoveries for isotopically labeled surrogates. Percent recoveries are calculated for each surrogate and used to assess the accuracy of the extraction procedure and bias due to sample matrix effects;
- Data for laboratory duplicates, when performed on project samples. The laboratory duplicates are replicate analyses of one sample and are used to assess the precision of the analytical method;
- Data for blind field duplicates. Field duplicate samples are used to assess variability introduced by the sampling and analytical processes; and
- Overall usability of the data.

This data usability report addresses the following items:

- Usability of the data if quality control (QC) results suggest potential problems with all or some of the data;
- Actions regarding specific QC criteria exceedances.

Review Summary

The data quality objectives and laboratory completeness goals for the project were met, and the data are usable for their intended purpose. A summary of the data quality review, including non-conformances, and issues identified in this evaluation are noted below.

- The reviewed PFAS and TSS data will be utilized for the purposes of ongoing monitoring activities.
- The issues noted in the QA/QC sample summary below have a minor impact on the data usability.

QA/QC Sample Summary

- The revised data package was found to be complete as received from the laboratory with the following note. The sample identification (ID) on the container label for the following samples did not match the information listed on the Chain-of-Custody (COC); Eff-202412, EB01-202412, and EB02-202412. The container labels for these samples listed the sample IDs as Eff-COMP-202412, EB-1-202412, and EB-2-202412, respectively. The samples were logged in according to the ID listed on the COC.
- The cooler temperatures upon receipt at the laboratories were within the acceptance criteria (< 10°C).
  - Select samples were not shipped to the main laboratory, West Sacramento, CA, until one to two days after collection. The samples were stored in a walk-in cooler at the site before being transferred into a cooler with ice for shipment to the main laboratory. No validation actions were required on this basis since the samples were either kept refrigerated or in coolers, on ice, prior to delivery to the main laboratory and were received at acceptable temperatures by the laboratory.
- A method blank was analyzed with each analytical batch for PFAS (total and TOP assay) and TSS. The following table summarizes the compounds detected in the method blanks, the associated samples, and the validation actions.

Blank ID	Compound	Blank Concentration	Validation Action
MB 320-822142/1-A (post-TOP assay)	PFBA	0.639 J µg/Kg	No validation actions were required on this basis since the results for PFBA were >10x the blank concentration in the post-TOP assay analyses of the associated samples.
Associated samples: BIO-A-22-202412, BIO-A-23-202412, BIO-A-24-202412, BIO-B-202412			
MB 320-825295/1-A (post-TOP assay)	PFBA	5.11 J ng/L	The positive post-TOP assay result for PFBA in sample Eff-202412 was qualified as nondetect (U) at the reported concentration since the result was > the QL and <10x the blank concentrations.
Associated samples: Eff-202412			

- Two equipment blanks (EB01-202412 and EB02-202412) were collected and analyzed for total PFAS. No target compounds were detected in the equipment blanks.
- All samples were extracted and/or prepared and analyzed within the holding time.
- The LCS and LCSD percent recoveries (%Rs) and relative percent differences (RPDs), as applicable, for all analytes were within the laboratory's acceptance limits except as noted in the table below. Note that the laboratory's acceptance limits for TOP assay LCS/LCSDs were different than those specified in the WI Method Criteria; the laboratory's acceptance limits are listed below but the WI Method Criteria (60-135%) were also considered in the evaluation of the data.

LCS/LCSD ID	Compound	LCS/ LCSD %Rs	RPD (%)	LCS/LCSD %R/RPD Limits	Validation Actions
LCS 320-821951/3-A/ LCSD 320-821951/4-A (total PFAS)	NEtFOSE	-/-	38	-/30	No validation action was required on this basis since total NEtFOSE was not detected in the associated samples.
Associated samples: Eff-202412, EB01-202412, EB02-202412					

LCS/LCSD ID	Compound	LCS/ LCSD %Rs	RPD (%)	LCS/LCSD %R/RPD Limits	Validation Actions
LCS 320-825293/2-A/ LCSD 320-825293/3-A (pre-TOP assay)	NMeFOSA	65/67	-	72-132/-	Professional judgement was used and no validation actions were taken on this basis since this compound recovered within the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%.
Associated sample: Eff-202412					
LCS 320-822142/2-A/ LCSD 320-822142/3-A (post-TOP assay)	PFPeA	276/238	-	159-221/-	Professional judgement was used and the positive results for post-TOP assay PFPeA and post-TOP assay PFHxA were qualified as estimated (J) in the associated samples. See **Additional note** below.
	PFHxA	283/273	-	208-257/-	
	PFTrDA	-/65	-	78-138/-	Professional judgement was used and no validation actions were taken on this basis since this compound recovered within the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%.
	PFDoS	59/45	-	47-107/-	Professional judgement was used and the nondetect results for post-TOP assay PFDoS and post-TOP assay 11Cl-PF3OUdS were qualified as estimated (UJ) in the associated samples since these compounds recovered outside of the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%.
	11Cl-PF3OUdS	46/38	-	46-106/-	
	PFHpS	134/141	-	68-128/-	No validation action was required on this basis since post-TOP assay PFHpS, post-TOP assay FOSA, and post-TOP assay ADONA were not detected in the associated samples.
	FOSA	-/-	52	-/30	
	ADONA	-/-	43	-/30	
Associated samples: BIO-A-22-202412, BIO-A-23-202412, BIO-A-24-202412, BIO-B-202412					
LCS 320-825295/2-A/ LCSD 320-825295/3-A (post-TOP assay)	PFPeA	218/227	-	151-208/-	Professional judgement was used and the positive results for post-TOP assay PFPeA and post-TOP assay PFHxA were qualified as estimated (J) in the associated sample. See **Additional note** below.
	PFHxA	270/279	-	194-269/-	
	PFTrDA	-/84	-	85-145/-	Professional judgement was used and no validation actions were taken on this basis since this compound recovered within the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%.
	PFDS	59/61	-	71-131/-	Professional judgement was used and the nondetect results for post-TOP assay PFDS, post-TOP assay PFDoS, and post-TOP assay 11Cl-PF3OUdS were qualified as estimated (UJ) in the associated sample since these compounds recovered outside of the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%.
	PFDoS	53/49	-	52-139/-	
	11Cl-PF3OUdS	25/25	-	45-105/-	

LCS/LCSD ID	Compound	LCS/ LCSD %Rs	RPD (%)	LCS/LCSD %R/RPD Limits	Validation Actions
LCS 320-825295/2-A/ LCSD 320-825295/3-A (post-TOP assay) (continued)	ADONA	-/-	62	-/30	No validation action was required on this basis since post-TOP assay ADONA was not detected in the associated sample.
Associated sample: Eff-202412					
-: Met criteria					

Additional note: The laboratory stated in the case narrative that enhanced post-TOP assay LCS/LCSD %Rs for the perfluoroalkyl carboxylic acids [PFCAs]) (i.e., PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFNA, and PFDA) is consistent with the expected oxidation of precursor analytes. The laboratory uses elevated %R acceptance limits to account for this expected oxidation; therefore, the post-TOP assay LCS/LCSD %Rs for the PFCAs were evaluated against the laboratory's limits only and were not evaluated against the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%. Where the post-TOP assay LCS/LCSD %Rs of the PFCA compounds exceeded the elevated laboratory limits, professional judgement was used and samples were qualified as estimated without a direction of bias (J). It should also be noted that the laboratory stated in the case narrative that zero %R of precursor analytes (i.e., ADONA, 4:2 FTS, 6:2 FTS, 8:2 FTS, FOSA, NMeFOSAA, NEtFOSAA, NEtFOSA, NMeFOSA, NMeFOSE, and NEtFOSE) is also expected in the post-TOP assay due to the oxidation of these compounds during the TOP Assay procedure; %Rs less than 10% were observed for the listed precursors. No validation actions were taken on this basis. Post-TOP assay LCS/LCSD %Rs for other PFAS were evaluated against both the laboratory's limits and the applicable Wisconsin PFAS Aqueous (Non-Potable Water) and Non-Aqueous Matrices Method Expectations acceptance limits of 60-135%.

- MS/MSD analyses were performed on sample BIO-A-22-202412 for total PFAS. The MS/MSD %Rs and RPDs were within the laboratory's acceptance limits except as noted in the table below.

Parent Sample ID	Compound	MS/MSD %Rs	MS/MSD RPD (%)	MS/MSD %R/RPD Limits	Validation Actions
BIO-A-22-202412 (total PFAS)	PFHxA	36/63	-	70-130/30	The result for total PFHxA in the parent sample was >4x the MSD spike concentration and was just slightly below 4x the MS spike concentration. Therefore, based on professional judgment, no validation actions were taken on this basis.
	PFOA	-/69	-		The positive results for total PFOA and total NEtFOSE were qualified as estimated (J-) with a potential low bias in sample BIOA-22-202412.
	NEtFOSE	-/68	-		
	PFTrDA	64/65	-		The positive result for total PFTrDA was qualified as estimated (J) in sample BIOA-22-202412. Low bias was not applied since this result was also qualified as estimated (J) due to detection <QL.
	PFDS	63/-	-		The positive result for total PFDS was qualified as estimated (J) in sample BIOA-22-202412. Low bias was not applied since this result was also qualified as estimated (J) due to an ion ratio nonconformance.
	PFDoS	61/68	-		The nondetect result for total PFDoS was qualified as estimated (UJ) in sample BIOA-22-202412.
	PFHxS	-/133	-		No validation action was required on this basis since total PFHxS was not detected in sample BIOA-22-202412.
	NMeFOSE	131/-	-		The positive result for NMeFOSE was qualified as estimated (J+) with a potential high bias in sample BIOA-22-202412.
-: Met criteria					

The reverse surrogate (M2-4:2 FTS) was within the laboratory's acceptance limits (0-10%) in the post-TOP assay analyses. The following table summarizes the remaining isotopically labeled surrogate %Rs that were outside of the laboratory's acceptance limits, the associated samples, and the validation actions.

Sample ID	Surrogate	%R	%R Acceptance Limits	Validation Action*
Inf-02-202412 (total PFAS)	13C2 PFTeDA	17	25-150	The nondetect results for total PFTeA were qualified as estimated (UJ) in samples Inf-02-202412, Inf-07-202412, Inf-08-202412, Inf-11-202412, Inf-18-202412, and Inf-Comp-202412.
Inf-07-202412 (total PFAS)		16		
Inf-08-202412 (total PFAS)		21		
Inf-11-202412 (total PFAS)		14		
Inf-18-202412 (total PFAS)		20		
Inf-Comp-202412 (total PFAS)		16		
BIO-A-22-202412 (total PFAS)		14		The positive results for total PFTeA were qualified as estimated (J) in samples BIO-A-22-202412, BIO-A-23-202412, and BIO-A-24-202412.
BIO-A-23-202412 (total PFAS)		17		
BIO-A-24-202412 (total PFAS)		19		
Inf-02-202412 (total PFAS)	M2-4:2 FTS	173		No validation action was required on this basis since total 4:2 FTS, total 6:2 FTS, and total 8:2 FTS were not detected in these samples.
	M2-6:2 FTS	289		
	M2-8:2 FTS	249		
Inf-07-202412 (total PFAS)	M2-4:2 FTS	204		
	M2-6:2 FTS	286		
	M2-8:2 FTS	247		
Inf-11-202412 (total PFAS)	M2-4:2 FTS	200		
	M2-6:2 FTS	274		
	M2-8:2 FTS	251		
Inf-Comp-202412 (total PFAS)	M2-4:2 FTS	170		
	M2-6:2 FTS	269		
	M2-8:2 FTS	241		
Inf-08-202412 (total PFAS)	M2-6:2 FTS	237		No validation action was required on this basis since total 6:2 FTS and total 8:2 FTS were not detected in this sample.
	M2-8:2 FTS	225		
Inf-18-202412 (total PFAS)	M2-4:2 FTS	167		The positive result for total 6:2 FTS was qualified as estimated (J) in sample Inf-18-202412. No validation action was required for total 4:2 FTS or total 8:2 FTS since these analytes were not detected in this sample.
	M2-6:2 FTS	299		
	M2-8:2 FTS	282		
Eff-202412 (total PFAS)	M2-4:2 FTS	189		No validation action was required on this basis since total 4:2 FTS was not detected in this sample.

Sample ID	Surrogate	%R	%R Acceptance Limits	Validation Action*
BIO-A-22-202412 (total PFAS)	M2-4:2 FTS	191		The positive results for total 6:2 FTS and total 8:2 FTS were qualified as estimated (J) in sample BIO-A-22-202412. No validation action was required for total 4:2 FTS since this analyte was not detected in this sample.
	M2-6:2 FTS	229		
	M2-8:2 FTS	275		
BIO-A-22-202412 (pre-TOP assay)	M2-4:2 FTS	158	25-150	The positive result for pre-TOP assay 6:2 FTS was qualified as estimated (J) in sample BIO-A-22-202412. No validation action was required for pre-TOP assay 4:2 FTS since this analyte was not detected in this sample.
	M2-6:2 FTS	153		
BIO-A-23-202412 (total PFAS)	M2-4:2 FTS	186		The positive results for total PFAS 6:2 FTS and total 8:2 FTS were qualified as estimated (J) in sample BIO-A-23-202412. No validation action was required for total 4:2 FTS since this analyte was not detected in this sample.
	M2-6:2 FTS	201		
	M2-8:2 FTS	267		
BIO-A-23-202412 (pre-TOP assay)	M2-6:2 FTS	151		The positive result for pre-TOP assay 6:2 FTS was qualified as estimated (J) in sample BIO-A-23-202412.
BIO-A-24-202412 (total PFAS)	M2-4:2 FTS	196		The positive results for total 6:2 FTS and total 8:2 FTS were qualified as estimated (J) in sample BIO-A-24-202412. No validation action was required for total 4:2 FTS since this analyte was not detected in this sample.
	M2-6:2 FTS	189		
	M2-8:2 FTS	283		
BIO-B-202412 (total PFAS)	M2-4:2 FTS	170		No validation action was required on this basis since total 4:2 FTS, total 6:2 FTS, and total 8:2 FTS were not detected in this sample.
	M2-6:2 FTS	220		
	M2-8:2 FTS	302		
BIO-B-202412 (pre-TOP assay)	M2-4:2 FTS	155		No validation action was required on this basis since pre-TOP assay 4:2 FTS, pre-TOP assay 6:2 FTS, and pre-TOP assay 8:2 FTS were not detected in this sample.
	M2-6:2 FTS	158		
	M2-8:2 FTS	172		

* Note that select results were also qualified as estimated (J) by the laboratory due to detection between the method detection limit (MDL) and QL.

- A field duplicate pair was not collected with this sample set.
- A laboratory duplicate analysis was not performed on a sample from this data set.
- The laboratory noted the following observations in the case narrative. No validation actions were taken on this basis.
  - Sample Eff-202412 had a thin layer of sediment present in the bottom of the bottle prior to extraction for total PFAS.
  - Samples Inf-02-202412, Inf-07-202412, Inf-08-202412, Inf-11-202412, Inf-18-202412, and Inf-Comp-202412 were yellow in color, had a thin layer of sediment present in the bottom of the bottle, and contained floating particulates in the bottle prior to extraction and were yellow in color after extraction for total PFAS. Further, during the solid phase extraction (SPE) process, these samples contained non-settable particulates which clogged the SPE column for total PFAS. The volumes of the samples that was extracted via SPE prior to the clogging of the SPE cartridge are as follows: 79.3%, 79%, 57.5, 75.5%, 74.2%, and 76.1%, respectively. The remainder of the unfiltered sample was retained in the original sample bottle. The SPE column along with the particulates that clogged the cartridge is then extracted using the elution solvent. The

laboratory confirmed during previous reviews that samples are spiked with extracted internal standards (or isotopically labeled surrogates) prior to filtration through the SPE column; thus, no validation actions were taken on this basis.

- Samples BIOA-22-202412, BIO-B-202412, BIO-A-23-202412, and BIO-A-24-202412 were light yellow in color following concentration for total PFAS.

- Select sample QLs were outside of the ranges of QLs suggested in the SAB of 2-5 ng/L and 1-5 ug/kg per individual PFAS due to sample volume, low total solids, and/or dilution (as noted below).
- The QLs for TSS in samples Inf-02-202412, Inf-07-202412, Inf-08-202412, Inf-11-202412, Inf-18-202412, and Inf-Comp-202412 were 8.4-10x higher than the associated method blank due to a reduced volume (50-60 mLs versus the typical 500 mL) used in the sample analyses. There is no adverse impact on the data usability due to this issue since TSS was detected above the QL in these samples. No validation action was required on this basis.
- The results for the following PFAS in the samples listed below were flagged with an "I" by the laboratory indicating that the ion transition ratio did not meet the acceptance limits; thus, the positive results for the listed PFAS in the samples listed below were qualified as estimated (J).
  - Total PFBS in sample Eff-202412;
  - Pre-TOP assay PFBS in sample Eff-202412*;
  - Total PFDS in sample BIO-A-22-202412;
  - Post-TOP assay PFDoA in sample BIO-B-202412*;
  - Total PFHxS in sample BIO-A-24-202412;
  - Pre-TOP assay PFHxS in sample BIO-B-202412*;
  - Total PFHxA in samples Inf-02-202412, Inf-11-202412, and BIO-B-202412*;
  - Total PFOS in sample BIO-B-202412;
  - Pre-TOP assay PFOS in sample Eff-202412*
  - Post-TOP assay PFTrDA in sample BIO-B-202412*; and
  - Pre-TOP assay PFUnA in samples BIO-A-22-202412* and BIO-A-23-202412*.

    * This result was also qualified as estimated (J) by the laboratory due to detection < the QL.

- The laboratory noted in the case narrative and through the use of a "CI" qualifier that sample Inf-02-202412 had chromatographic interferences that could adversely impact the identification and quantitation of PFBS; the laboratory noted that the interference could cause false positive results. Therefore, the positive result for PFBS in sample Inf-02-202412 was qualified as estimated (J+) with a potential high bias.
- The percent moisture for select biosolids samples in this data set were high (>70% moisture). The laboratory has been contacted during previous rounds of validation review regarding this issue and stated that the biosolids samples were agitated and then immediately aliquoted for extraction after agitation, indicating that a representative sample was extracted for PFAS analysis. No validation actions were taken on this basis.

  The laboratory noted select continuing calibration verification (CCV) nonconformances in the case narrative. No validation actions were taken on this basis since the actual CCV results were not provided for review.

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Client Sample ID: Inf-02-202412

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.8**	**J**	4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluoropentanoic acid (PFPeA)	**3.9**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorohexanoic acid (PFHxA)	**4.6**	**I** J	1.7	0.50	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluoroheptanoic acid (PFHpA)	**0.89**	**J**	1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorooctanoic acid (PFOA)	**2.9**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.48	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.7	0.63	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorobutanesulfonic acid (PFBS)	**1.9**	~~CI~~ J+	1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorohexanesulfonic acid (PFHxS)	**3.9**		1.7	0.50	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.84	ng/L		12/18/24 11:58	12/19/24 17:35	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.85	ng/L		12/18/24 11:58	12/19/24 17:35	1
NEtFOSA	ND		1.7	0.76	ng/L		12/18/24 11:58	12/19/24 17:35	1
NMeFOSA	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
NMeFOSAA	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:35	1
NEtFOSAA	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:35	1
NMeFOSE	ND		3.5	1.2	ng/L		12/18/24 11:58	12/19/24 17:35	1
NEtFOSE	ND		1.7	0.74	ng/L		12/18/24 11:58	12/19/24 17:35	1
4:2 FTS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
6:2 FTS	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:35	1
8:2 FTS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
HFPO-DA (GenX)	ND		3.5	0.87	ng/L		12/18/24 11:58	12/19/24 17:35	1
9Cl-PF3ONS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:35	1
11Cl-PF3OUdS	ND		1.7	0.60	ng/L		12/18/24 11:58	12/19/24 17:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C5 PFPeA	*73*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C2 PFHxA	*87*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C4 PFHpA	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C4 PFOA	*89*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C5 PFNA	*85*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C2 PFDA	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C2 PFUnA	*71*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C2 PFDoA	*51*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C2 PFTeDA	*17*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C3 PFBS	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*

Client Sample ID: Inf-02-202412

Lab Sample ID: 320-117663-1
Matrix: Water

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*80*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C4 PFOS	*76*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C8 FOSA	*57*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d3-NMeFOSAA	*44*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d5-NEtFOSAA	*57*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d-N-MeFOSA-M	*47*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d-N-EtFOSA-M	*28*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d7-N-MeFOSE-M	*42*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
d9-N-EtFOSE-M	*35*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
M2-4:2 FTS	*173*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
M2-6:2 FTS	*289*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
M2-8:2 FTS	*249*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*
13C3 HFPO-DA	*71*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:35*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		50	19	mg/L			12/13/24 16:38	1

Client Sample ID: Inf-07-202412

Lab Sample ID: 320-117663-2
Matrix: Water

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**17**		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluoropentanoic acid (PFPeA)	**8.4**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorohexanoic acid (PFHxA)	**14**		1.7	0.49	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluoroheptanoic acid (PFHpA)	**2.0**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorooctanoic acid (PFOA)	**5.4**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.47	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.7	0.62	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorobutanesulfonic acid (PFBS)	**6.7**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorohexanesulfonic acid (PFHxS)	**5.9**		1.7	0.48	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorooctanesulfonic acid (PFOS)	**3.5**		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.82	ng/L		12/18/24 11:58	12/19/24 17:49	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.83	ng/L		12/18/24 11:58	12/19/24 17:49	1
NEtFOSA	ND		1.7	0.74	ng/L		12/18/24 11:58	12/19/24 17:49	1

Client Sample ID: Inf-07-202412

Lab Sample ID: 320-117663-2

Date Collected: 12/09/24 23:59

Matrix: Water

Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
NMeFOSAA	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:49	1
NEtFOSAA	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:49	1
NMeFOSE	**3.0**	**J**	3.4	1.2	ng/L		12/18/24 11:58	12/19/24 17:49	1
NEtFOSE	**1.3**	**J**	1.7	0.72	ng/L		12/18/24 11:58	12/19/24 17:49	1
4:2 FTS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
6:2 FTS	ND		4.3	1.1	ng/L		12/18/24 11:58	12/19/24 17:49	1
8:2 FTS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
HFPO-DA (GenX)	ND		3.4	0.85	ng/L		12/18/24 11:58	12/19/24 17:49	1
9Cl-PF3ONS	ND		1.7	0.43	ng/L		12/18/24 11:58	12/19/24 17:49	1
11Cl-PF3OUdS	ND		1.7	0.59	ng/L		12/18/24 11:58	12/19/24 17:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*57*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C5 PFPeA	*72*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C2 PFHxA	*89*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C4 PFHpA	*84*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C4 PFOA	*93*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C5 PFNA	*89*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C2 PFDA	*85*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C2 PFUnA	*71*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C2 PFDoA	*49*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C2 PFTeDA	*16*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C3 PFBS	*78*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
18O2 PFHxS	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C4 PFOS	*77*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C8 FOSA	*58*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d3-NMeFOSAA	*43*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d5-NEtFOSAA	*61*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d-N-MeFOSA-M	*48*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d-N-EtFOSA-M	*25*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d7-N-MeFOSE-M	*43*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
d9-N-EtFOSE-M	*34*		*10 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
M2-4:2 FTS	*204*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
M2-6:2 FTS	*286*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
M2-8:2 FTS	*247*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*
13C3 HFPO-DA	*72*		*25 - 150*	*12/18/24 11:58*	*12/19/24 17:49*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**150**		42	16	mg/L			12/13/24 16:40	1

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Client Sample ID: Inf-08-202412

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.4**	**J**	4.1	1.0	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluoropentanoic acid (PFPeA)	**3.0**		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorohexanoic acid (PFHxA)	**3.7**		1.6	0.48	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluoroheptanoic acid (PFHpA)	**0.50**	**J**	1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorooctanoic acid (PFOA)	**1.9**		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorodecanoic acid (PFDA)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluoroundecanoic acid (PFUnA)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorododecanoic acid (PFDoA)	ND		1.6	0.45	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.6	0.60	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**	**J**	1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorohexanesulfonic acid (PFHxS)	**3.4**		1.6	0.47	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorononanesulfonic acid (PFNS)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.6	0.80	ng/L		12/18/24 11:58	12/19/24 18:03	1
Perfluorooctanesulfonamide (FOSA)	ND		1.6	0.81	ng/L		12/18/24 11:58	12/19/24 18:03	1
NEtFOSA	ND		1.6	0.72	ng/L		12/18/24 11:58	12/19/24 18:03	1
NMeFOSA	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
NMeFOSAA	ND		4.1	1.0	ng/L		12/18/24 11:58	12/19/24 18:03	1
NEtFOSAA	ND		4.1	1.0	ng/L		12/18/24 11:58	12/19/24 18:03	1
NMeFOSE	**1.9**	**J**	3.3	1.2	ng/L		12/18/24 11:58	12/19/24 18:03	1
NEtFOSE	ND		1.6	0.70	ng/L		12/18/24 11:58	12/19/24 18:03	1
4:2 FTS	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
6:2 FTS	ND		4.1	1.0	ng/L		12/18/24 11:58	12/19/24 18:03	1
8:2 FTS	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
HFPO-DA (GenX)	ND		3.3	0.82	ng/L		12/18/24 11:58	12/19/24 18:03	1
9Cl-PF3ONS	ND		1.6	0.41	ng/L		12/18/24 11:58	12/19/24 18:03	1
11Cl-PF3OUdS	ND		1.6	0.57	ng/L		12/18/24 11:58	12/19/24 18:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C5 PFPeA	*66*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C2 PFHxA	*74*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C4 PFHpA	*73*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C4 PFOA	*80*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C5 PFNA	*78*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C2 PFDA	*77*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C2 PFUnA	*71*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C2 PFDoA	*54*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C2 PFTeDA	*21*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C3 PFBS	*68*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*

Client Sample ID: Inf-08-202412

Lab Sample ID: 320-117663-3

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*69*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C4 PFOS	*66*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C8 FOSA	*57*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d3-NMeFOSAA	*44*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d5-NEtFOSAA	*62*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d-N-MeFOSA-M	*48*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d-N-EtFOSA-M	*33*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d7-N-MeFOSE-M	*42*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
d9-N-EtFOSE-M	*46*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
M2-4:2 FTS	*142*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
M2-6:2 FTS	*237*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
M2-8:2 FTS	*225*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*
13C3 HFPO-DA	*64*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:03*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**250**		50	19	mg/L			12/13/24 16:41	1

Client Sample ID: Inf-11-202412

Lab Sample ID: 320-117663-4

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.2**	J	4.6	1.1	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluoropentanoic acid (PFPeA)	**2.1**		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorohexanoic acid (PFHxA)	**3.5**	I J	1.8	0.53	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorooctanoic acid (PFOA)	**1.9**		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.8	0.67	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.52	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.88	ng/L		12/18/24 11:58	12/19/24 18:17	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.89	ng/L		12/18/24 11:58	12/19/24 18:17	1
NEtFOSA	ND		1.8	0.79	ng/L		12/18/24 11:58	12/19/24 18:17	1
NMeFOSA	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
NMeFOSAA	ND		4.6	1.1	ng/L		12/18/24 11:58	12/19/24 18:17	1

Client Sample ID: Inf-11-202412

Lab Sample ID: 320-117663-4

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	ND		4.6	1.1	ng/L		12/18/24 11:58	12/19/24 18:17	1
NMeFOSE	**2.7**	**J**	3.6	1.3	ng/L		12/18/24 11:58	12/19/24 18:17	1
NEtFOSE	ND		1.8	0.78	ng/L		12/18/24 11:58	12/19/24 18:17	1
4:2 FTS	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
6:2 FTS	ND		4.6	1.1	ng/L		12/18/24 11:58	12/19/24 18:17	1
8:2 FTS	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
HFPO-DA (GenX)	ND		3.6	0.91	ng/L		12/18/24 11:58	12/19/24 18:17	1
9Cl-PF3ONS	ND		1.8	0.46	ng/L		12/18/24 11:58	12/19/24 18:17	1
11Cl-PF3OUdS	ND		1.8	0.63	ng/L		12/18/24 11:58	12/19/24 18:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C5 PFPeA	*75*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C2 PFHxA	*89*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C4 PFHpA	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C4 PFOA	*89*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C5 PFNA	*84*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C2 PFDA	*85*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C2 PFUnA	*73*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C2 PFDoA	*58*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C2 PFTeDA	*14*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C3 PFBS	*72*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
18O2 PFHxS	*80*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C4 PFOS	*78*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C8 FOSA	*58*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d3-NMeFOSAA	*41*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d5-NEtFOSAA	*61*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d-N-MeFOSA-M	*53*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d-N-EtFOSA-M	*22*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d7-N-MeFOSE-M	*49*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
d9-N-EtFOSE-M	*31*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
M2-4:2 FTS	*200*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
M2-6:2 FTS	*274*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
M2-8:2 FTS	*251*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*
13C3 HFPO-DA	*69*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:17*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**260**		50	19	mg/L			12/13/24 16:43	1

Client Sample ID: Inf-18-202412

Lab Sample ID: 320-117663-5

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**9.3**		4.2	1.0	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluoropentanoic acid (PFPeA)	**5.3**		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1

Client Sample ID: Inf-18-202412

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-5

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**6.8**		1.7	0.48	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluoroheptanoic acid (PFHpA)	**1.9**		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorooctanoic acid (PFOA)	**8.9**		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.46	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.7	0.61	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorobutanesulfonic acid (PFBS)	**3.4**		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluoropentanesulfonic acid (PFPeS)	**1.0**	**J**	1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorohexanesulfonic acid (PFHxS)	**16**		1.7	0.48	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorooctanesulfonic acid (PFOS)	**6.8**		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.81	ng/L		12/18/24 11:58	12/19/24 18:31	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.82	ng/L		12/18/24 11:58	12/19/24 18:31	1
NEtFOSA	ND		1.7	0.73	ng/L		12/18/24 11:58	12/19/24 18:31	1
NMeFOSA	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
NMeFOSAA	ND		4.2	1.0	ng/L		12/18/24 11:58	12/19/24 18:31	1
NEtFOSAA	ND		4.2	1.0	ng/L		12/18/24 11:58	12/19/24 18:31	1
NMeFOSE	**1.6**	**J**	3.3	1.2	ng/L		12/18/24 11:58	12/19/24 18:31	1
NEtFOSE	ND		1.7	0.71	ng/L		12/18/24 11:58	12/19/24 18:31	1
4:2 FTS	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
6:2 FTS	**1.9**	~~J~~ J	4.2	1.0	ng/L		12/18/24 11:58	12/19/24 18:31	1
8:2 FTS	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
HFPO-DA (GenX)	ND		3.3	0.84	ng/L		12/18/24 11:58	12/19/24 18:31	1
9Cl-PF3ONS	ND		1.7	0.42	ng/L		12/18/24 11:58	12/19/24 18:31	1
11Cl-PF3OUdS	ND		1.7	0.58	ng/L		12/18/24 11:58	12/19/24 18:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*66*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C5 PFPeA	*83*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C2 PFHxA	*94*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C4 PFHpA	*90*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C4 PFOA	*92*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C5 PFNA	*93*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C2 PFDA	*94*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C2 PFUnA	*81*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C2 PFDoA	*68*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C2 PFTeDA	*20*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C3 PFBS	*84*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
18O2 PFHxS	*88*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*

Client Sample ID: Inf-18-202412

Lab Sample ID: 320-117663-5
Matrix: Water

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*86*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C8 FOSA	*67*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d3-NMeFOSAA	*47*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d5-NEtFOSAA	*71*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d-N-MeFOSA-M	*66*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d-N-EtFOSA-M	*32*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d7-N-MeFOSE-M	*57*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
d9-N-EtFOSE-M	*47*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
M2-4:2 FTS	*167*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
M2-6:2 FTS	*299*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
M2-8:2 FTS	*282*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*
13C3 HFPO-DA	*79*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:31*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**280**		50	19	mg/L			12/13/24 16:45	1

Client Sample ID: Inf-Comp-202412

Lab Sample ID: 320-117663-6
Matrix: Water

Date Collected: 12/09/24 23:59
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.2**		4.8	1.2	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluoropentanoic acid (PFPeA)	**4.7**		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorohexanoic acid (PFHxA)	**6.3**		1.9	0.56	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluoroheptanoic acid (PFHpA)	**1.2**	**J**	1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorooctanoic acid (PFOA)	**4.9**		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorotetradecanoic acid (PFTeA)	ND	UJ	1.9	0.70	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorohexanesulfonic acid (PFHxS)	**7.4**		1.9	0.55	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorooctanesulfonic acid (PFOS)	**4.0**		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.9	0.93	ng/L		12/18/24 11:58	12/19/24 18:45	1
Perfluorooctanesulfonamide (FOSA)	ND		1.9	0.94	ng/L		12/18/24 11:58	12/19/24 18:45	1
NEtFOSA	ND		1.9	0.83	ng/L		12/18/24 11:58	12/19/24 18:45	1
NMeFOSA	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1

Client Sample ID: Inf-Comp-202412

Lab Sample ID: 320-117663-6

Date Collected: 12/09/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSAA	ND		4.8	1.2	ng/L		12/18/24 11:58	12/19/24 18:45	1
NEtFOSAA	ND		4.8	1.2	ng/L		12/18/24 11:58	12/19/24 18:45	1
NMeFOSE	**1.8**	**J**	3.8	1.3	ng/L		12/18/24 11:58	12/19/24 18:45	1
NEtFOSE	ND		1.9	0.81	ng/L		12/18/24 11:58	12/19/24 18:45	1
4:2 FTS	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
6:2 FTS	ND		4.8	1.2	ng/L		12/18/24 11:58	12/19/24 18:45	1
8:2 FTS	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
HFPO-DA (GenX)	ND		3.8	0.96	ng/L		12/18/24 11:58	12/19/24 18:45	1
9Cl-PF3ONS	ND		1.9	0.48	ng/L		12/18/24 11:58	12/19/24 18:45	1
11Cl-PF3OUdS	ND		1.9	0.66	ng/L		12/18/24 11:58	12/19/24 18:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*63*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C5 PFPeA	*70*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C2 PFHxA	*87*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C4 PFHpA	*81*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C4 PFOA	*86*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C5 PFNA	*85*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C2 PFDA	*82*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C2 PFUnA	*69*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C2 PFDoA	*50*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C2 PFTeDA	*16*	**5-*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C3 PFBS	*75*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
18O2 PFHxS	*81*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C4 PFOS	*74*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C8 FOSA	*58*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d3-NMeFOSAA	*42*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d5-NEtFOSAA	*59*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d-N-MeFOSA-M	*52*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d-N-EtFOSA-M	*28*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d7-N-MeFOSE-M	*45*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
d9-N-EtFOSE-M	*37*		*10 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
M2-4:2 FTS	*170*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
M2-6:2 FTS	*269*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
M2-8:2 FTS	*241*	**5+*	*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*
13C3 HFPO-DA	*67*		*25 - 150*	*12/18/24 11:58*	*12/19/24 18:45*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	**250**		50	19	mg/L			12/13/24 16:46	1

Client Sample ID: Eff-202412

Lab Sample ID: 320-117663-7

Date Collected: 12/10/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.9**		4.1	1.0	ng/L		12/13/24 12:36	12/16/24 22:28	1

Client Sample ID: Eff-202412

Date Collected: 12/10/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**11**		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorohexanoic acid (PFHxA)	**12**		1.7	0.48	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorooctanoic acid (PFOA)	**6.5**		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorononanoic acid (PFNA)	**0.83**	**J**	1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.45	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.60	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorobutanesulfonic acid (PFBS)	**3.8**	**I J**	1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluoropentanesulfonic acid (PFPeS)	**0.51**	**J**	1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorohexanesulfonic acid (PFHxS)	**6.5**		1.7	0.47	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorooctanesulfonic acid (PFOS)	**3.6**		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.7	0.80	ng/L		12/13/24 12:36	12/16/24 22:28	1
Perfluorooctanesulfonamide (FOSA)	ND		1.7	0.81	ng/L		12/13/24 12:36	12/16/24 22:28	1
NEtFOSA	ND		1.7	0.72	ng/L		12/13/24 12:36	12/16/24 22:28	1
NMeFOSA	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
NMeFOSAA	ND		4.1	1.0	ng/L		12/13/24 12:36	12/16/24 22:28	1
NEtFOSAA	ND		4.1	1.0	ng/L		12/13/24 12:36	12/16/24 22:28	1
NMeFOSE	ND		3.3	1.2	ng/L		12/13/24 12:36	12/16/24 22:28	1
NEtFOSE	ND	~~*1~~	1.7	0.70	ng/L		12/13/24 12:36	12/16/24 22:28	1
4:2 FTS	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
6:2 FTS	ND		4.1	1.0	ng/L		12/13/24 12:36	12/16/24 22:28	1
8:2 FTS	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
HFPO-DA (GenX)	ND		3.3	0.83	ng/L		12/13/24 12:36	12/16/24 22:28	1
9Cl-PF3ONS	ND		1.7	0.41	ng/L		12/13/24 12:36	12/16/24 22:28	1
11Cl-PF3OUdS	ND		1.7	0.57	ng/L		12/13/24 12:36	12/16/24 22:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C5 PFPeA	*101*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C2 PFHxA	*115*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C4 PFHpA	*100*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C4 PFOA	*101*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C5 PFNA	*103*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C2 PFDA	*103*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C2 PFUnA	*92*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C2 PFDoA	*68*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C2 PFTeDA	*55*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C3 PFBS	*110*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*

Client Sample ID: Eff-202412

Date Collected: 12/10/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
18O2 PFHxS	*111*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C4 PFOS	*104*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C8 FOSA	*95*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
d3-NMeFOSAA	*70*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
d5-NEtFOSAA	*69*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
d-N-MeFOSA-M	*77*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
d-N-EtFOSA-M	*73*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
d7-N-MeFOSE-M	*58*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
d9-N-EtFOSE-M	*67*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
M2-4:2 FTS	*189*	**5+*	*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
M2-6:2 FTS	*144*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
M2-8:2 FTS	*126*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*
13C3 HFPO-DA	*93*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:28*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.2**	**J**	13	3.1	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluoropentanoic acid (PFPeA)	**12**		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorohexanoic acid (PFHxA)	**14**		5.0	1.5	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluoroheptanoic acid (PFHpA)	**1.6**	**J**	5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorooctanoic acid (PFOA)	**6.9**		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorononanoic acid (PFNA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorodecanoic acid (PFDA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	1.8	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorobutanesulfonic acid (PFBS)	**4.6**	**~~J~~ I J**	5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorohexanesulfonic acid (PFHxS)	**7.3**		5.0	1.4	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorooctanesulfonic acid (PFOS)	**4.2**	**~~J~~ I J**	5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		5.0	2.4	ng/L		01/02/25 04:13	01/03/25 19:45	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	2.5	ng/L		01/02/25 04:13	01/03/25 19:45	1
NMeFOSAA	ND		13	3.1	ng/L		01/02/25 04:13	01/03/25 19:45	1
NEtFOSAA	ND		13	3.1	ng/L		01/02/25 04:13	01/03/25 19:45	1
4:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
6:2 FTS	ND		13	3.1	ng/L		01/02/25 04:13	01/03/25 19:45	1
8:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
NEtFOSA	ND		5.0	2.2	ng/L		01/02/25 04:13	01/03/25 19:45	1
NMeFOSA	ND	~~*-~~	5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
NMeFOSE	ND		10	3.5	ng/L		01/02/25 04:13	01/03/25 19:45	1
NEtFOSE	ND		5.0	2.1	ng/L		01/02/25 04:13	01/03/25 19:45	1

Client Sample ID: Eff-202412

Date Collected: 12/10/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA (GenX)	ND		10	2.5	ng/L		01/02/25 04:13	01/03/25 19:45	1
9Cl-PF3ONS	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1
11Cl-PF3OUdS	ND		5.0	1.7	ng/L		01/02/25 04:13	01/03/25 19:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		5.0	1.3	ng/L		01/02/25 04:13	01/03/25 19:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*86*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C4 PFBA	*96*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C5 PFPeA	*96*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C2 PFHxA	*102*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C4 PFHpA	*97*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C4 PFOA	*97*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C5 PFNA	*95*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C2 PFDA	*96*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C2 PFUnA	*94*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C2 PFDoA	*96*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C2 PFTeDA	*81*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C3 PFBS	*97*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
18O2 PFHxS	*93*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C4 PFOS	*87*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d3-NMeFOSAA	*104*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d5-NEtFOSAA	*106*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
M2-4:2 FTS	*114*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
M2-6:2 FTS	*112*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
M2-8:2 FTS	*102*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d-N-MeFOSA-M	*89*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d-N-EtFOSA-M	*87*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d7-N-MeFOSE-M	*88*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
d9-N-EtFOSE-M	*83*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*
13C3 HFPO-DA	*90*		*25 - 150*	*01/02/25 04:13*	*01/03/25 19:45*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**25**	~~B~~ U	13	3.1	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluoropentanoic acid (PFPeA)	**23**	~~*+~~ J	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorohexanoic acid (PFHxA)	**19**	~~*+~~ J	5.0	1.5	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluoroheptanoic acid (PFHpA)	**2.7**	**J**	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorooctanoic acid (PFOA)	**8.9**		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorononanoic acid (PFNA)	**1.3**	**J**	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorodecanoic acid (PFDA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluoroundecanoic acid (PFUnA)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorododecanoic acid (PFDoA)	ND		5.0	1.4	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorotridecanoic acid (PFTrDA)	ND	~~*-~~	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		5.0	1.8	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorobutanesulfonic acid (PFBS)	**3.6**	**J**	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluoropentanesulfonic acid (PFPeS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorohexanesulfonic acid (PFHxS)	**7.0**		5.0	1.4	ng/L		01/02/25 04:19	01/04/25 01:08	1

Client Sample ID: Eff-202412

Date Collected: 12/10/24 23:59
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid (PFHpS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorooctanesulfonic acid (PFOS)	**3.2**	**J**	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorononanesulfonic acid (PFNS)	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorodecanesulfonic acid (PFDS)	ND	~~*~~ UJ	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorododecanesulfonic acid (PFDoS)	ND	~~*~~ UJ	5.0	2.4	ng/L		01/02/25 04:19	01/04/25 01:08	1
Perfluorooctanesulfonamide (FOSA)	ND		5.0	2.5	ng/L		01/02/25 04:19	01/04/25 01:08	1
NMeFOSAA	ND		13	3.1	ng/L		01/02/25 04:19	01/04/25 01:08	1
NEtFOSAA	ND		13	3.1	ng/L		01/02/25 04:19	01/04/25 01:08	1
4:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
6:2 FTS	ND		13	3.1	ng/L		01/02/25 04:19	01/04/25 01:08	1
8:2 FTS	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
NEtFOSA	ND		5.0	2.2	ng/L		01/02/25 04:19	01/04/25 01:08	1
NMeFOSA	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
NMeFOSE	ND		10	3.5	ng/L		01/02/25 04:19	01/04/25 01:08	1
NEtFOSE	ND		5.0	2.1	ng/L		01/02/25 04:19	01/04/25 01:08	1
HFPO-DA (GenX)	ND		10	2.5	ng/L		01/02/25 04:19	01/04/25 01:08	1
9Cl-PF3ONS	ND		5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1
11Cl-PF3OUdS	ND	~~*~~ UJ	5.0	1.7	ng/L		01/02/25 04:19	01/04/25 01:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	~~*1~~	5.0	1.3	ng/L		01/02/25 04:19	01/04/25 01:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*92*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C4 PFBA	*97*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C5 PFPeA	*93*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C2 PFHxA	*101*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C4 PFHpA	*99*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C4 PFOA	*99*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C5 PFNA	*96*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C2 PFDA	*86*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C2 PFUnA	*81*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C2 PFDoA	*74*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C2 PFTeDA	*65*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C3 PFBS	*96*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
18O2 PFHxS	*100*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C4 PFOS	*91*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d5-NEtFOSAA	*95*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
M2-6:2 FTS	*112*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
M2-8:2 FTS	*95*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d-N-MeFOSA-M	*70*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d-N-EtFOSA-M	*64*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d7-N-MeFOSE-M	*72*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
d9-N-EtFOSE-M	*62*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*01/02/25 04:19*	*01/04/25 01:08*	*1*

Client Sample ID: Eff-202412

Lab Sample ID: 320-117663-7

Date Collected: 12/10/24 23:59
Matrix: Water
Date Received: 12/12/24 10:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids (SM 2540D)	7.2		5.0	1.9	mg/L			12/16/24 13:29	1

Client Sample ID: EB01-202412

Lab Sample ID: 320-117663-8

Date Collected: 12/09/24 13:00
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.5	1.1	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.52	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.52	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.88	ng/L		12/13/24 12:36	12/16/24 22:42	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.89	ng/L		12/13/24 12:36	12/16/24 22:42	1
NEtFOSA	ND		1.8	0.79	ng/L		12/13/24 12:36	12/16/24 22:42	1
NMeFOSA	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
NMeFOSAA	ND		4.5	1.1	ng/L		12/13/24 12:36	12/16/24 22:42	1
NEtFOSAA	ND		4.5	1.1	ng/L		12/13/24 12:36	12/16/24 22:42	1
NMeFOSE	ND		3.6	1.3	ng/L		12/13/24 12:36	12/16/24 22:42	1
NEtFOSE	ND	~~*1~~	1.8	0.77	ng/L		12/13/24 12:36	12/16/24 22:42	1
4:2 FTS	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
6:2 FTS	ND		4.5	1.1	ng/L		12/13/24 12:36	12/16/24 22:42	1
8:2 FTS	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
HFPO-DA (GenX)	ND		3.6	0.90	ng/L		12/13/24 12:36	12/16/24 22:42	1
9Cl-PF3ONS	ND		1.8	0.45	ng/L		12/13/24 12:36	12/16/24 22:42	1
11Cl-PF3OUdS	ND		1.8	0.62	ng/L		12/13/24 12:36	12/16/24 22:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*107*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C5 PFPeA	*102*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C2 PFHxA	*109*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C4 PFHpA	*98*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*

Client Sample ID: EB01-202412

Lab Sample ID: 320-117663-8

Date Collected: 12/09/24 13:00
Date Received: 12/12/24 10:00
Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*104*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C5 PFNA	*113*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C2 PFDA	*119*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C2 PFUnA	*125*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C2 PFDoA	*105*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C2 PFTeDA	*88*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C3 PFBS	*111*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
18O2 PFHxS	*115*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C4 PFOS	*122*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C8 FOSA	*101*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d3-NMeFOSAA	*94*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d5-NEtFOSAA	*86*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d-N-MeFOSA-M	*106*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d-N-EtFOSA-M	*110*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d7-N-MeFOSE-M	*92*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
d9-N-EtFOSE-M	*102*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
M2-4:2 FTS	*117*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
M2-6:2 FTS	*125*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
M2-8:2 FTS	*125*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*
13C3 HFPO-DA	*96*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:42*	*1*

Client Sample ID: BIO-A-22-202412

Lab Sample ID: 320-117663-9

Date Collected: 12/09/24 13:30
Date Received: 12/12/24 10:00
Matrix: Solid
Percent Solids: 27.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.0**		1.7	0.63	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluoropentanoic acid (PFPeA)	**20**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorohexanoic acid (PFHxA)	**28**	~~F1~~	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluoroheptanoic acid (PFHpA)	**2.2**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorooctanoic acid (PFOA)	**21**	~~F1~~ J-	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorononanoic acid (PFNA)	**1.6**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorodecanoic acid (PFDA)	**11**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluoroundecanoic acid (PFUnA)	**1.8**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorododecanoic acid (PFDoA)	**4.3**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorotridecanoic acid (PFTrDA)	**0.47**	~~J F1~~ J	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorotetradecanoic acid (PFTeA)	**0.94**	J	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorobutanesulfonic acid (PFBS)	**1.8**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorohexanesulfonic acid (PFHxS)	ND	~~F1~~	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorooctanesulfonic acid (PFOS)	**14**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorononanesulfonic acid (PFNS)	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1

Client Sample ID: BIO-A-22-202412

Date Collected: 12/09/24 13:30
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-9

Matrix: Solid
Percent Solids: 27.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	**3.4**	I ~~F1~~ J	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorododecanesulfonic acid (PFDoS)	ND	~~F1~~ UJ	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
Perfluorooctanesulfonamide (FOSA)	**2.1**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NEtFOSA	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NMeFOSA	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NMeFOSAA	**31**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NEtFOSAA	**9.6**		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NMeFOSE	**17**	~~F1~~ J+	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
NEtFOSE	**3.5**	~~F1~~ J-	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
4:2 FTS	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
6:2 FTS	**1.4**	J	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
8:2 FTS	**1.2**	J	0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
HFPO-DA (GenX)	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
9Cl-PF3ONS	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1
11Cl-PF3OUdS	ND		0.70	0.17	ug/Kg	☼	12/17/24 04:08	12/18/24 05:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*57*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C5 PFPeA	*68*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C2 PFHxA	*81*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C4 PFHpA	*68*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C4 PFOA	*74*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C5 PFNA	*81*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C2 PFDA	*84*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C2 PFUnA	*75*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C2 PFDoA	*44*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C2 PFTeDA	*14*	**5-*	*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C3 PFBS	*71*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
18O2 PFHxS	*69*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C4 PFOS	*76*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C8 FOSA	*64*		*10 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d3-NMeFOSAA	*45*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d5-NEtFOSAA	*57*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d-N-MeFOSA-M	*35*		*10 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d-N-EtFOSA-M	*12*		*10 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d7-N-MeFOSE-M	*41*		*10 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
d9-N-EtFOSE-M	*18*		*10 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
M2-4:2 FTS	*191*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
M2-6:2 FTS	*229*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
M2-8:2 FTS	*275*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*
13C3 HFPO-DA	*61*		*25 - 150*	*12/17/24 04:08*	*12/18/24 05:34*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.5**		3.6	0.84	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluoropentanoic acid (PFPeA)	**21**		3.6	0.75	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1

Client Sample ID: BIO-A-22-202412

Date Collected: 12/09/24 13:30
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-9

Matrix: Solid
Percent Solids: 27.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**21**		3.6	0.56	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluoroheptanoic acid (PFHpA)	**1.5**	**J**	3.6	0.69	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorooctanoic acid (PFOA)	**14**		3.6	0.97	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorononanoic acid (PFNA)	**1.4**	**J**	3.6	0.40	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorodecanoic acid (PFDA)	**7.4**		3.6	0.87	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluoroundecanoic acid (PFUnA)	**1.1**	**~~J~~ I J**	3.6	0.76	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorododecanoic acid (PFDoA)	**2.3**	**J**	3.6	0.55	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.6	0.38	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorotetradecanoic acid (PFTeA)	**0.81**	**J**	3.6	0.67	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorobutanesulfonic acid (PFBS)	**1.7**	**J**	3.6	0.69	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.67	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorohexanesulfonic acid (PFHxS)	**2.4**	**J**	3.6	0.53	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.6	0.89	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorooctanesulfonic acid (PFOS)	**14**		3.6	0.79	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.53	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorodecanesulfonic acid (PFDS)	**1.4**	**J**	3.6	0.95	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.6	0.86	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
Perfluorooctanesulfonamide (FOSA)	**1.7**	**J**	3.6	0.60	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NMeFOSA	ND		3.6	0.89	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NEtFOSA	ND		3.6	0.86	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NMeFOSAA	**19**		3.6	0.42	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NEtFOSAA	**5.7**		3.6	0.87	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NMeFOSE	**10**		3.6	0.86	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
NEtFOSE	**5.8**		3.6	0.51	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
4:2 FTS	ND		3.6	0.93	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
6:2 FTS	**1.4**	**~~J~~ J**	3.6	0.49	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
8:2 FTS	ND		3.6	0.64	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
HFPO-DA (GenX)	ND		3.6	0.75	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
9Cl-PF3ONS	ND		3.6	0.64	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
11Cl-PF3OUdS	ND		3.6	0.56	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.6	0.71	ug/Kg	☼	12/16/24 04:15	12/19/24 20:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C5 PFPeA	*94*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C2 PFHxA	*101*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C4 PFHpA	*108*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C4 PFOA	*100*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C5 PFNA	*94*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C2 PFDA	*104*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C2 PFUnA	*116*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*

Client Sample ID: BIO-A-22-202412

Date Collected: 12/09/24 13:30
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-9

Matrix: Solid
Percent Solids: 27.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDoA	*109*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C2 PFTeDA	*49*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C3 PFBS	*97*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
18O2 PFHxS	*96*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C4 PFOS	*74*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C8 FOSA	*95*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
M2-4:2 FTS	*158*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
M2-6:2 FTS	*153*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
M2-8:2 FTS	*127*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
13C3 HFPO-DA	*93*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d3-NMeFOSAA	*119*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d5-NEtFOSAA	*140*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d-N-MeFOSA-M	*62*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d-N-EtFOSA-M	*64*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d7-N-MeFOSE-M	*59*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*
d9-N-EtFOSE-M	*71*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:26*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**210**	~~B~~	3.6	0.84	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluoropentanoic acid (PFPeA)	**130**	~~*+~~ J	3.6	0.75	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorohexanoic acid (PFHxA)	**88**	~~*+~~ J	3.6	0.56	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluoroheptanoic acid (PFHpA)	**44**		3.6	0.69	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorooctanoic acid (PFOA)	**66**		3.6	0.97	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorononanoic acid (PFNA)	**21**		3.6	0.40	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorodecanoic acid (PFDA)	**18**		3.6	0.87	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluoroundecanoic acid (PFUnA)	**8.1**		3.6	0.76	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorododecanoic acid (PFDoA)	**6.4**		3.6	0.55	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorotridecanoic acid (PFTrDA)	**2.0**	**J**	3.6	0.38	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorotetradecanoic acid (PFTeA)	**2.7**	**J**	3.6	0.67	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorobutanesulfonic acid (PFBS)	**29**		3.6	0.69	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.67	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorohexanesulfonic acid (PFHxS)	**1.8**	**J**	3.6	0.53	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	~~*+~~	3.6	0.89	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorooctanesulfonic acid (PFOS)	**13**		3.6	0.79	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.53	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.6	0.95	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorododecanesulfonic acid (PFDoS)	ND	~~*~~ UJ	3.6	0.86	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
Perfluorooctanesulfonamide (FOSA)	ND	~~*1~~	3.6	0.60	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NMeFOSAA	ND		3.6	0.42	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NEtFOSAA	ND		3.6	0.87	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
4:2 FTS	ND		3.6	0.93	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1

Client Sample ID: BIO-A-22-202412

Lab Sample ID: 320-117663-9

Date Collected: 12/09/24 13:30
Date Received: 12/12/24 10:00

Matrix: Solid
Percent Solids: 27.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
6:2 FTS	ND		3.6	0.49	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
8:2 FTS	ND		3.6	0.64	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NEtFOSA	ND		3.6	0.86	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NMeFOSA	ND		3.6	0.89	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NMeFOSE	ND		3.6	0.86	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
NEtFOSE	ND		3.6	0.51	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
HFPO-DA (GenX)	ND		3.6	0.75	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
9Cl-PF3ONS	ND		3.6	0.64	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
11Cl-PF3OUdS	ND	~~*~~ UJ	3.6	0.56	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	~~*1~~	3.6	0.71	ug/Kg	☼	12/16/24 05:18	12/19/24 22:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*83*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C4 PFBA	*97*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C5 PFPeA	*99*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C2 PFHxA	*96*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C4 PFHpA	*99*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C4 PFOA	*97*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C5 PFNA	*95*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C2 PFDA	*93*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C2 PFUnA	*77*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C2 PFDoA	*79*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C2 PFTeDA	*69*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C3 PFBS	*101*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
18O2 PFHxS	*97*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C4 PFOS	*87*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d3-NMeFOSAA	*83*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d5-NEtFOSAA	*82*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
M2-6:2 FTS	*86*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
M2-8:2 FTS	*84*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d-N-MeFOSA-M	*75*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d-N-EtFOSA-M	*69*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d7-N-MeFOSE-M	*72*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
d9-N-EtFOSE-M	*65*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*
13C3 HFPO-DA	*105*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:18*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**72.8**		0.1	0.1	%			12/13/24 11:05	1
Percent Solids (ASTM D 2216)	**27.2**		0.1	0.1	%			12/13/24 11:05	1

Client Sample ID: BIO-A-23-202412

Lab Sample ID: 320-117663-10

Date Collected: 12/09/24 14:00
Date Received: 12/12/24 10:00

Matrix: Solid
Percent Solids: 32.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.5**		1.4	0.53	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluoropentanoic acid (PFPeA)	**24**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1

Client Sample ID: BIO-A-23-202412

Date Collected: 12/09/24 14:00
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-10

Matrix: Solid
Percent Solids: 32.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**46**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluoroheptanoic acid (PFHpA)	**4.2**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorooctanoic acid (PFOA)	**51**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorononanoic acid (PFNA)	**2.6**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorodecanoic acid (PFDA)	**17**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluoroundecanoic acid (PFUnA)	**1.9**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorododecanoic acid (PFDoA)	**4.3**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorotridecanoic acid (PFTrDA)	**0.31**	J	0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorotetradecanoic acid (PFTeA)	**1.1**	J	0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorobutanesulfonic acid (PFBS)	**2.5**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorohexanesulfonic acid (PFHxS)	**1.4**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorooctanesulfonic acid (PFOS)	**15**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorononanesulfonic acid (PFNS)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorodecanesulfonic acid (PFDS)	**1.6**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
Perfluorooctanesulfonamide (FOSA)	**1.7**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NEtFOSA	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NMeFOSA	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NMeFOSAA	**34**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NEtFOSAA	**10**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NMeFOSE	**9.8**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
NEtFOSE	**3.6**		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
4:2 FTS	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
6:2 FTS	**2.7**	J	0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
8:2 FTS	**1.6**	J	0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
HFPO-DA (GenX)	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
9Cl-PF3ONS	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1
11Cl-PF3OUdS	ND		0.58	0.14	ug/Kg	☼	12/17/24 04:08	12/18/24 06:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*57*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C5 PFPeA	*68*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C2 PFHxA	*80*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C4 PFHpA	*69*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C4 PFOA	*76*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C5 PFNA	*83*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*
13C2 PFDA	*88*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:16*	*1*

Client Sample ID: BIO-A-23-202412

Date Collected: 12/09/24 14:00
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-10

Matrix: Solid
Percent Solids: 32.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFUnA	78		25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C2 PFDoA	62		25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C2 PFTeDA	17	*5-	25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C3 PFBS	72		25 - 150	12/17/24 04:08	12/18/24 06:16	1
18O2 PFHxS	72		25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C4 PFOS	75		25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C8 FOSA	67		10 - 150	12/17/24 04:08	12/18/24 06:16	1
d3-NMeFOSAA	52		25 - 150	12/17/24 04:08	12/18/24 06:16	1
d5-NEtFOSAA	65		25 - 150	12/17/24 04:08	12/18/24 06:16	1
d-N-MeFOSA-M	40		10 - 150	12/17/24 04:08	12/18/24 06:16	1
d-N-EtFOSA-M	16		10 - 150	12/17/24 04:08	12/18/24 06:16	1
d7-N-MeFOSE-M	44		10 - 150	12/17/24 04:08	12/18/24 06:16	1
d9-N-EtFOSE-M	18		10 - 150	12/17/24 04:08	12/18/24 06:16	1
M2-4:2 FTS	186	*5+	25 - 150	12/17/24 04:08	12/18/24 06:16	1
M2-6:2 FTS	201	*5+	25 - 150	12/17/24 04:08	12/18/24 06:16	1
M2-8:2 FTS	267	*5+	25 - 150	12/17/24 04:08	12/18/24 06:16	1
13C3 HFPO-DA	61		25 - 150	12/17/24 04:08	12/18/24 06:16	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.4**		3.0	0.69	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluoropentanoic acid (PFPeA)	**18**		3.0	0.62	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorohexanoic acid (PFHxA)	**34**		3.0	0.47	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluoroheptanoic acid (PFHpA)	**2.7**	**J**	3.0	0.57	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorooctanoic acid (PFOA)	**32**		3.0	0.80	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorononanoic acid (PFNA)	**1.9**	**J**	3.0	0.33	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorodecanoic acid (PFDA)	**12**		3.0	0.72	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluoroundecanoic acid (PFUnA)	**1.2**	**~~J~~ I J**	3.0	0.63	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorododecanoic acid (PFDoA)	**2.5**	**J**	3.0	0.45	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.0	0.32	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorotetradecanoic acid (PFTeA)	**0.70**	**J**	3.0	0.56	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorobutanesulfonic acid (PFBS)	**2.0**	**J**	3.0	0.57	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.0	0.56	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorohexanesulfonic acid (PFHxS)	**1.3**	**J**	3.0	0.44	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.0	0.74	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorooctanesulfonic acid (PFOS)	**14**		3.0	0.65	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorononanesulfonic acid (PFNS)	ND		3.0	0.44	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorodecanesulfonic acid (PFDS)	**1.1**	**J**	3.0	0.78	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.0	0.71	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
Perfluorooctanesulfonamide (FOSA)	**1.2**	**J**	3.0	0.50	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
NMeFOSA	ND		3.0	0.74	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1

Client Sample ID: BIO-A-23-202412

Date Collected: 12/09/24 14:00
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-10

Matrix: Solid
Percent Solids: 32.2

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		3.0	0.71	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
NMeFOSAA	**23**		3.0	0.35	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
NEtFOSAA	**6.8**		3.0	0.72	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
NMeFOSE	**6.7**		3.0	0.71	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
NEtFOSE	**4.1**		3.0	0.42	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
4:2 FTS	ND		3.0	0.77	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
6:2 FTS	**2.3**	~~J~~ J	3.0	0.41	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
8:2 FTS	**1.3**	**J**	3.0	0.53	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
HFPO-DA (GenX)	ND		3.0	0.62	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
9Cl-PF3ONS	ND		3.0	0.53	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
11Cl-PF3OUdS	ND		3.0	0.47	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.0	0.59	ug/Kg	☼	12/16/24 04:15	12/19/24 20:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C5 PFPeA	*92*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C2 PFHxA	*97*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C4 PFHpA	*99*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C4 PFOA	*101*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C5 PFNA	*89*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C2 PFDA	*106*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C2 PFUnA	*106*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C2 PFDoA	*104*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C2 PFTeDA	*50*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C3 PFBS	*93*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
18O2 PFHxS	*89*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C4 PFOS	*61*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C8 FOSA	*89*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
M2-4:2 FTS	*143*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
M2-6:2 FTS	*151*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
M2-8:2 FTS	*125*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
13C3 HFPO-DA	*93*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d3-NMeFOSAA	*104*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d5-NEtFOSAA	*125*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d-N-MeFOSA-M	*60*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d-N-EtFOSA-M	*68*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d7-N-MeFOSE-M	*56*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*
d9-N-EtFOSE-M	*69*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:40*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**110**	~~B~~	3.1	0.71	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluoropentanoic acid (PFPeA)	**85**	~~*+~~ J	3.1	0.63	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorohexanoic acid (PFHxA)	**54**	~~*+~~ J	3.1	0.48	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluoroheptanoic acid (PFHpA)	**27**		3.1	0.58	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorooctanoic acid (PFOA)	**44**		3.1	0.82	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorononanoic acid (PFNA)	**14**		3.1	0.34	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorodecanoic acid (PFDA)	**12**		3.1	0.74	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluoroundecanoic acid (PFUnA)	**5.4**		3.1	0.65	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1

Client Sample ID: BIO-A-23-202412

Date Collected: 12/09/24 14:00
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-10

Matrix: Solid
Percent Solids: 32.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	**4.0**		3.1	0.46	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorotridecanoic acid (PFTrDA)	**1.3**	**J**	3.1	0.32	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorotetradecanoic acid (PFTeA)	**1.9**	**J**	3.1	0.57	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorobutanesulfonic acid (PFBS)	**14**		3.1	0.58	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.1	0.57	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorohexanesulfonic acid (PFHxS)	**0.98**	**J**	3.1	0.45	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	~~*1~~	3.1	0.76	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorooctanesulfonic acid (PFOS)	**8.7**		3.1	0.66	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorononanesulfonic acid (PFNS)	ND		3.1	0.45	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.1	0.80	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorododecanesulfonic acid (PFDoS)	ND	~~*~~ UJ	3.1	0.72	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
Perfluorooctanesulfonamide (FOSA)	ND	~~*1~~	3.1	0.51	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NMeFOSAA	ND		3.1	0.35	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NEtFOSAA	ND		3.1	0.74	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
4:2 FTS	ND		3.1	0.79	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
6:2 FTS	ND		3.1	0.41	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
8:2 FTS	ND		3.1	0.54	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NEtFOSA	ND		3.1	0.72	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NMeFOSA	ND		3.1	0.76	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NMeFOSE	ND		3.1	0.72	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
NEtFOSE	ND		3.1	0.43	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
HFPO-DA (GenX)	ND		3.1	0.63	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
9Cl-PF3ONS	ND		3.1	0.54	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
11Cl-PF3OUdS	ND	~~*~~ UJ	3.1	0.48	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	~~*1~~	3.1	0.60	ug/Kg	☼	12/16/24 05:18	12/19/24 22:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*73*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C4 PFBA	*103*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C5 PFPeA	*105*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C2 PFHxA	*104*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C4 PFHpA	*99*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C4 PFOA	*100*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C5 PFNA	*97*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C2 PFDA	*91*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C2 PFUnA	*84*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C2 PFDoA	*79*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C2 PFTeDA	*72*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C3 PFBS	*107*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
18O2 PFHxS	*100*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C4 PFOS	*88*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d3-NMeFOSAA	*76*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d5-NEtFOSAA	*82*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*

Client Sample ID: BIO-A-23-202412

Lab Sample ID: 320-117663-10
Date Collected: 12/09/24 14:00
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 32.2

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*0*		*0 - 10*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
M2-6:2 FTS	*82*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
M2-8:2 FTS	*71*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d-N-MeFOSA-M	*74*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d-N-EtFOSA-M	*70*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d7-N-MeFOSE-M	*72*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
d9-N-EtFOSE-M	*64*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*
13C3 HFPO-DA	*103*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:32*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**67.8**		0.1	0.1	%			12/13/24 11:05	1
Percent Solids (ASTM D 2216)	**32.2**		0.1	0.1	%			12/13/24 11:05	1

Client Sample ID: BIO-A-24-202412

Lab Sample ID: 320-117663-11
Date Collected: 12/10/24 09:07
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 23.6

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.6**		2.0	0.73	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluoropentanoic acid (PFPeA)	**20**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorohexanoic acid (PFHxA)	**19**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluoroheptanoic acid (PFHpA)	**1.8**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorooctanoic acid (PFOA)	**17**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorononanoic acid (PFNA)	**1.5**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorodecanoic acid (PFDA)	**8.3**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluoroundecanoic acid (PFUnA)	**1.5**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorododecanoic acid (PFDoA)	**3.1**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorotridecanoic acid (PFTrDA)	**0.27**	**J**	0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorotetradecanoic acid (PFTeA)	**0.67**	**~~J~~ J**	0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorobutanesulfonic acid (PFBS)	**1.2**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorohexanesulfonic acid (PFHxS)	**1.3**	**I J**	0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorooctanesulfonic acid (PFOS)	**11**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorononanesulfonic acid (PFNS)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorodecanesulfonic acid (PFDS)	**1.4**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
Perfluorooctanesulfonamide (FOSA)	**1.2**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
NEtFOSA	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1

Client Sample ID: BIO-A-24-202412

Date Collected: 12/10/24 09:07
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-11

Matrix: Solid
Percent Solids: 23.6

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
NMeFOSAA	**22**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
NEtFOSAA	**6.6**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
NMeFOSE	**10**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
NEtFOSE	**2.5**		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
4:2 FTS	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
6:2 FTS	**0.88**	J	0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
8:2 FTS	**0.73**	~~J~~ J	0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
HFPO-DA (GenX)	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
9Cl-PF3ONS	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1
11Cl-PF3OUdS	ND		0.80	0.20	ug/Kg	☼	12/17/24 04:08	12/18/24 06:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C5 PFPeA	*74*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C2 PFHxA	*83*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C4 PFHpA	*76*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C4 PFOA	*81*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C5 PFNA	*87*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C2 PFDA	*95*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C2 PFUnA	*84*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C2 PFDoA	*64*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C2 PFTeDA	*19*	**5-*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C3 PFBS	*77*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
18O2 PFHxS	*77*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C4 PFOS	*82*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C8 FOSA	*75*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d3-NMeFOSAA	*49*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d5-NEtFOSAA	*71*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d-N-MeFOSA-M	*42*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d-N-EtFOSA-M	*18*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d7-N-MeFOSE-M	*42*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
d9-N-EtFOSE-M	*21*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
M2-4:2 FTS	*196*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
M2-6:2 FTS	*189*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
M2-8:2 FTS	*283*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*
13C3 HFPO-DA	*63*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:30*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.4**		4.2	0.96	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluoropentanoic acid (PFPeA)	**19**		4.2	0.86	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorohexanoic acid (PFHxA)	**19**		4.2	0.64	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluoroheptanoic acid (PFHpA)	**1.8**	J	4.2	0.79	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorooctanoic acid (PFOA)	**18**		4.2	1.1	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorononanoic acid (PFNA)	**1.3**	J	4.2	0.46	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorodecanoic acid (PFDA)	**7.4**		4.2	1.0	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluoroundecanoic acid (PFUnA)	**0.94**	J	4.2	0.87	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1

Client Sample ID: BIO-A-24-202412

Date Collected: 12/10/24 09:07
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-11

Matrix: Solid
Percent Solids: 23.6

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	**2.3**	**J**	4.2	0.62	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorotridecanoic acid (PFTrDA)	ND		4.2	0.44	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorotetradecanoic acid (PFTeA)	**0.90**	**J**	4.2	0.77	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorobutanesulfonic acid (PFBS)	**2.6**	**J**	4.2	0.79	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.2	0.77	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorohexanesulfonic acid (PFHxS)	**2.1**	**J**	4.2	0.60	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		4.2	1.0	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorooctanesulfonic acid (PFOS)	**14**		4.2	0.90	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorononanesulfonic acid (PFNS)	ND		4.2	0.60	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorodecanesulfonic acid (PFDS)	**2.1**	**J**	4.2	1.1	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorododecanesulfonic acid (PFDoS)	ND		4.2	0.98	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
Perfluorooctanesulfonamide (FOSA)	**1.3**	**J**	4.2	0.69	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NMeFOSA	ND		4.2	1.0	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NEtFOSA	ND		4.2	0.98	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NMeFOSAA	**18**		4.2	0.48	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NEtFOSAA	**4.5**		4.2	1.0	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NMeFOSE	**6.9**		4.2	0.98	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
NEtFOSE	**5.3**		4.2	0.58	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
4:2 FTS	ND		4.2	1.1	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
6:2 FTS	**0.94**	**J**	4.2	0.56	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
8:2 FTS	ND		4.2	0.73	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
HFPO-DA (GenX)	ND		4.2	0.86	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
9Cl-PF3ONS	ND		4.2	0.73	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
11Cl-PF3OUdS	ND		4.2	0.64	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		4.2	0.81	ug/Kg	☼	12/16/24 04:15	12/19/24 20:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C5 PFPeA	*90*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C2 PFHxA	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C4 PFHpA	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C4 PFOA	*88*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C5 PFNA	*87*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C2 PFDA	*107*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C2 PFUnA	*104*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C2 PFDoA	*94*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C2 PFTeDA	*51*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C3 PFBS	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
18O2 PFHxS	*88*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C4 PFOS	*66*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C8 FOSA	*75*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
M2-4:2 FTS	*124*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*

Client Sample Results

Client: Madison Metropolitan Sewerage District
Project/Site: PFAS Sampling

Job ID: 320-117663-1

Client Sample ID: BIO-A-24-202412

Date Collected: 12/10/24 09:07
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-11

Matrix: Solid
Percent Solids: 23.6

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-6:2 FTS	*127*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
M2-8:2 FTS	*119*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
13C3 HFPO-DA	*86*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d5-NEtFOSAA	*110*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d-N-MeFOSA-M	*53*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d-N-EtFOSA-M	*66*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d7-N-MeFOSE-M	*53*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*
d9-N-EtFOSE-M	*73*		*25 - 150*	*12/16/24 04:15*	*12/19/24 20:54*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**270**	~~B~~	4.1	0.95	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluoropentanoic acid (PFPeA)	**200**	~~*+~~ J	4.1	0.85	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorohexanoic acid (PFHxA)	**150**	~~*+~~ J	4.1	0.64	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluoroheptanoic acid (PFHpA)	**59**		4.1	0.78	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorooctanoic acid (PFOA)	**110**		4.1	1.1	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorononanoic acid (PFNA)	**34**		4.1	0.45	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorodecanoic acid (PFDA)	**32**		4.1	0.99	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluoroundecanoic acid (PFUnA)	**14**		4.1	0.86	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorododecanoic acid (PFDoA)	**14**		4.1	0.62	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorotridecanoic acid (PFTrDA)	**3.3**	**J**	4.1	0.43	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorotetradecanoic acid (PFTeA)	**5.3**		4.1	0.76	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorobutanesulfonic acid (PFBS)	**48**		4.1	0.78	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluoropentanesulfonic acid (PFPeS)	ND		4.1	0.76	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorohexanesulfonic acid (PFHxS)	**1.6**	**J**	4.1	0.60	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	~~*+~~	4.1	1.0	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorooctanesulfonic acid (PFOS)	**18**		4.1	0.89	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorononanesulfonic acid (PFNS)	ND		4.1	0.60	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorodecanesulfonic acid (PFDS)	**1.3**	**J**	4.1	1.1	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorododecanesulfonic acid (PFDoS)	ND	~~*~~ UJ	~~4.1~~	0.97	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
Perfluorooctanesulfonamide (FOSA)	ND	~~*1~~	4.1	0.68	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NMeFOSAA	ND		4.1	0.47	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NEtFOSAA	ND		4.1	0.99	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
4:2 FTS	ND		4.1	1.1	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
6:2 FTS	**15**		4.1	0.56	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
8:2 FTS	ND		4.1	0.72	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NEtFOSA	ND		4.1	0.97	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NMeFOSA	ND		4.1	1.0	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NMeFOSE	ND		4.1	0.97	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
NEtFOSE	ND		4.1	0.58	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1

Client Sample ID: BIO-A-24-202412

Lab Sample ID: 320-117663-11

Date Collected: 12/10/24 09:07
Date Received: 12/12/24 10:00

Matrix: Solid
Percent Solids: 23.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA (GenX)	ND		4.1	0.85	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
9Cl-PF3ONS	ND		4.1	0.72	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
11Cl-PF3OUdS	ND	~~*~~ UJ	4.1	0.64	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	~~*1~~	4.1	0.80	ug/Kg	☼	12/16/24 05:18	12/19/24 22:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*65*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C4 PFBA	*110*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C5 PFPeA	*107*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C2 PFHxA	*111*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C4 PFHpA	*118*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C4 PFOA	*109*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C5 PFNA	*104*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C2 PFDA	*94*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C2 PFUnA	*72*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C2 PFDoA	*66*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C2 PFTeDA	*64*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C3 PFBS	*121*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
18O2 PFHxS	*115*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C4 PFOS	*90*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d3-NMeFOSAA	*63*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d5-NEtFOSAA	*66*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
M2-4:2 FTS	*0*		*0 - 10*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
M2-6:2 FTS	*100*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
M2-8:2 FTS	*82*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d-N-MeFOSA-M	*62*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d-N-EtFOSA-M	*60*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d7-N-MeFOSE-M	*66*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
d9-N-EtFOSE-M	*58*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*
13C3 HFPO-DA	*120*		*25 - 150*	*12/16/24 05:18*	*12/19/24 22:46*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**76.4**		0.1	0.1	%			12/13/24 11:05	1
Percent Solids (ASTM D 2216)	**23.6**		0.1	0.1	%			12/13/24 11:05	1

Client Sample ID: EB02-202412

Lab Sample ID: 320-117663-12

Date Collected: 12/10/24 08:40
Date Received: 12/12/24 10:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		4.6	1.2	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluoropentanoic acid (PFPeA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.54	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1

Client Sample ID: EB02-202412

Lab Sample ID: 320-117663-12

Date Collected: 12/10/24 08:40
Date Received: 12/12/24 10:00

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.51	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.68	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.53	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorododecanesulfonic acid (PFDoS)	ND		1.8	0.90	ng/L		12/13/24 12:36	12/16/24 22:56	1
Perfluorooctanesulfonamide (FOSA)	ND		1.8	0.91	ng/L		12/13/24 12:36	12/16/24 22:56	1
NEtFOSA	ND		1.8	0.80	ng/L		12/13/24 12:36	12/16/24 22:56	1
NMeFOSA	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
NMeFOSAA	ND		4.6	1.2	ng/L		12/13/24 12:36	12/16/24 22:56	1
NEtFOSAA	ND		4.6	1.2	ng/L		12/13/24 12:36	12/16/24 22:56	1
NMeFOSE	ND		3.7	1.3	ng/L		12/13/24 12:36	12/16/24 22:56	1
NEtFOSE	ND	~~*1~~	1.8	0.79	ng/L		12/13/24 12:36	12/16/24 22:56	1
4:2 FTS	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
6:2 FTS	ND		4.6	1.2	ng/L		12/13/24 12:36	12/16/24 22:56	1
8:2 FTS	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
HFPO-DA (GenX)	ND		3.7	0.92	ng/L		12/13/24 12:36	12/16/24 22:56	1
9Cl-PF3ONS	ND		1.8	0.46	ng/L		12/13/24 12:36	12/16/24 22:56	1
11Cl-PF3OUdS	ND		1.8	0.64	ng/L		12/13/24 12:36	12/16/24 22:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C5 PFPeA	*98*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C2 PFHxA	*108*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C4 PFHpA	*98*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C4 PFOA	*105*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C5 PFNA	*103*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C2 PFDA	*110*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C2 PFUnA	*121*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C2 PFDoA	*101*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C2 PFTeDA	*87*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C3 PFBS	*107*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
18O2 PFHxS	*118*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C4 PFOS	*115*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C8 FOSA	*92*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d3-NMeFOSAA	*90*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d5-NEtFOSAA	*81*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d-N-MeFOSA-M	*98*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d-N-EtFOSA-M	*99*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d7-N-MeFOSE-M	*83*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
d9-N-EtFOSE-M	*93*		*10 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*

Client Sample ID: EB02-202412

Lab Sample ID: 320-117663-12

Date Collected: 12/10/24 08:40
Matrix: Water
Date Received: 12/12/24 10:00

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*111*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
M2-6:2 FTS	*118*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
M2-8:2 FTS	*126*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*
13C3 HFPO-DA	*94*		*25 - 150*	*12/13/24 12:36*	*12/16/24 22:56*	*1*

Client Sample ID: BIO-B-202412

Lab Sample ID: 320-117663-13

Date Collected: 12/10/24 08:20
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 5.3

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		9.1	3.3	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluoropentanoic acid (PFPeA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorohexanoic acid (PFHxA)	**1.6**	~~J~~ I J	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluoroheptanoic acid (PFHpA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorooctanoic acid (PFOA)	**1.4**	J	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorononanoic acid (PFNA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorodecanoic acid (PFDA)	**2.3**	J	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluoroundecanoic acid (PFUnA)	**0.99**	J	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorododecanoic acid (PFDoA)	**1.8**	J	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorotridecanoic acid (PFTrDA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorotetradecanoic acid (PFTeA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluoropentanesulfonic acid (PFPeS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorohexanesulfonic acid (PFHxS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorooctanesulfonic acid (PFOS)	**14**	I J	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorononanesulfonic acid (PFNS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
Perfluorooctanesulfonamide (FOSA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NEtFOSA	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NMeFOSA	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NMeFOSAA	**12**		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NEtFOSAA	**4.5**		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NMeFOSE	**7.6**		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
NEtFOSE	**1.0**	J	3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
4:2 FTS	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
6:2 FTS	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
8:2 FTS	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
HFPO-DA (GenX)	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
9Cl-PF3ONS	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1
11Cl-PF3OUdS	ND		3.6	0.91	ug/Kg	☼	12/17/24 04:08	12/18/24 06:44	1

Client Sample ID: BIO-B-202412

Date Collected: 12/10/24 08:20
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-13

Matrix: Solid
Percent Solids: 5.3

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C5 PFPeA	*71*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C2 PFHxA	*92*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C4 PFHpA	*82*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C4 PFOA	*90*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C5 PFNA	*96*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C2 PFDA	*106*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C2 PFUnA	*106*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C2 PFDoA	*92*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C2 PFTeDA	*28*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C3 PFBS	*86*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
18O2 PFHxS	*88*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C4 PFOS	*92*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C8 FOSA	*90*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d3-NMeFOSAA	*69*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d5-NEtFOSAA	*96*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d-N-MeFOSA-M	*62*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d-N-EtFOSA-M	*33*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d7-N-MeFOSE-M	*55*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
d9-N-EtFOSE-M	*47*		*10 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
M2-4:2 FTS	*170*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
M2-6:2 FTS	*220*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
M2-8:2 FTS	*302*	**5+*	*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*
13C3 HFPO-DA	*71*		*25 - 150*	*12/17/24 04:08*	*12/18/24 06:44*	*1*

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		19	4.3	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluoropentanoic acid (PFPeA)	ND		19	3.8	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorohexanoic acid (PFHxA)	ND		19	2.9	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluoroheptanoic acid (PFHpA)	ND		19	3.5	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorooctanoic acid (PFOA)	ND		19	4.9	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorononanoic acid (PFNA)	ND		19	2.0	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorodecanoic acid (PFDA)	ND		19	4.5	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluoroundecanoic acid (PFUnA)	ND		19	3.9	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorododecanoic acid (PFDoA)	ND		19	2.8	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorotridecanoic acid (PFTrDA)	ND		19	1.9	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		19	3.4	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorobutanesulfonic acid (PFBS)	ND		19	3.5	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluoropentanesulfonic acid (PFPeS)	ND		19	3.4	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorohexanesulfonic acid (PFHxS)	**11**	J I J	19	2.7	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluoroheptanesulfonic acid (PFHpS)	ND		19	4.6	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorooctanesulfonic acid (PFOS)	**23**		19	4.0	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorononanesulfonic acid (PFNS)	ND		19	2.7	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorodecanesulfonic acid (PFDS)	ND		19	4.8	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorododecanesulfonic acid (PFDoS)	ND		19	4.4	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
Perfluorooctanesulfonamide (FOSA)	ND		19	3.1	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1

Client Sample ID: BIO-B-202412

Date Collected: 12/10/24 08:20
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-13

Matrix: Solid
Percent Solids: 5.3

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - Pre-Treatment (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		19	4.6	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
NEtFOSA	ND		19	4.4	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
NMeFOSAA	**12**	**J**	19	2.1	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
NEtFOSAA	ND		19	4.5	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
NMeFOSE	**12**	**J**	19	4.4	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
NEtFOSE	**8.2**	**J**	19	2.6	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
4:2 FTS	ND		19	4.8	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
6:2 FTS	ND		19	2.5	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
8:2 FTS	ND		19	3.2	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
HFPO-DA (GenX)	ND		19	3.8	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
9Cl-PF3ONS	ND		19	3.2	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
11Cl-PF3OUdS	ND		19	2.9	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		19	3.6	ug/Kg	☼	12/16/24 04:15	12/19/24 21:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*96*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C5 PFPeA	*98*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C2 PFHxA	*94*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C4 PFHpA	*105*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C4 PFOA	*96*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C5 PFNA	*103*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C2 PFDA	*113*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C2 PFUnA	*94*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C2 PFDoA	*99*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C2 PFTeDA	*46*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C3 PFBS	*100*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
18O2 PFHxS	*101*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C4 PFOS	*87*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C8 FOSA	*91*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
M2-4:2 FTS	*155*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
M2-6:2 FTS	*158*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
M2-8:2 FTS	*172*	**5+*	*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
13C3 HFPO-DA	*97*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d3-NMeFOSAA	*106*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d5-NEtFOSAA	*103*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d-N-MeFOSA-M	*64*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d-N-EtFOSA-M	*74*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d7-N-MeFOSE-M	*62*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*
d9-N-EtFOSE-M	*73*		*25 - 150*	*12/16/24 04:15*	*12/19/24 21:08*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**150**	~~B~~	18	4.2	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluoropentanoic acid (PFPeA)	**89**	~~*+~~ J	18	3.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorohexanoic acid (PFHxA)	**39**	~~*+~~ J	18	2.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluoroheptanoic acid (PFHpA)	**35**		18	3.5	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorooctanoic acid (PFOA)	**41**		18	4.9	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorononanoic acid (PFNA)	**22**		18	2.0	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorodecanoic acid (PFDA)	**11**	**J**	18	4.4	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1

Client Sample ID: BIO-B-202412

Date Collected: 12/10/24 08:20
Date Received: 12/12/24 10:00

Lab Sample ID: 320-117663-13

Matrix: Solid
Percent Solids: 5.3

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	**6.9**	**J**	18	3.9	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorododecanoic acid (PFDoA)	**5.0**	~~J~~ I J	18	2.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorotridecanoic acid (PFTrDA)	**3.8**	~~J~~ I J	18	1.9	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorotetradecanoic acid (PFTeA)	ND		18	3.4	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorobutanesulfonic acid (PFBS)	ND		18	3.5	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluoropentanesulfonic acid (PFPeS)	ND		18	3.4	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorohexanesulfonic acid (PFHxS)	ND		18	2.7	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluoroheptanesulfonic acid (PFHpS)	ND	~~*1~~	18	4.5	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorooctanesulfonic acid (PFOS)	**14**	**J**	18	4.0	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorononanesulfonic acid (PFNS)	ND		18	2.7	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorodecanesulfonic acid (PFDS)	ND		18	4.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorododecanesulfonic acid (PFDoS)	ND	~~*~~ UJ	18	4.3	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
Perfluorooctanesulfonamide (FOSA)	ND	~~*1~~	18	3.0	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NMeFOSAA	ND		18	2.1	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NEtFOSAA	ND		18	4.4	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
4:2 FTS	ND		18	4.7	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
6:2 FTS	ND		18	2.5	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
8:2 FTS	ND		18	3.2	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NEtFOSA	ND		18	4.3	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NMeFOSA	ND		18	4.5	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NMeFOSE	ND		18	4.3	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
NEtFOSE	ND		18	2.6	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
HFPO-DA (GenX)	ND		18	3.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
9Cl-PF3ONS	ND		18	3.2	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
11Cl-PF3OUdS	ND	~~*~~ UJ	18	2.8	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND	~~*1~~	18	3.6	ug/Kg	☼	12/16/24 05:18	12/19/24 23:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*67*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C4 PFBA	*92*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C5 PFPeA	*93*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C2 PFHxA	*92*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C4 PFHpA	*90*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C4 PFOA	*93*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C5 PFNA	*85*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C2 PFDA	*82*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C2 PFUnA	*74*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C2 PFDoA	*65*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C2 PFTeDA	*54*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C3 PFBS	*88*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
18O2 PFHxS	*89*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C4 PFOS	*78*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d3-NMeFOSAA	*66*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d5-NEtFOSAA	*73*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*

Client Sample ID: BIO-B-202412

Lab Sample ID: 320-117663-13

Date Collected: 12/10/24 08:20
Matrix: Solid
Date Received: 12/12/24 10:00
Percent Solids: 5.3

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*0*		*0 - 10*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
M2-6:2 FTS	*73*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
M2-8:2 FTS	*76*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d-N-MeFOSA-M	*58*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d-N-EtFOSA-M	*50*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d7-N-MeFOSE-M	*57*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
d9-N-EtFOSE-M	*53*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*
13C3 HFPO-DA	*98*		*25 - 150*	*12/16/24 05:18*	*12/19/24 23:00*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (ASTM D 2216)	**94.7**		0.1	0.1	%			12/13/24 11:05	1
Percent Solids (ASTM D 2216)	**5.3**		0.1	0.1	%			12/13/24 11:05	1