PER- AND POLYFLUOROALKYL SUBSTANCES
SITE ASSESSMENT REPORT
GENERAL SERVICES ADMINISTRATION RECLAMATION YARD
SOLID WASTE MANAGEMENT UNIT 010
KENNEDY SPACE CENTER, FLORIDA

Prepared for:

Environmental Assurance Branch
National Aeronautics and Space Administration
Kennedy Space Center, Florida 32899

A-E Contract 80KSC019D0010
Task Order 80KSC019F0078

September 2025
Revision 0

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In accordance with the provisions of Florida Statutes, Chapter 492, this Per- and Polyfluoroalkyl Substances Site Assessment Report for the Kennedy Space Center General Services Administration Reclamation Yard site located in Merritt Island, Florida, has been prepared under the direct supervision of a Professional Geologist registered in the State of Florida. This work was performed in accordance with generally accepted professional geology practices pursuant to Chapter 492 of the Florida Statutes. The data, findings, recommendations, specifications, or professional opinions were prepared solely for the use of the National Aeronautics and Space Administration and the Florida Department of Environmental Protection. AECOM makes no other warranty, either expressed or implied, and is not responsible for the interpretation by others of these data.

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TABLE OF CONTENTS

ABBREVIATIONS, ACRONYMS, AND SYMBOLS ..... **iv**

EXECUTIVE SUMMARY **ES-1**

1 INTRODUCTION **1-1**
1.1 Overview 1-1
1.2 Purpose 1-1
1.3 Report Organization 1-2

2 SITE DESCRIPTION AND SETTING **2-1**
2.1 Site Location 2-1
2.2 Site Description 2-1
2.3 Summary of Previous PFAS Investigations 2-2

3 PFAS SAMPLING METHODOLOGIES AND ACTIVITIES **3-1**
3.1 PFAS Sampling Protocol 3-1
3.1.1 PFAS Screening Level Methodology 3-1
3.1.2 Quality Assurance and Quality Control 3-2
3.1.3 Investigation-derived Waste 3-2
3.2 PFAS Assessment Activities 3-3
3.2.1 Soil Sampling 3-3
3.2.2 Monitoring Well Installation 3-3
3.2.3 Groundwater Elevation Measurements 3-3
3.2.4 Monitoring Well Sampling 3-5
3.2.5 Surface Water Sampling 3-5

4 ANALYTICAL RESULTS **4-1**
4.1 Overview 4-1
4.2 Soil Sampling 4-1
4.3 Monitoring Well Sampling 4-1
4.4 Surface Water Sampling 4-2
4.5 Field Quality Assurance/Quality Control Evaluation 4-2

5 CONCLUSIONS AND RECOMMENDATIONS **5-1**

6 REFERENCES **6-1**

TABLES

Table 3-1 Groundwater Elevation Data
Table 4-1 Soil Analytical Results - PFAS
Table 4-2 Groundwater Analytical Results – PFAS
Table 4-3 Surface Water Analytical Results – PFAS
Table 5-1 Proposed PFAS Sampling Plan

FIGURES

Figure 2-1 Site Location Map
Figure 2-2 Topographic Quadrangle Map
Figure 2-3 Site Layout Map
Figure 3-1 Groundwater Contour Map – September 27, 2022 - 2 to 18 feet bls
Figure 3-2 Groundwater Contour Map – September 27, 2022 - 10 to 30 feet bls
Figure 3-3 Groundwater Contour Map – September 27, 2022 - 30 to 40 feet bls
Figure 3-4 Groundwater Contour Map – June 10, 2024 - 2 to 18 feet bls
Figure 3-5 Groundwater Contour Map – June 10, 2024 - 10 to 30 feet bls
Figure 3-6 Groundwater Contour Map – June 10, 2024 - 30 to 40 feet bls
Figure 4-1 Soil Analytical Results - PFAS
Figure 4-2 Groundwater and Surface Water Analytical Results - PFAS
Figure 5-1 Proposed PFAS Sampling Plan

APPENDICES

Appendix A Advance Data Packages and KSC Remediation Team Meeting Minutes
Appendix B Field Notes and Sampling Logs
Appendix C Laboratory Analytical Reports
Appendix D United States EPA Fact Sheet: Understanding the Final PFAS National Primary Drinking Water Regulation Hazard Index Maximum Contaminant Level
Appendix E Monitoring Well Construction Logs, Completion Reports, and Permits
Appendix F RIS Completion Tickets

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ABBREVIATIONS, ACRONYMS, AND SYMBOLS

µg/L	micrograms per liter
537M	United States Environmental Protection Agency Method 537 Isotope Modified Department of Defense Quality Systems Manual v5.4
ADP	Advance Data Package
AECOM	AECOM Technical Services, Inc.
bls	below land surface
CS	confirmatory sampling
DEP	Department of Environmental Protection
DO	dissolved oxygen
DoD	Department of Defense
DOE	Department of Energy
DPT	Direct Push Technology
EPA	Environmental Protection Agency
ft/ft	feet elevation per foot distance
GSRY	General Services Administration Reclamation Yard
HI	Hazard Index
HFPO-DA	hexafluoropropylene oxide dimer acid
KSC	Kennedy Space Center
KSCRT	Kennedy Space Center Remediation Team
LOC	Location of Concern
MCL	Maximum Contaminant Level
MDEQ	Michigan Department of Environmental Quality
mg/kg	milligrams per kilogram
NASA	National Aeronautics Space Administration
ng/L	nanograms per liter
ORP	Oxidation-Reduction Potential
PFAS	per- and polyfluoroalkyl substances

PFBA	perfluorobutanoic acid
PFBS	perfluorobutanesulfonic acid
PFDOA	perfluorododecanoic acid
PFHxA	perfluorohexanoic acid
PFHxS	perfluorohexanesulfonic acid
PFNA	perfluorononanoic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
PFOA+PFOS	summation of PFOA and PFOS
PFTEA	perfluorotetradecanoic acid
PFUNA	perfluoroundecanoic acid
pGCTL	provisional Groundwater Cleanup Target Level
pH	potential of hydrogen
ppt	parts per trillion
PRL	Potential Release Location
pSCTL	provisional Soil Cleanup Target Level
pSWSL	provisional Surface Water Screening Level
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RIS	Remediation Information System
RRMF	Reutilization, Recycling, and Marketing Facility
RRSY	Ransom Road Sandblast Yard
RSL	Regional Screening Level
STP 14	Former Sewage Treatment Plant #14
SWMU	Solid Waste Management Unit
YSI	Yellow Springs Instruments

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EXECUTIVE SUMMARY

This Per- and Polyfluoroalkyl Substances (PFAS) Site Assessment Report was prepared by AECOM Technical Services, Inc. (AECOM) for the National Aeronautics and Space Administration (NASA) under Contract 80KSC019D0010, Task Order 80KSC019F0078. The purpose of this report is to document PFAS assessment activities in soil, groundwater, and surface water at the General Services Administration Reclamation Yard (GSRY), Solid Waste Management Unit (SWMU) 010.

Previously, PFAS investigation activities were conducted at Kennedy Space Center (KSC) under the PFAS Center-Wide Investigation Project – Potential Release Location (PRL) 237, from January 2020 through November 2021. Details of these activities are included in the Phase II and III SWMU Assessment and Confirmatory Sampling Report (NASA 2022). Two other Locations of Concern (LOCs) were also investigated and were recommended for evaluation under the GSRY PFAS contract: Ransom Road Sandblast Yard (RRSY) – PRL 237 LOC 31 and Former Sewage Treatment Plant #14 (STP14) – PRL 237 LOC 26. Following the KSC PFAS investigation activities, site assessment activities at GSRY (including RRSY and STP14) were conducted from June through October 2022 and in June 2024. The objectives of these activities were to further assess the PFAS impacts at the sites.

In September 2022, 11 soil samples (including one field duplicate) were collected from five boring locations in the vicinity of monitoring well GSRY-MW0074. Analytical results indicated that no soil samples collected during the 2022 event had detections above Florida Department of Environmental Protection (DEP) provisional Soil Cleanup Target Levels (pSCTLs).

In June 2022 and June 2024, AECOM personnel oversaw the installation of seven monitoring wells, GSRY-MW0078 through GSRY-MW0084. Five of the monitoring wells were screened 2 to 12 feet below land surface (bls), one was screened 7 to 17 feet bls, and one was screened 20 to 30 feet bls. The monitoring wells were installed to support PFAS assessment at the sites.

On September 27, 2022, water levels were measured in 55 monitoring wells, and on June 10, 2024, water levels were measured in 59 monitoring wells. In September 2022, groundwater flow for the site was generally to the north in the 2 feet to 18 feet bls and 10 feet to 30 feet bls zones, with flow direction varying by occasional east and west components; and to the southeast in the 30 feet to 40 feet bls zone. In June 2024, groundwater flow for the site was generally to the west in the 2 to 18 feet bls zone; to the northwest in the 10 to 30 feet bls zone, with flow direction varying by occasional north and south components; and to the northwest in the 30 to 40 feet bls zone. This is generally consistent with historical observations at the site; however, flow direction at the site has varied during past monitoring events. Groundwater elevations were on average approximately 3 feet lower in June 2024 compared to recent historical elevations.

In October 2022, AECOM personnel collected eight groundwater samples (including one field duplicate) from seven monitoring wells, and in June 2024, AECOM personnel collected 18 groundwater samples (including two field duplicates) from 16 monitoring wells. Analytical results indicated that 13 monitoring wells had PFAS concentrations above United States Environmental Protection Agency (EPA) Maximum Contaminant Levels (MCLs) and five monitoring wells had PFAS concentrations above Florida DEP provisional Groundwater Cleanup Target Levels. The highest PFAS concentrations in groundwater were in monitoring well GSRY-MW0076, screened 10 feet to 20 feet bls, and located in the southwest area of GSRY.

In September 2022 and June 2024, 10 surface water samples (including one field duplicate) were collected from nine locations per event. Analytical results indicated that PFAS concentrations were above the Florida DEP provisional Surface Water Screening Levels (pSWSLs) at seven locations. The highest concentrations were detected in a sample from GSRY-SW0013, which was collected from a drainage ditch located between the GSRY and RRSY.

Based on PFAS assessment activities performed during this reporting period, the following conclusions are provided:

- PFAS compounds were not detected above Florida DEP pSCTLs in shallow soils in the vicinity of GSRY-MW0074.
- PFAS compounds are present in groundwater and surface water above the current United States EPA MCLs and Florida DEP pSWSLs across the GSRY – SWMU 010, RRSY – PRL 237 LOC 31, and STP 14 – PRL 237 LOC 26 sites.
- PFAS compounds have been detected in monitoring wells screened from 2 feet to 40 feet bls and in Direct Push Technology groundwater samples down to 45 feet bls.

Based on PFAS assessment activities performed during this reporting period, the following recommendations are provided:

- Collect annual water level measurements at 61 monitoring wells.
- Conduct annual groundwater sampling for PFAS at 22 monitoring wells.
- Conduct annual surface water sampling for PFAS at six locations.

Refer to the Proposed PFAS Sampling Plan, presented in **Table 5-1** and on **Figure 5-1**, for a full list of monitoring locations.

1 INTRODUCTION

1.1 OVERVIEW

The National Aeronautics and Space Administration (NASA), through its Environmental Assurance Branch, is assessing the potential Per-and Polyfluoroalkyl Substances (PFAS) impacts at the General Services Administration Reclamation Yard (GSRY) at John F. Kennedy Space Center (KSC), Florida. The GSRY has been designated Solid Waste Management Unit (SWMU) 010 under KSC's Resource Conservation and Recovery Act (RCRA) Corrective Action Program.

AECOM Technical Services, Inc. (AECOM) prepared this report and completed groundwater, surface water, and soil sampling at the GSRY site for NASA under Contract 80KSC019D0010, Task Order 80KSC019F0078. An Advance Data Package (ADP) was presented to the KSC Remediation Team (KSCRT) in preparation for this report. The KSCRT approved the recommendations in those presentations during a meeting on December 3, 2024. The ADP and meeting minutes are provided as **Appendix A**. This report presents the activities and findings for the June 2022 through June 2024 field events. The evaluation of this data provides conclusions and recommendations for additional actions at the site.

PFAS investigation activities at GSRY were conducted under the PFAS Center-Wide Investigation Project – Potential Release Location (PRL) 237, from January 2020 through November 2021. Details of these activities are included in the Phase II and III SWMU Assessment and Confirmatory Sampling Report (NASA 2022). Two other Locations of Concern (LOCs) were also investigated and were recommended for evaluation under the GSRY PFAS contract: Ransom Road Sandblast Yard (RRSY) – PRL 237 LOC 31 and Former Sewage Treatment Plant #14 (STP14) – PRL 237 LOC 26. Following the KSC PFAS investigation activities, site assessment activities at GSRY (including RRSY and STP14) were conducted from June 2022 through June 2024. The objectives of these activities were to further assess the PFAS impacts at the sites, to qualitatively and quantitatively characterize concentrations of PFAS compounds in PFAS-impacted environmental media (soil, groundwater, and surface water), and investigate migration potential of released PFAS to environmental media. Activities included monitoring well installation, soil sampling, groundwater sampling, and surface water sampling to further assess the environmental impacts of PFAS at the sites.

1.2 PURPOSE

The purpose of this report is to provide a summary of assessment activities and sampling results completed from June 2022 through June 2024. The report also provides recommendations for additional assessment.

1.3 REPORT ORGANIZATION

The report is organized as follows:

- **Section 2**: Site Description and Setting. This section provides a description of the site, and overview of previous investigations.
- **Section 3**: PFAS Sampling Methodologies and Activities. This section discusses the PFAS sampling protocols and methodologies for events from June 2022 through June 2024.
- **Section 4**: Analytical Results. This section provides sampling results overview and screening criteria for samples collected during these activities.
- **Section 5**: Conclusions and Recommendations. This section discusses conclusions based on recent and historical data and presents recommendations for future activities at the site.
- **Section 6**: References. This section lists the documents used in developing this report.

2 SITE DESCRIPTION AND SETTING

2.1 SITE LOCATION

KSC is located on the east-central Atlantic Coast of Florida in the northern portion of Merritt Island, between the Indian River and Banana River Lagoons in Brevard County. The GSRY is located within KSC on Ransom Road between State Road 3 and Space Commerce Way, as shown on **Figure 2-1**, and in Section 7 of Township 23, Range 37 East, as shown on the United States Geological Survey 7.5-minute Orsino Quadrangle Map (United States Geological Survey 1976), which is included as **Figure 2-2**. The current site layout is presented on **Figure 2-3**.

2.2 SITE DESCRIPTION

The GSRY was constructed in the 1960s on 7 acres. It was historically used to stage transformers, air conditioners, batteries, paints, solvents, oils, pesticides, and adhesives. It is currently operated as the Reutilization, Recycling, and Marketing Facility (RRMF) by KSC's Institutional Support Contractor. The RRMF is used for the sale, recycling, and temporary storage of equipment and surplus materials. The facility operates within a security fence, which is locked during after-duty hours. The facility holds public auctions and is visited by buyers and vendors.

The main area of the yard north of the main building and the entrance to the yard are paved with asphalt and concrete. The western portion of the yard and the areas south and east of the main building are covered by sand and gravel. Ransom Road and two small retention ponds border the site to the north. Drainage ditches border the yard to the west, south, and east. The Corrosion Control Facility, also known as the RRSY, is located to the east, a scrap storage yard is located to the west, and undeveloped land is located to the south.

The RRSY was constructed in the 1960s and currently operates as the Corrosion Control Facility. The site historically was used as a sandblasting and painting facility since 1967. Objects to be sandblasted were reported to be cleaned and degreased prior to delivery to the site, although pressure washing of objects to be processed at the site was occasionally conducted. The main areas of the site are within a fenced boundary, and the majority is paved with asphalt or concrete; however, there are areas of grass that include ditches and retention areas to the west that are normally dry. The GSRY borders the facility to the west, with Ransom Road then undeveloped land to the north, and a retention pond is located to the east with undeveloped land to the south. In 2008, a spill of approximately 0.25 gallon of 3 percent aqueous film-forming foam was reported in the covered garage area. The material was reported to be spilled from a portable tank onto the painted and sealed concrete pad.

The STP14 was constructed in 1971 and was formerly operated as a packaged wastewater treatment plant and includes an abandoned treatment pond. The STP14 historically processed wastewater from the RRSY and the Industrial area of KSC. Treated effluent from the RRSY and

the Industrial Area of KSC was discharged into the treatment pond. The facility was abandoned, and the equipment was removed in 1986. The STP14 area, including the abandoned pond, is located southeast of the GSRY and southwest of the RRSY.

2.3 SUMMARY OF PREVIOUS PFAS INVESTIGATIONS

From 2019 through 2022, A Center-Wide Phase II and III SWMU Assessment and Confirmatory Sampling (CS) of PFAS was completed under the KSC PFAS Investigation Project (NASA 2022). Samples were analyzed for 14 PFAS compounds using United States Environmental Protection Agency (EPA) Method 537 Isotope Modified Department of Defense Quality Systems Manual v5.4 (537M) (Department of Defense [DoD]/Department of Energy [DOE] 2021) and the results were compared to the then-current April 2019 EPA Regional Screening Levels (RSLs) (United States EPA 2019) and the March 2022 Florida Department of Environmental Protection (DEP) provisional Soil Cleanup Target Levels (pSCTLs), provisional Groundwater Cleanup Target Levels (pGCTLs), and provisional Groundwater Cleanup Target Levels (pSWSLs) (Florida DEP 2022).

From January to September 2021, Direct Push Technology (DPT) was used to collect 16 groundwater samples at four depth intervals 6 feet to 10 feet below land surface (bls), 21 feet to 25 feet bls, 31 feet to 35 feet bls, and 41 feet to 45 feet bls, from four locations: PFAS-DPT0190, located at STP14, and PFAS-DPT0244, PFAS-DPT0246, and PFAS-DPT0247, located at RRSY. Concentrations of PFAS in all but one DPT groundwater sample collected were below DEP pGCTLs of 70 nanograms per liter (ng/L) and the then-current EPA RSLs of 40 ng/L for perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), and summation of PFOA and PFOS (PFOA+PFOS) (EPA 2019 and Florida DEP 2022). Groundwater samples from PFAS-DPT0190 had a concentration of 45.3 ng/L for PFOA+PFOS at the 6 feet to 10 feet bls interval, and a concentration of 41.4 ng/L for PFOS at the 31 feet to 35 feet bls interval.

In June 2021, groundwater samples were collected from two monitoring wells located at the GSRY, GSRY-MW0060 and GSRY-MW0074, screened 2 feet to 12 feet bls and 7 feet to 17 feet bls, respectively. In December 2021, one additional groundwater sample was collected from GSRY-MW0074. Both the June and December 2021 samples collected from GSRY-MW0074 exceeded the DEP pGCTL for PFOA, at concentrations of 104 ng/L and 89 ng/L, respectively. The sample collected from monitoring well GSRY-MW0060, at a concentration of 6.45 ng/L, did not exceed the pGCTL for PFOA. PFOS did not exceed the pGCTL in any of the three collected groundwater samples.

In January 2021, two soil samples were collected from one soil boring location PFAS-SB0075 from the STP14 area. In August and September 2021, six soil samples were collected from three soil boring locations PFAS-SB0116, PFAS-SB0120, and PFAS-SB0121 from the STP14 area and the RRSY. The soil samples were collected at 0 foot to 0.5 feet bls and 0.5 foot to 2.0 feet

bls at each location. Analytical results indicated that PFOA and PFOS concentrations were below the DEP pSCTLs at all three soil boring locations.

In September 2020, one surface water sample PFAS-SW0076 and one sediment sample PFAS-SD0071 were collected from the stormwater drainage ditch south of the GSRY. In August and September 2021, three additional surface water samples PFAS-SW0134 through PFAS-SW0136 and three additional sediment samples PFAS-SD0088 through PFAS-SD0090 were collected from the stormwater drainage ditch. In October 2021, one surface water sample PFAS-SW0192 was collected from the STP14 abandoned treatment pond. Surface water analytical results indicated that PFOA concentrations were below the DEP pSWSL of 500 ng/L in all five sampling locations; the maximum concentration of 11.2 ng/L was observed in the sample collected from PFAS-SW0076. PFOS concentrations exceeded the pSWSL at each location except PFAS-SW0134. Analytical results for the collected sediment samples indicated that the maximum PFOS concentration was from the sample located at PFAS-SD0071, at a concentration of 0.0201 milligrams per kilogram (mg/kg). PFOA was not detected in the sediment samples collected, and the highest method detection limit was 0.00057 mg/kg for the sample collected at PFAS-SD0071.

In December 2021, prior to the May 2022 update of the EPA RSLs, eight monitoring wells, located at GSRY, were sampled and analyzed using EPA Method 537M for 18 PFAS compounds. Five monitoring wells GSRY-MW0055, GSRY-MW0058, GSRY-MW0064, GSRY-MW0066, and GSRY-MW0074 had detections of PFAS compounds. One monitoring well GSRY MW0074 had concentrations of PFOA at 89.0 ng/L and PFOA+PFOS at 101.1 ng/L, which are above the above the DEP pGCTLs of 70 ng/L for both PFOA and PFOA+PFOS. The proposed scope of work, eventually conducted in 2022, was based on the December 2021 results, and was determined prior to the May 2022 EPA RSL update.

Following CS activities, no further action was proposed for the RRSY LOC 31 and STP14 LOC 26 for PFAS based on the then-current DEP pGCTLs and pSCTLs and the then-current EPA RSLs. After the KSCRT agreed upon the path forward in September 2021, the EPA updated the RSLs in May 2022. PFAS investigation, including the RRSY LOC 31 and STP14 LOC 26, was proposed to continue at GSRY under existing SWMU 010.

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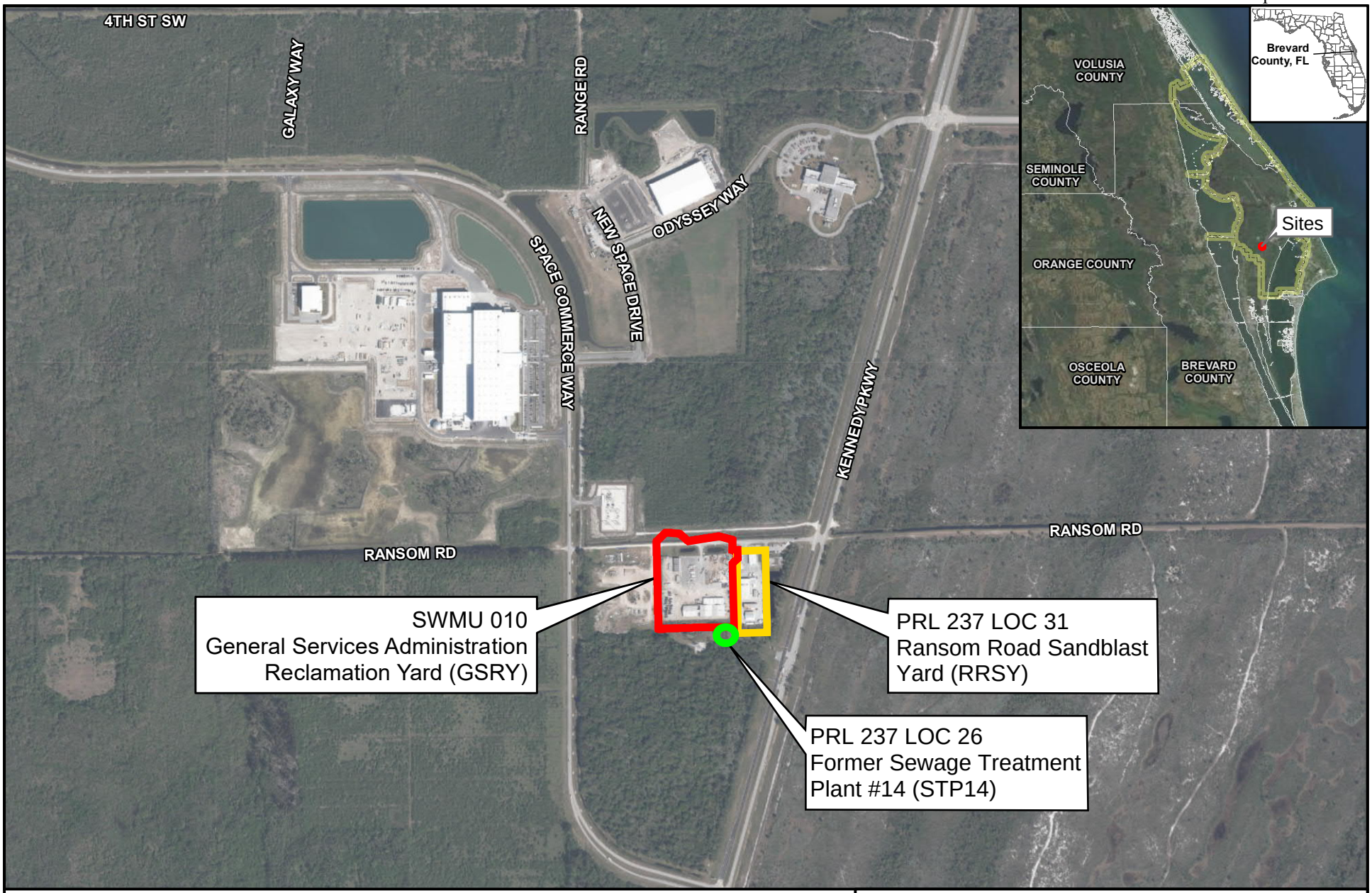

Kennedy Space Center Property Boundary

Notes:
1. GSRY - General Services Administration Reclamation Yard
2. LOC - Location of Concern
3. RRSY - Ransom Road Sandblast Yard
4. PRL - Potential Release Location
5. STP14 - Sewage Treatment Plant #14
6. SWMU - Solid Waste Management Unit
7. Aerial Source State of Florida, Date: 2018

N

0 1,000 2,000 Feet

FIGURE 2-1
Site Location Map

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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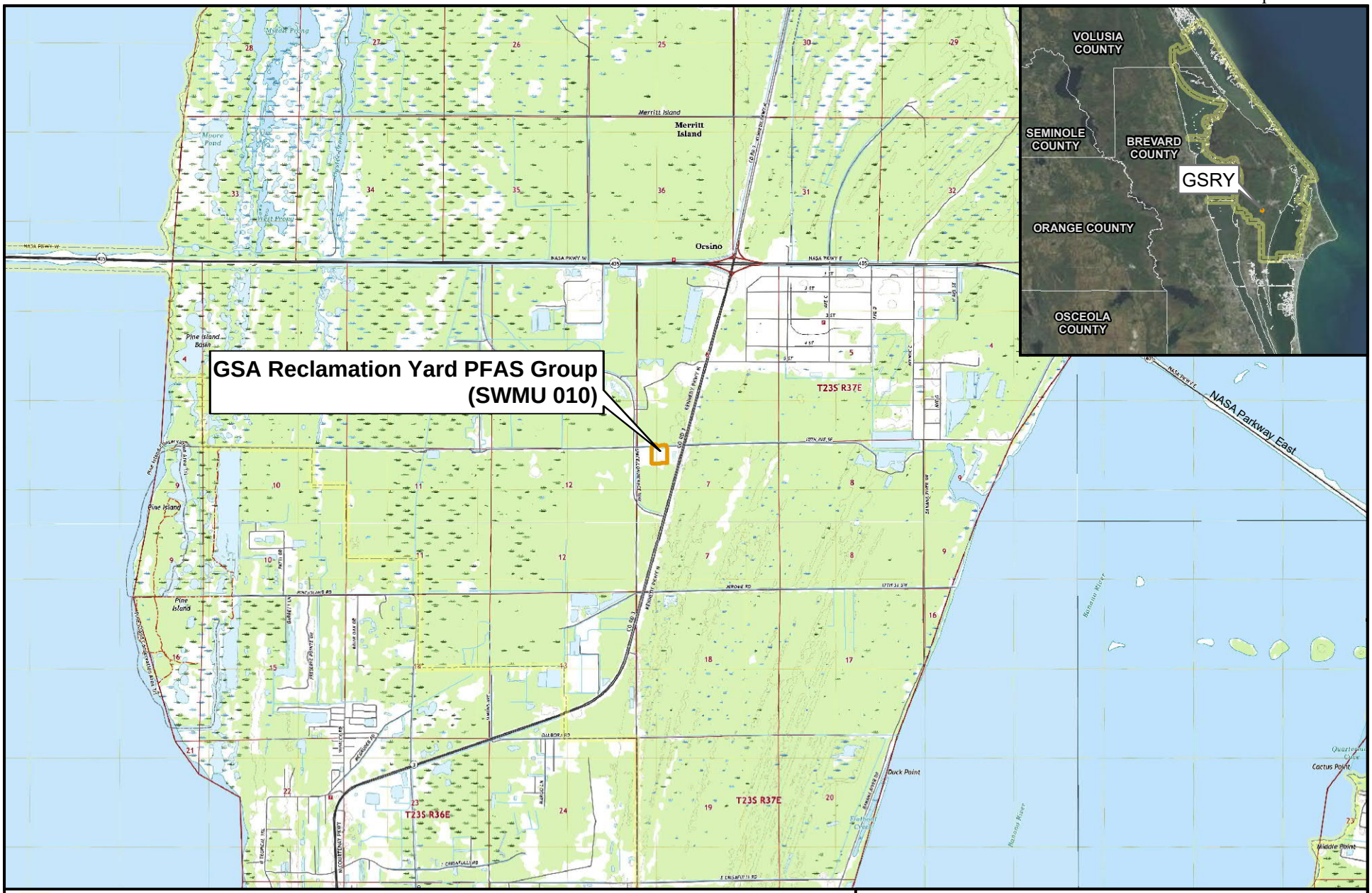

Kennedy Space Center Property Boundary

Notes:
1. SWMU = Solid Waste Management Unit
2. Aerial Source: State of Florida, Date: 2018
3. U.S. Geological Survey, 20210211, USGS US Topo 7.5-minute maps for Orsino, Courtenay, Cape Canaveral and False Cape, FL

N

0 5,000 10,000 Feet

FIGURE 2-2
Topographic Quadrangle Map

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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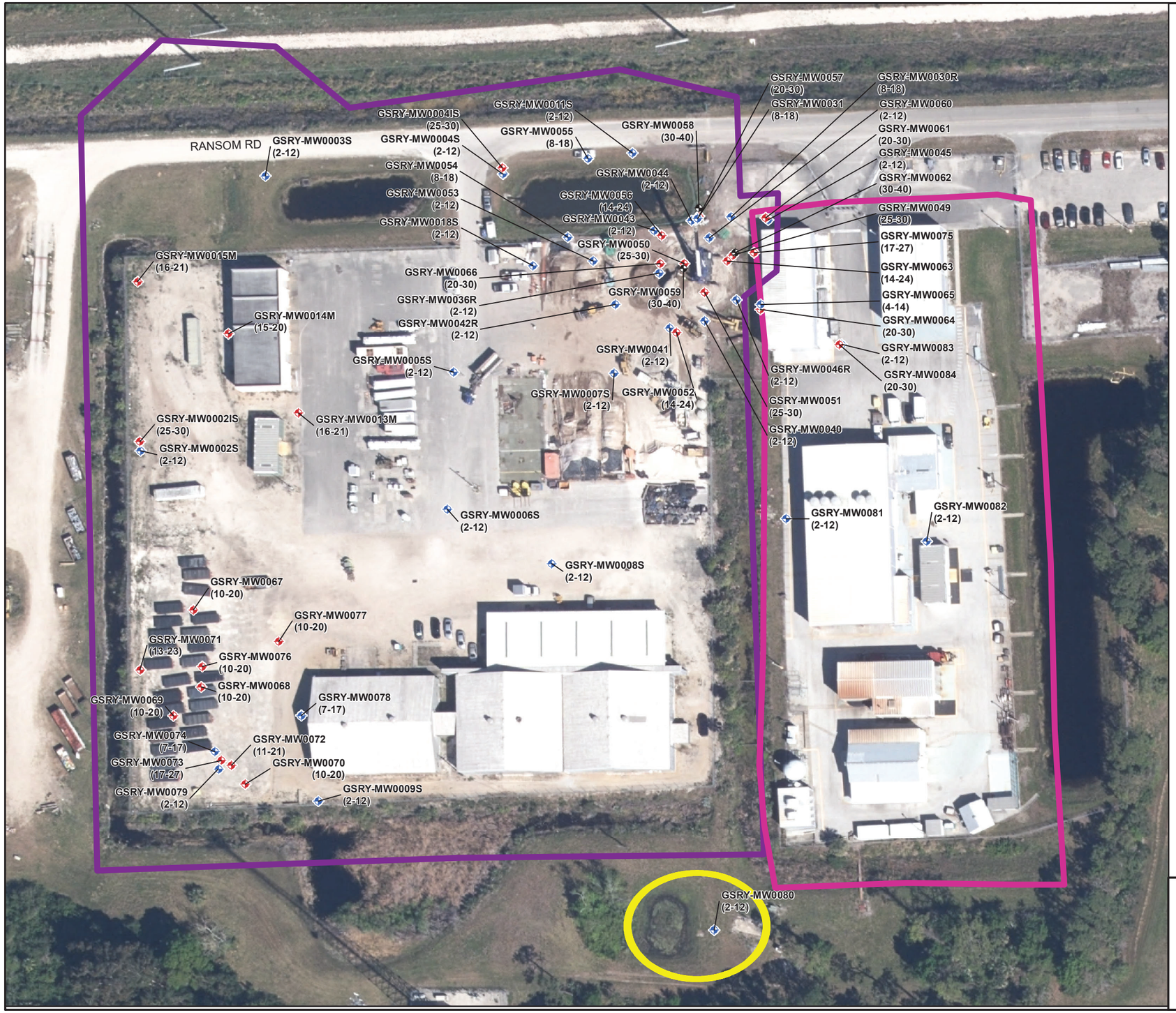

Legend

- Monitoring Well - 2 to 18 feet bls
- Monitoring Well - 10 to 30 feet bls
- Monitoring Well - 30 to 40 feet bls

- SWMU #010 - GSA Reclamation Yard
- PRL 237 LOC 31 - Ransom Road Sandblast Yard
- PRL 237 LOC 26 - Sewage Treatment Plant #14

Notes:
- Vertical Datum is NAVD88 (feet)
- bls = Below Land Surface
- (16-21) = Monitoring Well Screen Interval (feet bls)
- Aerial Source: FDOT 2018

FIGURE 2-3
Site Layout Map

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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3 PFAS SAMPLING METHODOLOGIES AND ACTIVITIES

3.1 PFAS SAMPLING PROTOCOL

From June 2022 through June 2024, PFAS-related field activities were performed in general accordance with Florida DEP Standard Operating Procedures (Florida DEP 2018), PFAS sampling guidelines, including a Quick Reference Field Guide provided by the Michigan Department of Environmental Quality (MDEQ 2018), the KSC Sampling and Analysis Plan (NASA 2018), and the KSC Decision Process Document for the RCRA Corrective Action Program (NASA 2019). Analytical results for the PFAS-related activities are discussed in Section 4. Field notes and sampling logs are provided in **Appendix B**.

3.1.1 PFAS Screening Level Methodology

Soil, groundwater, and surface water samples collected during the June 2022 through June 2024 sampling events were analyzed by EPA Method 537M for 29 PFAS compounds. The samples were analyzed by Eurofins Environmental Testing Southeast, LLC. Laboratory packages and the associated electronic data deliverables were provided by the laboratory per project-specific requirements. Units for groundwater and surface water are reported in micrograms per liter (µg/L) in the laboratory analytical reports. Units were converted to ng/L in the tables and figures. Laboratory analytical reports are provided in **Appendix C**.

As rules and regulations are changing, additional compounds are added to the EPA's sampling methods and list of PFAS compounds with Maximum Contaminant Levels (MCLs) or RSLs. At the time of this report, there were 11 PFAS compounds, listed below, that have EPA MCLs/RSLs, and two PFAS compounds, PFOS and PFOA, that had Florida DEP provisional screening levels or cleanup target levels.

- PFOS – perfluorooctanesulfonic acid
- PFOA – perfluorooctanoic acid
- PFBS – perfluorobutanesulfonic acid
- PFHxS – perfluorohexanesulfonic
- PFNA – perfluorononanoic acid
- HFPO-DA – hexafluoropropylene oxide dimer acid (GenX)
- PFBA – perfluorobutanoic acid
- PFHxA – perfluorohexanoic acid
- PFDOA – perfluorododecanoic acid
- PFTEA – perfluorotetradecanoic acid
- PFUNA – perfluoroundecanoic acid

Soil analytical results were compared to the DEP pSCTLs for two PFAS compounds, PFOS and PFOA.

Groundwater results were compared to the April 2024 United States EPA National Primary Drinking Water Regulation MCLs for six PFAS compounds (PFOS, PFOA, PFBS, PFHxS, PFNA, and HFPO-DA). A Hazard Index (HI) was also calculated using the formula below for PFBS, PFHxS, PFNA, and HFPO-DA.

$$\text{Hazard Index (1 unitless)} = \left(\frac{[\text{HFPO} - \text{DA}_{\text{ppt}}]}{[10\ \text{ppt}]}\right) + \left(\frac{[\text{PFBS}_{\text{ppt}}]}{[2000\ \text{ppt}]}\right) + \left(\frac{[\text{PFNA}_{\text{ppt}}]}{[10\ \text{ppt}]}\right) + \left(\frac{[\text{PFHxS}_{\text{ppt}}]}{[10\ \text{ppt}]}\right)$$

The EPA Fact Sheet, *Understanding the Final PFAS National Primary Drinking Water Regulation Hazard Index Maximum Contaminant Level*, with full instructions for calculating the HI, is included as **Appendix D**. For PFAS compounds without MCLs, the May 2024 EPA RSLs for tap water (hazard quotient 0.1) were used, if applicable. Groundwater was also compared to DEP pGCTLs for PFOS, PFOA, and PFOA+PFOA, but the DEP pGCTLs were not used for delineation purposes.

Surface water results were compared to DEP pSWSLs for two PFAS compounds, PFOS and PFOA.

In May 2025, EPA announced its intention to reconsider the regulatory determinations for PFHxS, PFNA, HFPO-DA, and the HI. Conclusions made on the basis of the MCLs for PFHxS, PFNA, HFPO-DA, and the HI are subject to change based on EPA's determinations.

3.1.2 Quality Assurance and Quality Control

Quality assurance (QA) and quality control (QC) samples were collected to evaluate laboratory precision, assess sampling equipment for potential sources of PFAS contamination, and evaluate potential impacts from cross-contamination. Sampling locations were based on findings from previous groundwater and surface water sampling activities. To meet the QA/QC sampling objectives, duplicate samples were collected at an approximate ratio of 1:10 per groundwater and surface water media, equipment blank samples were collected at an approximate rate of 1:10, and field blanks were collected at an approximate rate of one per shipping cooler.

3.1.3 Investigation-derived Waste

Investigation-derived waste from field activities was contained in properly labeled 55-gallon drums, which were stored on NASA-provided spill pallets, and secured with cargo straps to be properly disposed of by NASA.

3.2 PFAS Assessment Activities

3.2.1 Soil Sampling

In September 2022, AECOM personnel collected 11 soil samples (including one field duplicate) from five locations, GSRY-SB4178 through GSRY-SB4182. The samples were collected at two depth intervals, 0 foot to 0.5 foot bls and 0.5 foot to 2.0 feet bls, at each location. The samples were collected using a stainless steel hand auger that was decontaminated between samples. The samples were located in the vicinity of monitoring well GSRY-MW0074 and were collected to determine whether backfill from a 2005 Interim Measure may have been a potential PFAS source from backfill that was brought onto the site.

3.2.2 Monitoring Well Installation

In June 2022 and June 2024, AECOM personnel oversaw the installation of seven monitoring wells, GSRY-MW0078 through GSRY-MW0084. Monitoring well GSRY-MW0078 was screened 7 to 17 feet bls, GSRY-MW0079 through GSRY-MW0083 were screened 2 to 12 feet bls, and GSRY-MW0084 was screened 20 to 30 feet bls. Monitoring well GSRY-MW0078 was installed by Environmental Drilling Services, Inc. and monitoring wells GSRY-MW0079 through GSRY-MW0084 were installed by Preferred Drilling Solutions, Inc. Both are Florida-licensed well contractors. The wells were installed using a track-mounted DPT drill rig and were constructed with 1-inch diameter, Schedule 40 polyvinyl chloride riser and 10 feet of 0.010-slot screen and enclosed in 20/30 sand for the filter pack. The wells were sealed with 30/65 fine sand or bentonite pellets and finished with Type I/II Portland cement to the surface. Each well was completed with a lockable well cap and enclosed within an 8-inch round bolt-down vault encased in a 2-foot by 2-foot by 4-inch-thick square concrete pad. The new monitoring wells were installed to assist with delineation of the groundwater plumes. The monitoring well construction logs, well completion reports, and permits are provided in **Appendix E**.

3.2.3 Groundwater Elevation Measurements

On September 27, 2022, prior to sampling, water levels were measured in 55 monitoring wells. On June 10, 2024, prior to sampling, water levels were measured in 59 monitoring wells. Two wells, GSRY-MW0005S and GSRY-MW0007S, located in the northeast corner of the site, were not gauged during the June 2024 event due to large items being stored on top of the wells that blocked access to the wells. The groundwater level measurements were compared to top-of-casing survey data to determine a relative groundwater elevation for each well. These elevations were then used to construct groundwater contour figures. Depth to water measurements and corresponding groundwater elevations are provided in **Table 3-1** and depicted on **Figure 3-1** through **Figure 3-6**.

In September 2022, groundwater flow for the site was generally to the north in the 2 feet to 18 feet bls and 10 feet to 30 feet bls zones, with flow direction varying by occasional east and west components; and to the southeast in the 30 feet to 40 feet bls zone. This is generally consistent with historical observations at the site; however, flow direction at the site has varied during past monitoring events. Groundwater flow direction for each zone is discussed below.

- 2 feet to 18 feet bls (**Figure 2-1)**: Depth to water ranged from 0.22 to 2.85 feet bls, with an average depth to water of 2.10 feet bls. Groundwater elevations indicated a north flow direction and a horizontal gradient of 0.0007 feet elevation per foot distance (ft/ft) from monitoring well GSRY-MW0008S to GSRY-MW0004S.
- 10 feet to 30 feet bls (**Figure 2-2)**: Depth to water ranged from 0.62 to 4.24 feet bls, with an average depth to water of 1.95 feet bls. Groundwater elevations indicated a north flow direction and a horizontal gradient of 0.0001 ft/ft from monitoring well GSRY-MW0075 to GSRY-MW0066, and a horizontal gradient of 0.0002 ft/ft from monitoring well GSRY-MW0072 to GSRY-MW0013M.
- 30 feet to 40 feet bls (**Figure 2-3)**: Depth to water ranged from 0.00 to 0.95 feet bls, with an average depth to water of 0.57 feet bls. Groundwater elevations indicated a southeast flow direction and a horizontal gradient of 0.0098 ft/ft from monitoring well GSRY-MW0058 to GSRY-MW0062.

Vertical gradients were calculated at several well pairs across the site using the September 2022 groundwater elevation data. The vertical gradient was 0.0072 ft/ft downward between monitoring wells GSRY-MW0036R and GSRY-MW0066, 0.1387 ft/ft downward between monitoring wells GSRY-MW0050 and GSRY-MW0059, and 0.0040 ft/ft downward between monitoring wells GSRY-MW0074 and GSRY-MW0073.

In June 2024, groundwater flow for the site was generally to the west in the 2 feet to 18 feet bls zone; to the northwest in the 10 feet to 30 feet bls zone, with flow direction varying by occasional north and south components; and to the northwest in the 30 feet to 40 feet bls zone. This is generally consistent with historical observations at the site; however, flow direction at the site has varied during past monitoring events. Groundwater elevations were on average approximately 3 feet lower in June 2024 compared to recent historical elevations. Groundwater flow direction for each zone is discussed below.

- 2 feet to 18 feet bls (**Figure 3-4**): Depth to water ranged from 2.88 feet to 6.38 feet bls, with an average depth to water of 4.92 feet bls. Groundwater elevations indicated a west flow direction and a horizontal gradient of 0.0005 ft/ft from monitoring well GSRY-MW0008S to GSRY-MW0004S.
- 10 feet to 30 feet bls (**Figure 3-5**): Depth to water ranged from 3.18 feet to 7.49 feet bls, with an average depth to water of 4.88 feet bls. Groundwater elevations indicated a generally westward flow direction, with north and south components, and a horizontal gradient of

0.0022 ft/ft from monitoring well GSRY-MW0064 to GSRY-MW0066, and a horizontal gradient of 0.0005 ft/ft from monitoring well GSRY-MW0013M to GSRY-MW0072.

- 30 feet to 40 feet bls (**Figure 3-6**): Depth to water ranged from 2.88 feet to 4.38 feet bls, with an average depth to water of 3.87 feet bls. Groundwater elevations indicated a northwest flow direction and a horizontal gradient of 0.0053 ft/ft from monitoring well GSRY-MW0062 to GSRY-MW0058.

Vertical gradients were calculated at several well pairs across the site using the June 2024 groundwater elevation data. The vertical gradient was 0.0000 ft/ft between monitoring wells GSRY-MW0036R and GSRY-MW0066, 0.0587 ft/ft upward between monitoring wells GSRY-MW0050 and GSRY-MW0059, and 0.0030 ft/ft downward between monitoring wells GSRY-MW0074 and GSRY-MW0073.

3.2.4 Monitoring Well Sampling

In October 2022, AECOM personnel collected eight groundwater samples (including one field duplicate) from seven monitoring wells, and in June 2024, AECOM personnel collected 18 groundwater samples (including two field duplicates) from 16 monitoring wells. These wells range in depth between 12 feet and 30 feet bls. The monitoring wells were sampled utilizing the low-flow purge technique with a peristaltic pump and flow-through cell. New high-density polyethylene tubing was used for each groundwater sample. Utilizing a Yellow Springs Instruments (YSI) multimeter, field parameters, such as potential of hydrogen (pH), temperature, conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and salinity, were measured prior to collecting each groundwater sample.

3.2.5 Surface Water Sampling

In September 2022 and June 2024, AECOM personnel collected 10 surface water samples (including one duplicate) from nine locations during each event. The samples were collected from various ponds and drainage ditches to the west, south, and east of GSRY and to the west, south, and east of RRSY, and from the abandoned pond in the STP14 area. Field personnel utilized a grab sampler to dip and collect the water samples. The samples were collected within the top 12 inches of the water column just under the surface (approximately 0.5 foot to 1 foot below the water surface). Utilizing a YSI multimeter, field parameters such as pH, temperature, conductivity, DO, ORP, and salinity were collected for each surface water sample.

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Table 3-1
Groundwater Elevation Data
General Services Administration Reclamation Yard PFAS Group (SWMU 010)

Well ID	Screen Interval (ft bls)	TOC Elevation (ft NAVD88)	September 27, 2022		June 10, 2024	
			Depth to Water (ft BTOC)	Water Elevation (ft NAVD88)	Depth to Water (ft BTOC)	Water Elevation (ft NAVD88)
2 to 18 feet bls						
GSRY-MW0002S	2 to 12	2.50	1.32	1.18	4.35	-1.85
GSRY-MW0003S	2 to 12	3.44	2.34	1.10	5.21	-1.77
GSRY-MW0004S	2 to 12	3.30	2.17	1.13	4.91	-1.61
GSRY-MW0005S	2 to 12	3.60	2.45	1.15	NM	
GSRY-MW0006S	2 to 12	3.50	2.30	1.20	5.15	-1.65
GSRY-MW0007S	2 to 12	3.50	2.30	1.20	NM	
GSRY-MW0008S	2 to 12	3.66	2.28	1.38	5.11	-1.45
GSRY-MW0009S	2 to 12	2.76	1.54	1.22	4.54	-1.78
GSRY-MW0011S	2 to 12	3.71	2.55	1.16	5.16	-1.45
GSRY-MW0018S	2 to 12	3.64	2.51	1.13	5.28	-1.64
GSRY-MW0030R	8 to 18	3.58	2.42	1.16	5.00	-1.42
GSRY-MW0031	8 to 18	3.32	2.15	1.17	4.78	-1.46
GSRY-MW0036R	2 to 12	3.58	2.46	1.12	5.13	-1.55
GSRY-MW0040	2 to 12	2.95	1.89	1.06	4.55	-1.60
GSRY-MW0041	2 to 12	3.14	2.00	1.14	4.69	-1.55
GSRY-MW0042R	2 to 12	3.33	2.20	1.13	4.95	-1.62
GSRY-MW0043	2 to 12	3.47	2.39	1.08	5.05	-1.58
GSRY-MW0044	2 to 12	3.04	1.89	1.15	4.52	-1.48
GSRY-MW0045	2 to 12	4.19	2.85	1.34	5.55	-1.36
GSRY-MW0046R	2 to 12	1.47	0.22	1.25	2.88	-1.41
GSRY-MW0053	2 to 12	3.70	2.61	1.09	5.34	-1.64
GSRY-MW0054	8 to 18	2.68	1.62	1.06	4.38	-1.70
GSRY-MW0055	8 to 18	3.80	2.80	1.00	5.48	-1.68
GSRY-MW0060	2 to 12	3.38	2.10	1.28	4.74	-1.36
GSRY-MW0065	4 to 14	3.65	2.45	1.20	5.00	-1.35
GSRY-MW0074	7 to 17	2.63	1.41	1.22	4.44	-1.81
GSRY-MW0078	7 to 17	3.06	1.41	1.65	4.81	-1.75
GSRY-MW0079	2 to 12	2.62	NM		4.45	-1.83
GSRY-MW0080	2 to 12	3.90	NM		5.25	-1.35
GRSY-MW0081	2 to 12	5.10	NM		6.38	-1.28
GSRY-MW0082	2 to 12	4.85	NM		5.38	-0.53
GSRY-MW0083	2 to 12	3.89	NM		5.11	-1.22
10 to 30 feet bls						
GSRY-MW0002IS	25 to 30	5.64	4.05	1.59	7.49	-1.85
GSRY-MW0004IS	25 to 30	3.31	2.17	1.14	5.11	-1.80
GSRY-MW0013M	16 to 21	3.25	2.07	1.18	4.94	-1.69
GSRY-MW0014M	15 to 20	3.17	1.89	1.28	4.87	-1.70
GSRY-MW0015M	16 to 21	5.40	4.24	1.16	7.25	-1.85
GSRY-MW0049	25 to 30	2.01	0.75	1.26	3.45	-1.44
GSRY-MW0050	25 to 30	3.41	2.11	1.30	4.91	-1.50
GSRY-MW0051	25 to 30	3.08	1.76	1.32	4.49	-1.41
GSRY-MW0052	14 to 24	3.14	1.96	1.18	4.65	-1.51
GSRY-MW0056	14 to 24	3.37	2.16	1.21	4.95	-1.58
GSRY-MW0057	20 to 30	3.15	1.92	1.23	4.68	-1.53
GSRY-MW0061	20 to 30	3.90	2.60	1.30	5.28	-1.38
GSRY-MW0063	14 to 24	1.80	0.55	1.25	3.18	-1.38
GSRY-MW0064	20 to 30	3.64	2.40	1.24	4.98	-1.34
GSRY-MW0066	20 to 30	3.40	2.15	1.25	4.95	-1.55
GSRY-MW0067	10 to 20	3.25	2.08	1.17	5.06	-1.81
GSRY-MW0068	10 to 20	2.95	1.68	1.27	4.78	-1.83
GSRY-MW0069	10 to 20	2.98	1.75	1.23	4.88	-1.90
GSRY-MW0070	10 to 20	2.22	0.98	1.24	4.05	-1.83
GSRY-MW0071	13 to 23	3.32	2.11	1.21	5.26	-1.94
GSRY-MW0072	11 to 21	2.75	1.50	1.25	4.6	-1.85
GSRY-MW0073	17 to 27	2.63	1.37	1.26	4.47	-1.84
GSRY-MW0075	17 to 27	1.88	0.62	1.26	3.22	-1.34
GSRY-MW0076	10 to 20	3.13	1.90	1.23	4.95	-1.82
GSRY-MW0077	10 to 20	3.19	2.02	1.17	4.95	-1.76
GSRY-MW0084	20 to 30	4.18	NM		5.45	-1.27
30 to 40 feet bls						
GSRY-MW0058	30 to 40	3.09	0.76	2.33	4.38	-1.29
GSRY-MW0059	30 to 40	3.29	0.95	2.34	4.35	-1.06
GSRY-MW0062	30 to 40	1.85	0.00	1.85	2.88	-1.03

Notes:

BTOC = below top of casing

cVOC = chlorinated volatile organic compound

ft bls = feet below land surface

NAVD88 = North American Vertical Datum of 1988

NM = not measured

PCB/VOA = polychlorinated biphenyl / volatile organic aromatic

TOC = top of casing

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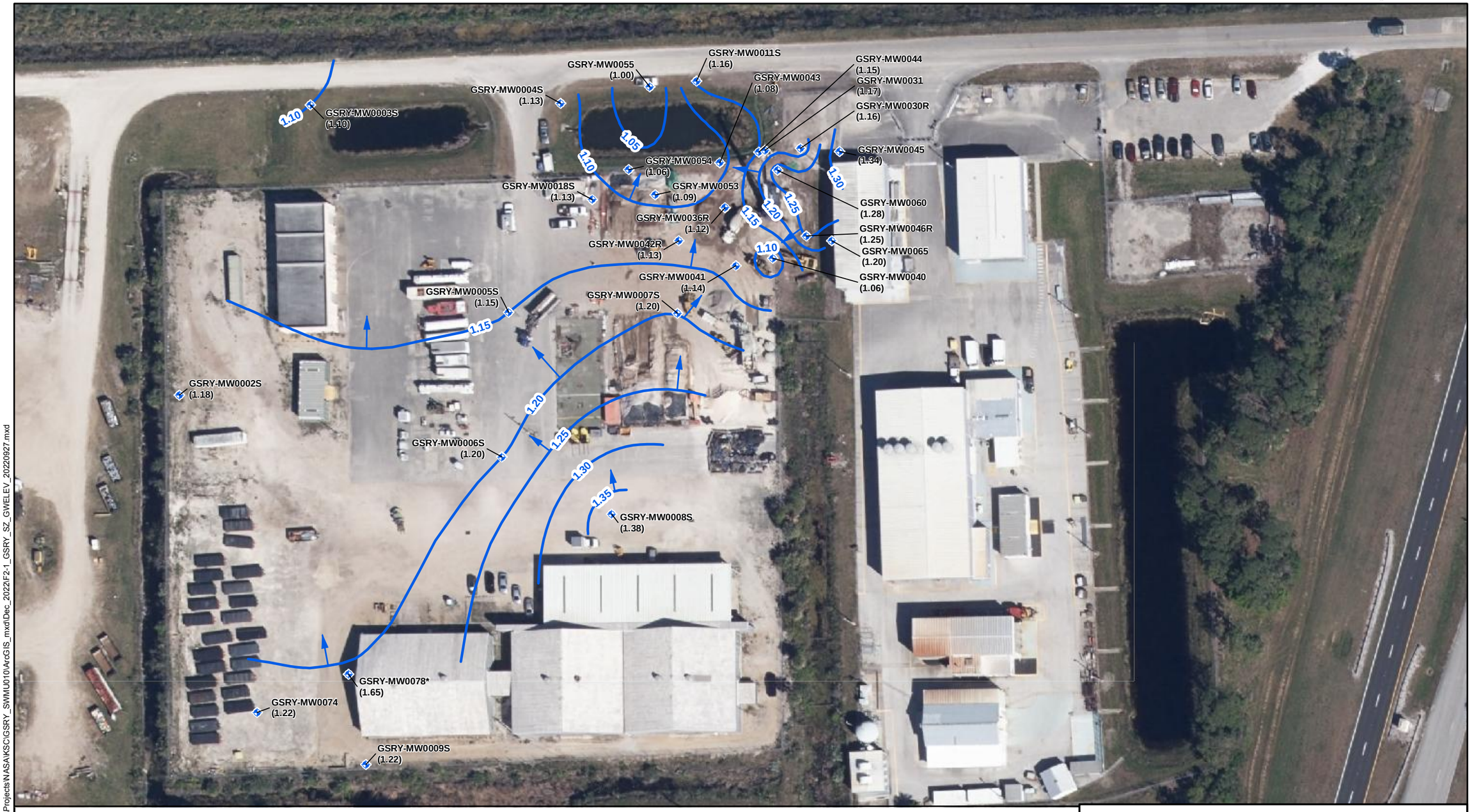

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Legend

- Monitoring Well - 2 to18 feet bls
- Groundwater Contour (NAVD88 ft.)
- Approximate Direction of Groundwater Flow
- (0.99) Groundwater Elevation (NAVD88 ft.)

Notes:
- Vertical Datum is NAVD88 (ft)
- Monitoring Wells Were Gauged on September 27, 2022
- Groundwater Contour Interval = 0.05 Ft.
- * = Not used in contouring.
- Aerial Source: FDOT 2018

N

0 70 140 Feet

FIGURE 3-1
Groundwater Contour Map – September 27, 2022
2 to 18 feet bls

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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Legend

- Monitoring Well - 10 to 30 feet bls
- Groundwater Contour (Dashed Where Inferred) (NAVD88 ft.)
- Approximate Direction of Groundwater Flow
- (1.03) Groundwater Elevation (NAVD88 ft.)

Notes:
- Vertical Datum is NAVD88 (ft)
- Monitoring Wells Were Gauged on September 27, 2022
- Groundwater Contour Interval = 0.05 Ft.
- * = Not used in contouring.
- Aerial Source: FDOT 2018

N

0 70 140 Feet

FIGURE 3-2
Groundwater Contour Map – September 27, 2022
10 to 30 feet bls

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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Legend

- Monitoring Well - 30 to 40 feet bls
- Groundwater Contour (NAVD88 ft.)
- Approximate Direction of Groundwater Flow
- (1.72) Groundwater Elevation (NAVD88 ft.)

Notes:
- Vertical Datum is NAVD88 (ft)
- Monitoring Wells Were Gauged on September 27, 2022
- Groundwater Contour Interval = 0.20 Ft.
- * = Not used in contouring.
- Aerial Source: FDOT 2018

N

0 70 140 Feet

FIGURE 3-3
Groundwater Contour Map – September 27, 2022
30 to 40 feet bls

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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Legend

- Monitoring Well - 2 to18 feet bls
- Groundwater Contour (NAVD88 feet)
- Approximate Direction of Groundwater Flow
- (-1.83) Groundwater Elevation (NAVD88 feet)

Notes:
- Vertical Datum is NAVD88 (feet)
- Monitoring Wells Were Gauged on June 10, 2024
- bls = Below Land Surface
- Groundwater Contour Interval = 0.2 feet
- NM = Not Measured
- Aerial Source: FDOT 2018

N

0 100 200 Feet

FIGURE 3-4
Groundwater Contour Map – June 10, 2024
2 to 18 feet bls

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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Legend

- Monitoring Well - 10 to 30 feet bls
- Groundwater Contour (NAVD88 feet)
- Approximate Direction of Groundwater Flow
- (-1.83) Groundwater Elevation (NAVD88 feet)

Notes:
- Vertical Datum is NAVD88 (feet)
- Monitoring Wells Were Gauged on June 10, 2024
- bls = Below Land Surface
- Groundwater Contour Interval = 0.10 feet
- Aerial Source: FDOT 2018

N

0 70 140 Feet

FIGURE 3-5
Groundwater Contour Map – June 10, 2024
10 to 30 feet bls

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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Legend

- Monitoring Well - 30 to 40 feet bls
- Groundwater Contour (NAVD88 feet)
- Approximate Direction of Groundwater Flow
- (1.29) Groundwater Elevation (NAVD88 feet)

Notes:
- Vertical Datum is NAVD88 (feet)
- Monitoring Wells Were Gauged on June 10, 2024
- bls = Below Land Surface
- Groundwater Contour Interval = 0.10 feet
- Aerial Source: FDOT 2018

N

0 70 140 Feet

FIGURE 3-6
Groundwater Contour Map – June 10, 2024
30 to 40 feet bls

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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4 ANALYTICAL RESULTS

4.1 OVERVIEW

This section presents the results of the September 2022 through June 2024 sampling activities for PFAS assessment at the site. The goals were to determine PFAS impacts in soil, groundwater, and surface water at the site. Soil analytical results are summarized in **Table 4-1** and depicted on **Figure 4-1**. Groundwater and surface water results are summarized in **Table 4-2** and **Table 4-3**, respectively, and depicted on **Figure 4-2**. Laboratory analytical reports are provided in **Appendix C**. Data were uploaded to the Remediation Information System (RIS) upon receipt. The RIS completion tickets are provided in **Appendix F**.

4.2 SOIL SAMPLING

In September 2022, 11 soil samples (including one field duplicate) were collected for PFAS analysis. Analytical results indicated that no soil samples collected during the 2022 event had detections above DEP pSCTLs. Analytical results are summarized in **Table 4-1** and depicted on **Figure 4-1**.

- PFOS was detected in four soil samples at two locations, GSRY-SB4180 and GSRY-SB4181, at 0 foot to 0.5 foot bls and 0.5 foot to 2 feet bls. The highest concentration was 0.0030 mg/kg detected in GSRY-SB4181 at 0.5 foot to 2.0 feet bls.
- PFOA was detected in four soil samples at three locations, GSRY-SB4178 at 0 foot to 0.5 feet bls, GSRY-SB4180 at 0 foot to 0.5 foot bls and 0.5 foot to 2 feet bls, and GSRY-SB4181 at 0.5 foot to 2 feet bls. The highest concentration was 0.00059 I mg/kg detected in GSRY-SB4180 at 0 foot to 0.5 foot bls.

4.3 MONITORING WELL SAMPLING

In October 2022, eight groundwater samples (including one field duplicate) were collected from seven monitoring wells, and in June 2024, 18 groundwater samples (including two field duplicates) were collected from 16 monitoring wells. Analytical results indicated that 13 monitoring wells had PFAS concentrations above EPA MCLs, and five monitoring wells had PFAS concentrations above DEP pGCTLs. Analytical results are provided in **Table 4-2** and depicted on **Figure 4-2**.

- PFOS concentrations were above the EPA MCL of 4.0 ng/L in 12 monitoring wells and above the DEP pGCTL of 70 ng/L in two monitoring wells. PFOS concentrations were greater than or equal to 10 times the EPA MCL in five monitoring wells, with the highest concentration detected in GSRY-MW0076 at 78 ng/L.
- PFOA concentrations were above the EPA MCL of 4.0 ng/L in 11 monitoring wells and above the DEP pGCTL of 70 ng/L in three monitoring wells. PFOA concentrations were greater than or equal to 10 times the EPA MCL in four monitoring wells, greater than or

equal to 10 times the Forida DEP pGCTL in one monitoring well, and greater than or equal to 100 times the EPA MCL in one monitoring well. The highest PFOA concentration was detected in GSRY-MW0076 at 710 ng/L.

- PFOA+PFOS concentrations were calculated by adding the PFOA and PFOS concentrations together. PFOA+PFOS concentrations were above the DEP pGCTL of 70 ng/L in five monitoring wells. The highest concentration was calculated in GSRY-MW0076 at 788 ng/L.
- PFHxS concentrations were above the EPA MCL of 10 ng/L in seven monitoring wells. The highest concentration detected was in GSRY-MW0076 at 84 ng/L.
- The HI was calculated for PFBS, PFHxS, PFNA, and HFPO-DA. The EPA MCL HI calculation value was above the standard of 1.0 in 11 monitoring wells. The highest value was 8.9, which was calculated from the GSRY-MW0076 analytical data.
- PFBA, PFHxA, PFDoDA, PFTEA, and PFUNA concentrations were below their respective target levels in each sample collected and analyzed.

4.4 SURFACE WATER SAMPLING

In September 2022 and June 2024, 10 surface water samples (including one field duplicate) were collected from nine locations, GSRY-SW0010 through GSRY-SW00018, per event. Analytical results indicated that PFOS concentrations were above the DEP pSWSL of 10 ng/L at seven locations. Analytical results are provided in **Table 4-3** and depicted on **Figure 4-2**.

- PFOS concentrations were greater than or equal to 10 times the DEP pSWSL at one location, with the highest concentration in a sample from GSRY-SW0013 at 380 ng/L.
- PFOA concentrations were below the DEP pSWSL of 500 ng/L in each sample collected, with the highest concentration detected in a sample from GSRY-SW0013 at 18 ng/L.

4.5 FIELD QUALITY ASSURANCE/QUALITY CONTROL EVALUATION

Results from the QA/QC samples collected during field activities were reviewed by a qualified chemist. Field sampling precision was measured using the field duplicate relative percent difference of less than 30 percent. During PFAS analysis, field duplicates were performed on parent samples GSRY-SB4181 (0 to 0.5 feet bls), GSRY-MW0074 (7 to 17 feet bls), GSRY-MW0078 (7 to 17 feet bls), GSRY-MW0082 (2 to 12 feet bls), GSRY-SW0012 (October 2022), and GSRY-SW0012 (June 2024). All field duplicates and their parent samples met precision criteria except for GSRY-SB4181 (N-ethyl perfluorooctane sulfonamidoacetic acid and N-methylperfluorooctane sulfonamidoacetic acid), GSRY-MW0082 (PFBA, PFHxS, PFHxA, PFNA, PFOS, and PFOA), GSRY-SW0012 (October 2022) (PFHxS), and GSRY-SW0012 (June 2024) (HFPO-DA). The associated sample results are estimated due to field duplicate imprecision; however, the data remain usable. Field and equipment blanks were used as negative controls to assess data quality. During the assessment activities, there were no detections in field or equipment blanks, excluding equipment blanks GSRY-EB-20240613-02 and GSRY-EB-20240614 and field blank GSRY-FB-20240614. Detections of HFPO-DA were found in two

equipment blank samples and one field blank sample GSRY-EB-20240613-02, GSRY-EB-20240614, and GSRY-FB-20240614 at concentrations of 0.0046 V µg/L, 0.00045 IV µg/L, and 0.00050 IV µg/L, respectively. Additionally, detections of PFBS and PFHxA were detected in GSRY-EB-20240613-02 at concentrations of 0.0012 IV µg/L and 0.00084 IV µg/L, respectively.

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Table 4-1
Soil Analytical Results - PFAS
General Services Administration Reclamation Yard PFAS Group (SWMU 10)

Analyte			HFPO-DA	PFBS	PFBA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFDOA	PFTEA	PFUNA
FDEP pSCTL, Residential (mg/kg)			-	-	-	-	-	-	**1.3**	**1.3**	-	-	-
FDEP pSCTL, Industrial (mg/kg)			-	-	-	-	-	-	**25**	**25**	-	-	-
FDEP pSCTL, Leachability (mg/kg)			-	-	-	-	-	-	**0.007**	**0.002**	-	-	-
USEPA RSL, Residential (mg/kg)			**0.023**	**1.9**	**7.8**	**0.13**	**3.2**	**0.019**	**0.00063**	**0.000019**	**0.32**	**6.3**	**1.9**
USEPA RSL, Industrial (mg/kg)			**0.35**	**25**	**120**	**1.6**	**41**	**0.25**	**0.0082**	**0.000078**	**4.1**	**82**	**25**
USEPA RSL, Leachability (mg/kg)			**0.0000015**	**0.0003**	**0.00065**	**0.000017**	**0.00024**	**0.000025**	**0.0000015**	**0.00000004**	**0.017**	**0.94**	**0.0045**
Location ID	**Sample Date**	**Sample Depth (feet**											
GSRY-SB4178	09/27/22	0.0 - 0.5	0.00055 U	0.00055 U	0.00082 U	0.00027 U	0.00027 U	0.00027 U	0.00027 U	**0.00050 I**	0.00027 U	0.00027 U	0.00027 U
	09/27/22	0.5 - 2.0	0.00049 U	0.00049 U	0.00074 U	0.00025 U	0.00025 U	0.00025 U	0.00025 U	0.00025 U	0.00025 U	0.00025 U	0.00025 U
GSRY-SB4179	09/27/22	0.0 - 0.5	0.00052 U	0.00052 U	0.00077 U	0.00026 U	0.00026 U	0.00026 U	0.00026 U	0.00026 U	0.00026 U	0.00026 U	0.00026 U
	09/27/22	0.5 - 2.0	0.00048 U	0.00048 U	0.00073 U	0.00024 U	0.00024 U	0.00024 U	0.00024 U	0.00024 U	0.00024 U	0.00024 U	0.00024 U
GSRY-SB4180	09/27/22	0.0 - 0.5	0.00042 U	0.00042 U	0.00063 U	0.00021 U	0.00021 U	0.00021 U	**0.00033 I**	**0.00059 I**	0.00021 U	0.00021 U	0.00021 U
	09/27/22	0.5 - 2.0	0.00051 U	0.00051 U	0.00076 U	0.00025 U	0.00025 U	0.00025 U	**0.00027 I**	**0.00028 I**	0.00025 U	0.00025 U	0.00025 U
GSRY-SB4181	09/27/22	0.0 - 0.5	0.00043 U	0.00043 U	0.00064 U	0.00021 U	0.00021 U	0.00021 U	**0.00026 I**	0.00021 U	0.00021 U	0.00021 U	0.00021 U
	09/27/22	0.5 - 2.0	0.00050 U	0.00050 U	0.00075 U	0.00025 U	0.00025 U	0.00025 U	**0.0030**	**0.00051 I**	0.00025 U	0.00025 U	0.00025 U
GSRY-SB4182	09/27/22	0.0 - 0.5	0.00052 U	0.00052 U	0.00077 U	0.00026 U	0.00026 U	0.00026 U	0.00026 U	0.00026 U	0.00026 U	0.00026 U	0.00026 U
	09/27/22	0.5 - 2.0	0.00046 U	0.00046 U	0.00070 U	0.00023 U	0.00023 U	0.00023 U	0.00023 U	0.00023 U	0.00023 U	0.00023 U	0.00023 U

Notes:

Bolded results indicate the presence of an analyte at the specified concentration

Red font indicates an exceedance of FDEP pSCTL for leachability

Primary screening values are shown in black text, and secondary values are shown in grey text.

bls - below land surface

FDEP pSCTL - Florida Department of Environmental Protection provision Soil Cleanup Target Level

GSRY - General Services Administration Reclamation Yard

I - the analytical result was greater than or equal to the method detection limit, but less than the practical quantitation limit

J - the analytical result was an estimated value

PFAS - Per- and Polyfluoroalkyl Substances

Q - the sample was analyzed beyond hold time

USEPA RSL - United States Environmental Protection Agency Regional Screening Level

SWMU - Solid Waste Management Unit

U - the analyte was not detected

mg/kg - micrograms per kilogram

PFAS - Compounds:

Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)

Perfluorobutanesulfonic acid (PFBS)

Perfluorobutanoic acid (PFBA)

Perfluorohexanesufonic acid (PFHxS)

Perfluorohexanoic acid (PFHxA)

Perfluorononanoic acid (PFNA)

Perfluorooctanesulfonic acid (PFOS)

Perfluorooctanoic acid (PFOA)

Perfluorododecanoic acid (PFDOA)

Perfluorotetradecanoic acid (PFTEA)

Perfluoroundecanoic acid (PFUNA)

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Table 4-2
Groundwater Analytical Results - PFAS
General Services Administration Reclamation Yard PFAS Group (SWMU010)

Analyte			HFPO-DA	PFBS	PFBA	PFDOA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFOS+PFOA	PFTEA	PFUNA	HI
USEPA RSL (ng/L)			1.5	600	1800	100	39	990	5.9	0.2	0.0027		2000	600	
USEPA MCL (ng/L)			10				10		10	4.0	4.0				1.0
FDEP pGCTL (ng/L)										70	70	70			
Location ID	Screened Interval (feet bls)	Sample Date													
GSRY-MW0002S	2 to 12	6/11/2024	0.45 U	**1.7 I**	**10**	0.45 U	**25**	**6.2**	**0.50 I**	**72**	**13**	**85**	0.45 U	0.45 U	**2.6**
GSRY-MW0008S	2 to 12	6/11/2024	0.44 U	**1.4 I**	**3.8 I**	0.44 U	**29**	**6.5**	0.44 U	**3.1**	**4.6**	7.7	0.44 U	0.44 U	**2.9**
GSRY-MW0002IS	25 to 30	12/10/2021	0.669 U	0.669 U		0.669 U	0.669 U	0.811 U	0.669 U	0.811 U	0.811 U	1.6	0.811 U	0.669 U	0
GSRY-MW0055	8 to 18	12/8/2021	0.595 U	0.595 U		0.595 U	**1.46 I**	**4.05**	0.595 U	**2.34**	**0.771 I**	3.1	**0.902 I**	0.595 U	**0.1**
GSRY-MW0058	30 to 40	12/9/2021	0.647 U	0.647 U		0.647 U	0.647 U	0.784 U	0.647 U	**0.887 I**	0.784 U	1.7	0.784 U	0.647 U	0
GSRY-MW0059	30 to 40	12/9/2021	0.586 U	0.586 U		0.586 U	0.586 U	0.710 U	0.586 U	0.710 U	0.710 U	1.4	0.710 U	0.586 U	0
GSRY-MW0060	2 to 12	6/21/2021	6.67 U	**2.56 I**		1.30 U	**5.03**	**2.51 I**	0.98 U	**3.23 I**	**3.22 I**	6.5	1.14 U	1.24 U	**0.5**
GSRY-MW0064	20 to 30	12/8/2021	0.661 U	0.661 U		0.661 U	**2.64**	**3.99**	0.661 U	**8.11**	0.801 U	8.9	**1.11 I**	0.661 U	**0.3**
		6/13/2024	**5.5 V**	**1.3 IV**	**2.8 I**	0.43 U	**2.9**	**1.6 IV**	0.43 U	**6.1**	**1.4 I**	7.5	0.43 U	0.43 U	**0.8**
GSRY-MW0066	20 to 30	12/9/2021	0.589 U	0.589 U		0.589 U	**0.803 I**	**3.86**	0.589 U	**1.57 I**	0.714 U	2.3	0.779 U	0.589 U	**0.1**
GSRY-MW0069	10 to 20	10/5/2022	0.45 U	0.45 U	**1.8**	0.45 U	**2.0**	**1.4 I**	0.45 U	**3.3**	**5.5**	8.8	0.45 U	0.45 U	**0.2**
		6/11/2024	**0.53 I**	**1.3 I**	**6.1**	0.44 U	**16**	**15**	**3.2**	**59**	**67**	**126**	0.44 U	0.44 U	**2.0**
GSRY-MW0070	10 to 20	10/5/2022	0.48 U	0.48 U	1.9 U	0.48 U	0.48 U	0.48 U	0.48 U	0.95 U	0.48 U	1.4	0.48 U	0.48 U	0
		6/11/2024	0.43 U	0.43 U	1.7 U	0.43 U	**2.4**	**0.91 I**	0.43 U	**3.5**	**1.7**	5.2	0.43 U	0.43 U	**0.2**
GSRY-MW0073	17 to 27	12/10/2021	0.617 U	0.617 U		0.617 U	0.617 U	0.748 U	0.617 U	0.0748 U	0.0748 U	0.1	0.748 U	0.617 U	0
		10/5/2022	0.47 U	0.47 U	1.9 U	0.47 U	0.47 U	0.47 U	0.47 U	0.94 U	0.47 U	1.4	0.47 U	0.47 U	0
		6/11/2024	**0.64 I**	0.44 U	1.7 U	0.44 U	**1.5 I**	**0.47 I**	0.44 U	**7.3**	**3.3**	10.6	0.44 U	0.44 U	**0.2**
GSRY-MW0074	7 to 17	6/21/2021	6.67 U	**3.26 I**		1.30 U	**28**	**21**	**1.55 I**	**18**	**104**	**122**	1.14 U	1.24 U	**3.0**
		12/10/2021	0.589 U	**2.71**		0.589 U	**25.5**	**21.6**	**1.03 I**	**12.1**	**89**	**101.1**	0.715 U	0.589 U	**2.7**
		10/5/2022	0.46 U	**2.4**	**11**	0.46 U	**19**	**15**	**0.85 I**	**14**	**57**	**71**	0.46 U	0.46 U	**2.0**
		6/11/2024	**0.86 I**	**1.6 I**	**7.9**	0.43 U	**16**	**20**	**1.6 I**	**27**	**72**	**99**	0.43 U	0.43 U	**1.8**
GSRY-MW0076	10 to 20	10/5/2022	0.45 U	**1.8**	**4.6**	0.45 U	**2.0**	**21**	**0.59 I**	**9.3**	**92**	**101.3**	0.45 U	0.45 U	**0.3**
		6/11/2024	**0.89 I**	**6.7**	**67**	0.44 U	**84**	**100**	**4.5**	**78**	**710**	**788**	0.44 U	0.44 U	**8.9**
GSRY-MW0077	10 to 20	10/5/2022	0.46 U	0.46 U	1.8 U	0.46 U	0.46 U	0.46 U	0.46 U	0.91 U	0.46 U	1.4	0.46 U	0.46 U	0
		6/11/2024	0.44 U	0.44 U	1.7 U	0.44 U	0.44 U	0.44 U	0.44 U	**0.96 I**	0.44 U	1.4	0.44 U	0.44 U	0
GSRY-MW0078	7 to 17	10/5/2022	0.45 U	**0.84 I**	**2.7 I**	0.45 U	**3.6**	**1.9**	0.45 U	**8.8**	**5.3**	14.1	0.45 U	0.45 U	**0.4**
		6/10/2024	**1.2 IV**	**1.0 I**	**4.8**	0.43 U	**9.6**	**3.0**	0.43 U	**19**	**7.1**	26.1	0.43 U	0.43 U	**1.1**
GSRY-MW0079	2 to 12	6/11/2024	0.45 U	**3.3**	**16**	0.45 U	**48**	**37**	**6.0**	**69**	**270**	**339**	0.45 U	0.45 U	**5.4**
GSRY-MW0080	2 to 12	6/11/2024	**0.95 I**	**0.68 I**	**9.7**	0.44 U	**18**	**2.7**	**0.51 I**	**46**	**6.3**	52.3	0.44 U	0.44 U	**1.9**
GSRY-MW0081	2 to 12	6/11/2024	**6.5 V**	**3.8 V**	**13**	0.45 U	**4.5**	**8.6 V**	**3.0**	**35**	**18**	53.0	0.45 U	0.45 U	**1.4**
GSRY-MW0082	2 to 12	6/13/2024	**5.8 V**	**2.0 V**	**11**	0.45 U	**3.2**	**5.0 V**	**2.2**	**37**	**8.5**	45.5	0.45 U	0.45 U	**1.1**
GSRY-MW0083	2 to 12	6/13/2024	**6.2 V**	**1.9 V**	**5.8**	0.42 U	**8.6**	**3.8 V**	**0.61 I**	**10**	**5.7**	15.7	0.42 U	0.42 U	**1.5**
GSRY-MW0084	20 to 30	6/13/2024	**0.54 I V**	0.42 U	**1.8 I**	0.42 U	**1.2 I**	**0.62 I**	0.42 U	**3.7**	**0.85 I**	4.6	0.42 U	0.42 U	**0.2**
PFAS-DPT0190	6 to 10	1/27/2021		2.0 U		2.0 U	**15.8**	**7.5**	2.0 U	**27.4**	**17.9**	45.3	2.0 U	2.0 U	
	21 to 25	1/27/2021		2.0 U		2.0 U	**3.4 I**	2.0 U	2.0 U	**7.4**	2.0 U	9.4	2.0 U	2.0 U	
	31 to 35	1/27/2021		3.1 U		16 U	**4.9 I**	3.1 U	3.1 U	**41.4**	**3.2 I**	44.6	3.1 U	16 U	
	41 to 45	1/27/2021		2.0 U		10 U	**2.4 I**	2.0 U	2.0 U	**12.2**	2.0 U	14.2	2.0 U	10 U	

Table 4-2
Groundwater Analytical Results - PFAS
General Services Administration Reclamation Yard PFAS Group (SWMU010)

Analyte			HFPO-DA	PFBS	PFBA	PFDOA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFOS+PFOA	PFTEA	PFUNA	HI
USEPA RSL (ng/L)			1.5	600	1800	100	39	990	5.9	0.2	0.0027		2000	600	
USEPA MCL (ng/L)			10				10		10	4.0	4.0				1.0
FDEP pGCTL (ng/L)										70	70	70			
Location ID	**Screened Interval (feet bls)**	**Sample Date**													
PFAS-DPT0244	6 to 10	9/22/2021	23 U	11 U		11 U	27.4	11 U	11 U	21.2 I	11 U	32.2	11 U	11 U	2.7
	21 to 25	9/22/2021	4.0 U	2.0 U		2.0 U	2.0 I	2.0 U	2.0 U	3.4 I	2.0 U	5.4	2.0 U	2.0 U	0.2
	31 to 35	9/23/2021	4.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0	2.0 U	2.0 U	0
	41 to 45	9/23/2021	4.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0	10 U	2.0 U	0
PFAS-DPT0246	6 to 10	9/23/2021	4.0 U	2.0 U		2.0 U	2.0 U	4.1	3.0 I	16.2	5.1	21.3	2.0 U	2.0 U	0.3
	21 to 25	9/23/2021	4.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0	2.0 U	2.0 U	0
	31 to 35	9/23/2021	4.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0	2.0 U	2.0 U	0
	41 to 45	9/23/2021	4.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0	10 U	2.0 U	0
PFAS-DPT0247	6 to 10	9/23/2021	4.0 U	2.0 U		2.0 U	13.1	4.3	2.0 U	26.2	6.4	32.6	2.0 U	2.0 U	1.3
	21 to 25	9/23/2021	4.0 U	2.0 U		2.0 U	2.4	2.0 U	2.0 U	7.1	2.0 U	9.1	2.0 U	2.0 U	0.2
	31 to 35	9/23/2021	4.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.7 I	2.0 U	4.7	2.0 U	2.0 U	0
	41 to 45	9/23/2021	4.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0	2.0 U	2.0 U	0

Notes:

Bolded results indicate the presence of an analyte at the specified concentration

Red font indicates an exceedance of United States Environmental Protection Agency MCL (or RSL, if no MCL is available)

Yellow highlighted cell indicates an exceedance of pGCTLs as presented in the Florida Department of Environmental Protection PFAS Dynamic Plan, March 2022

Blank cells indicate the analyte was not analyzed for that specific well or direct push technology sample interval

bls - below land surface

FDEP pGCTL - Florida Department of Environmental Protection Provisional Groundwater Cleanup Target Level

HI - Hazard Index for drinking water (Calculated based on a mixture of HFPO-DA, PFBS, PFHxS, and PFNA)

I - The analytical result was greater than or equal to the method detection limit, but less than the practical quantitation limit

J - the analytical result was an estimated value

ng/L - nanograms per liter

PFAS - Per- and Polyfluoroalkyl Substances

SWMU - Solid Waste Management Unit

U - The analyte was not detected

USEPA MCL - United States Environmental Protection Agency Maximum Contaminant Level

USEPA RSL - United States Environmental Protection Agency Regional Screening Level

V - The analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times greater the blank value was equal to or greater than the associated sample value

PFAS - Compounds:

Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)

Perfluorobutanesulfonic acid (PFBS)

Perfluorobutanoic acid (PFBA)

Perfluorohexanesufonic acid (PFHxS)

Perfluorohexanoic acid (PFHxA)

Perfluorononanoic acid (PFNA)

Perfluorooctanesulfonic acid (PFOS)

Perfluorooctanoic acid (PFOA)

Perfluorododecanoic acid (PFDOA)

Perfluorotetradecanoic acid (PFTEA)

Perfluoroundecanoic acid (PFUNA)

Table 4-3
Surface Water Analytical Results - PFAS
General Services Administration Reclamation Yard PFAS Group (SWMU010)

Analyte		HFPO-DA	PFBS	PFBA	PFDOA	PFHxS	PFHxA	PFNA	PFOS	PFOA	PFTEA	PFUNA
FDEP pSWSL (ng/L)									10	500		
Location ID	**Sample Date**											
GSRY-SW0010	9/26/2022	0.44 U	**22**	**19**	0.44 U	**97**	**43**	**0.95 I**	**80**	**14**	0.44 U	0.44 U
	6/14/2024	**0.66 I**	**2.3**	**13**	0.43 U	**22**	**8.9**	**1.0 I**	**91**	**14**	0.43 U	0.43 U
GSRY-SW0011	9/26/2022	0.43 U	**17**	**18**	0.43 U	**78**	**34**	**0.88 I**	**72**	**12**	0.43 U	0.43 U
	6/14/2024	**0.59 I**	**2.1**	**12**	0.46 U	**22**	**8.5**	**0.84 I**	**86**	**14**	0.46 U	0.46 U
GSRY-SW0012/ PFAS-SW0134	8/4/2021	4.0 U	2.0 U		2.0 U	2.0 U	2.0 U	2.0 U	**6.7**	2.0 U	2.0 U	2.0 U
	9/26/2022	0.43 U	**1.4 I J**	**6.8**	0.43 U	**2.2**	**1.7**	**0.43 U**	**6.0**	**1.7**	0.43 U	0.43 U
	6/14/2024	**1.3 IV**	**0.53 I**	**6.3**	0.40 U	**3.3**	**2.1**	**0.44 I**	**9.6**	**2.8**	0.40 U	0.40 U
GSRY-SW0013	9/26/2022	0.42 U	**3.6**	**12**	0.42 U	**33**	**12**	**1.2 I**	**80**	**6.1**	0.42 U	0.42 U
	6/14/2024	**3.0 IV**	**12**	**9.3**	0.46 U	**380**	**28**	**1.2 I**	**380**	**18**	0.46 U	0.46 U
GSRY-SW0014	9/26/2022	0.43 U	**2.4**	**11**	0.43 U	**18**	**7.9**	**0.91 I**	**46**	**5.2**	0.43 U	0.43 U
	6/14/2024	**1.0 IV**	**1.1 I**	**8.3**	0.47 U	**13**	**7.9**	0.47 U	**37**	**7.6**	0.47 U	0.47 U
GSRY-SW0015/ PFAS-SW0135	8/4/2021	4.2 U	2.1 U		2.1 U	**4.7**	**2.6**	2.1 U	**33.2**	**6.8**	2.1 U	2.1 U
	9/26/2022	0.44 U	**2.8**	**47**	0.44 U	**6.7**	**5.5**	**1.1 I**	**26**	**5.9**	0.44 U	0.44 U
	6/14/2024	**0.65 IV**	**0.55 I**	**6.2**	0.44 U	**3.2**	**1.9**	0.44 U	**10**	**2.9**	0.44 U	0.44 U
GSRY-SW0016/ PFAS-SW0192	9/22/2021	4.0 U	2.0 U		2.0 U	**3.6 I**	2.0 U	2.0 U	**23.2**	**3.1 I**	2.0 U	2.0 U
	9/26/2022	0.44 U	0.44 U	**8.4**	0.44 U	**1.8**	**0.96 I**	0.44 U	**14**	**1.8**	0.44 U	0.44 U
	6/14/2024	**6.3 V**	**0.96 I**	**10**	0.54 U	**14**	**2.1 I**	0.54 U	**42**	**6.0**	0.54 U	0.54 U
GSRY-SW0017/ PFAS-SW0076	9/21/2020		2.1 U		2.1 U	**25.9**	**3.9**	2.1 U	**130**	**11.2**	2.1 U	2.1 U
	9/26/2022	0.44 U	**1.1 I**	**9.9**	0.44 U	**9.6**	**3.6**	**0.51 I**	**47**	**6.2**	0.44 U	0.44 U
	6/14/2024	**0.92 IV**	**1.5 I**	**11**	0.45 U	**18**	**6.4**	**0.63 I**	**74**	**14**	0.45 U	0.45 U
GSRY-SW0018/ PFAS-SW0136	8/4/2022	4.0 U	**2.1 I**		2.0 U	**16.3**	**3.5**	2.0 U	**76.6**	**8.2**	2.0 U	2.0 U
	9/26/2022	0.45 U	**1.1 I**	**9.6**	0.45 U	**9.1**	**3.8**	**0.67 I**	**55**	**6.9**	0.45 U	0.45 U
	6/14/2024	**1.8 IV**	**1.5 I**	**12**	0.48 U	**18**	**8.5**	**0.48 I**	**79**	**20**	0.48 U	0.48 U

Notes:

Bolded results indicate the presence of an analyte at the specified concentration

Red font indicates an exceedance of pSWSLs as presented in the Florida Department of Environmental Protection PFAS Dynamic Plan, March 2022

Blank cells indicate the analyte was not analyzed for that specific location

FDEP pSWSL - Provisional Surface Water Screening Level

I - The analytical result was greater than or equal to the method detection limit, but less than the practical quantitation limit

J - the analytical result was an estimated value

Location ID's with two ID's are the same sampling location with the original PFAS location listed along with the current GSRY location

MDL - method detection limit

ng/L - nanograms per liter

PFAS - Per- and Polyfluoroalkyl Substances

SWMU - Solid Waste Management Unit

U - The analyte was not detected

V - The analyte was detected at or above the MDL in both the sample and the associated method blank and the value of 10 times greater the blank value was equal to or greater than the associated sample value

PFAS - Compounds:

Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)
Perfluorobutanesulfonic acid (PFBS)
Perfluorobutanoic acid (PFBA)
Perfluorohexanesufonic acid (PFHxS)
Perfluorohexanoic acid (PFHxA)
Perfluorononanoic acid (PFNA)
Perfluorooctanesulfonic acid (PFOS)
Perfluorooctanoic acid (PFOA)
Perfluorododecanoic acid (PFDOA)
Perfluorotetradecanoic acid (PFTEA)
Perfluoroundecanoic acid (PFUNA)

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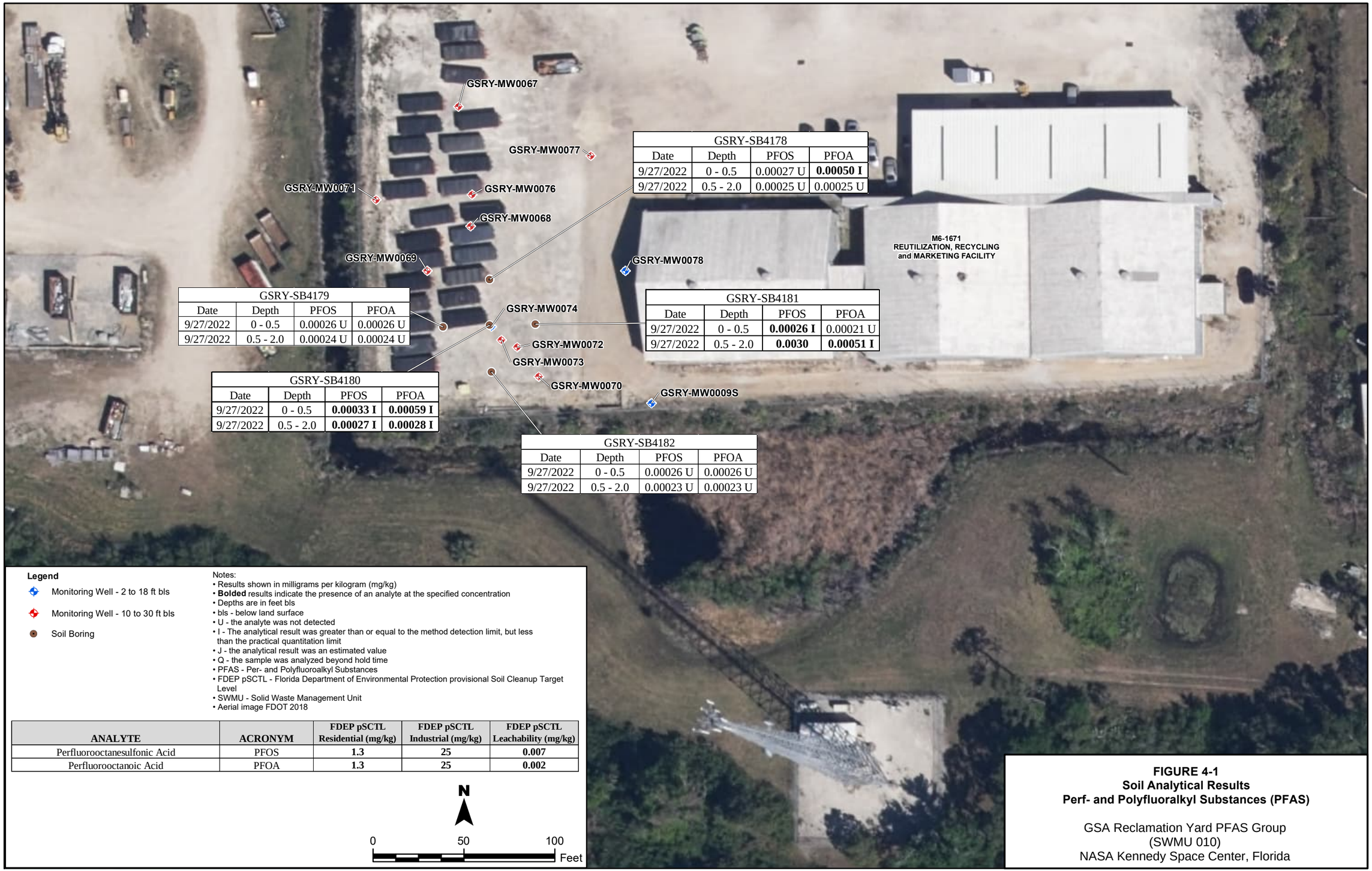

GSRY-SB4178			
Date	Depth	PFOS	PFOA
9/27/2022	0 - 0.5	0.00027 U	**0.00050 I**
9/27/2022	0.5 - 2.0	0.00025 U	0.00025 U

GSRY-SB4179			
Date	Depth	PFOS	PFOA
9/27/2022	0 - 0.5	0.00026 U	0.00026 U
9/27/2022	0.5 - 2.0	0.00024 U	0.00024 U

GSRY-SB4181			
Date	Depth	PFOS	PFOA
9/27/2022	0 - 0.5	**0.00026 I**	0.00021 U
9/27/2022	0.5 - 2.0	**0.0030**	**0.00051 I**

GSRY-SB4180			
Date	Depth	PFOS	PFOA
9/27/2022	0 - 0.5	**0.00033 I**	**0.00059 I**
9/27/2022	0.5 - 2.0	**0.00027 I**	**0.00028 I**

GSRY-SB4182			
Date	Depth	PFOS	PFOA
9/27/2022	0 - 0.5	0.00026 U	0.00026 U
9/27/2022	0.5 - 2.0	0.00023 U	0.00023 U

Legend

- Monitoring Well - 2 to 18 ft bls
- Monitoring Well - 10 to 30 ft bls
- Soil Boring

Notes:
- Results shown in milligrams per kilogram (mg/kg)
- **Bolded** results indicate the presence of an analyte at the specified concentration
- Depths are in feet bls
- bls - below land surface
- U - the analyte was not detected
- I - The analytical result was greater than or equal to the method detection limit, but less than the practical quantitation limit
- J - the analytical result was an estimated value
- Q - the sample was analyzed beyond hold time
- PFAS - Per- and Polyfluoroalkyl Substances
- FDEP pSCTL - Florida Department of Environmental Protection provisional Soil Cleanup Target Level
- SWMU - Solid Waste Management Unit
- Aerial image FDOT 2018

ANALYTE	ACRONYM	FDEP pSCTL Residential (mg/kg)	FDEP pSCTL Industrial (mg/kg)	FDEP pSCTL Leachability (mg/kg)
Perfluorooctanesulfonic Acid	PFOS	**1.3**	**25**	**0.007**
Perfluorooctanoic Acid	PFOA	**1.3**	**25**	**0.002**

N

0 50 100 Feet

FIGURE 4-1
Soil Analytical Results
Perf- and Polyfluoralkyl Substances (PFAS)

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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Legend
- Surface Water Sample
- Monitoring Well - 2 to 18 feet bls
- Monitoring Well - 10 to 30 feet bls
- Monitoring Well - 30 to 40 feet bls

N

0 40 80 Feet

Notes:
- Results are in nanograms per liter (ng/L)
- **Bolded** results indicate the presence of an analyte at the specified concentration
- Groundwater - **Red** font indicates an exceedance of United States Environmental Protection Agency MCL (or RSL, if no MCL is available)
- Groundwater - **Yellow highlighted cell** indicates an exceedance of pGCTLs as presented in the Florida Department of Environmental Protection PFAS Dynamic Plan, March 2022
- Surface Water - **Red** font indicates an exceedance of SWSL as presented in the Florida Department of Environmental Protection PFAS Dynamic Plan, March 2022
- Blank cells indicate the analyte was not analyzed for that specific well
- bls - below land surface
- HI - Hazard Index for drinking water (Calculated based on a mixture of HFPO-DA, PFBS, PFHxS, and PFNA; this was calculated with one sample result; ideally this should be calculated using the average from four consecutive quarterly sampling events)
- I - The analytical result was greater than or equal to the method detection limit, but less than the practical quantitation limit
- MCL - Maximum Contaminant Level
- pGCTL - Provisional Groundwater Cleanup Target Level
- PFAS - Per- and Polyfluoroalkyl Substances
- SWMU - Solid Waste Management Unit
- pSWSL - Provisional Surface Water Screening Level
- U - The analyte was not detected
- Depth - Monitoring Well Screen Interval in feet bls
- Aerial Source: FDEP 2018

ANALYTE	ACRONYM	MCL (ng/L)	pGCTL (ng/L)	pSWSL (ng/L)
Perfluorohexanesulfonic	PFHxS	10		
Perfluorooctanesulfonic Acid	PFOS	4.0	70	10
Perfluorooctanoic Acid	PFOA	4.0	70	500
	PFOS+PFOA		70	
Hazard Index	HI	1.0		

RANSOM RD

GSRY-MW0058

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
30 to 40	12/9/2021	0.647 U	**0.887 I**	0.784 U	1.7	0

GSRY-MW0059

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
30 to 40	12/9/2021	0.586 U	0.710 U	0.710 U	1.4	0

GSRY-MW0055

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
8 to 18	12/8/2021	**1.46 I**	**2.34**	**0.771 I**	3.1	**0.1**

GSRY-MW0060

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/21/2021	**5.03**	**3.23 I**	**3.22 I**	6.5	**0.5**

GSRY-MW0066

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
20 to 30	12/9/2021	**0.803 I**	**1.57 I**	0.714 U	2.3	**0.1**

GSRY-MW0064

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
20 to 30	12/8/2021	**2.64**	**8.11**	0.801 U	8.9	**0.3**
	6/13/2024	**2.9**	**6.1**	**1.4 I**	7.5	**0.8**

GSRY-MW0084

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
20 to 30	6/13/2024	**1.2 I**	**3.7**	**0.85 I**	4.6	**0.2**

GSRY-MW0083

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/13/2024	**8.6**	**10**	**5.7**	15.7	**1.5**

PFAS-DPT0247

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
6 to 10	9/23/2021	**13.1**	**26.2**	**6.4**	32.6	**1.3**
21 to 25	9/23/2021	**2.4**	**7.1**	2.0 U	9.1	**0.2**
31 to 35	9/23/2021	2.0 U	**2.7 I**	2.0 U	4.7	0
41 to 45	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0

PFAS-DPT0244

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
6 to 10	9/22/2021	**27.4**	**21.2 I**	11 U	32.2	**2.7**
21 to 25	9/22/2021	**2.0 I**	**3.4 I**	2.0 U	5.4	**0.2**
31 to 35	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0
41 to 45	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0

GSRY-SW0012/ PFAS-SW0134

Date	PFOS	PFOA
8/4/2021	**6.7**	2.0 U
9/26/2022	**6.0**	**1.7**
6/14/2024	**9.6**	**2.8**

GSRY-SW0010

Date	PFOS	PFOA
9/26/2022	**80**	**14**
6/14/2024	**91**	**14**

GSRY-MW0002IS

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
25 to 30	12/10/2021	0.669 U	0.811 U	0.811 U	1.6	0

GSRY-MW0002S

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/11/2024	**25**	**72**	**13**	**85**	**2.6**

GSRY-MW0008S

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/11/2024	**29**	**3.1**	**4.6**	7.7	**2.9**

GSRY-MW0081

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/11/2024	**4.5**	**35**	**18**	53.0	**1.4**

GSRY-SW0013

Date	PFOS	PFOA
9/26/2022	**80**	**6.1**
6/14/2024	**380**	**18**

PFAS-DPT0246

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
6 to 10	9/23/2021	2.0 U	**16.2**	**5.1**	21.3	**0.3**
21 to 25	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0
31 to 35	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0
41 to 45	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0

GSRY-MW0076

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
10 to 20	10/5/2022	**2.0**	**9.3**	**92**	**101.3**	**0.3**
	6/11/2024	**84**	**78**	**710**	**788**	**8.9**

GSRY-MW0077

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
10 to 20	10/5/2022	0.46 U	0.91 U	0.46 U	1.4	0
	6/11/2024	0.44 U	**0.96 I**	0.44 U	1.4	0

GSRY-SW0011

Date	PFOS	PFOA
9/26/2022	**72**	**12**
6/14/2024	**86**	**14**

GSRY-MW0078

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
7 to 17	10/5/2022	**3.6**	**8.8**	**5.3**	14.1	**0.4**
	6/10/2024	**9.6**	**19**	**7.1**	26.1	**1.1**

GSRY-MW0069

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
10 to 20	10/5/2022	**2.0**	**3.3**	**5.5**	8.8	**0.2**
	6/11/2024	**16**	**59**	**67**	**126**	**2.0**

GSRY-MW0073

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
17 to 27	12/10/2021	0.617 U	0.0748 U	0.0748 U	0.1	0
	10/5/2022	0.47 U	0.94 U	0.47 U	1.4	0
	6/11/2024	**1.5 I**	**7.3**	**3.3**	10.6	**0.2**

GSRY-SW0014

Date	PFOS	PFOA
9/26/2022	**46**	**5.2**
6/14/2024	**37**	**7.6**

GSRY-MW0074

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
7 to 17	6/21/2021	**28**	**18**	**104**	**122**	**3.0**
	12/10/2021	**25.5**	**12.1**	**89**	**101.1**	**2.7**
	10/5/2022	**19**	**14**	**57**	**71**	**2.0**
	6/11/2024	**16**	**27**	**72**	**99**	**1.8**

GSRY-MW0079

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/11/2024	**48**	**69**	**270**	**339**	**5.4**

GSRY-MW0082

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/13/2024	**3.2**	**37**	**8.5**	45.5	**1.1**

GSRY-MW0070

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
10 to 20	10/5/2022	0.48 U	0.95 U	0.48 U	1.4	0
	6/11/2024	**2.4**	**3.5**	**1.7**	5.2	**0.2**

GSRY-SW0018/ PFAS-SW0136

Date	PFOS	PFOA
8/4/2022	**76.6**	**8.2**
9/26/2022	**55**	**6.9**
6/14/2024	**79**	**20**

GSRY-SW0017/ PFAS-SW0076

Date	PFOS	PFOA
9/21/2020	**130**	**11.2**
9/26/2022	**47**	**6.2**
6/14/2024	**74**	**14**

GSRY-SW0016/ PFAS-SW0192

Date	PFOS	PFOA
9/22/2021	**23.2**	**3.1 I**
9/26/2022	**14**	**1.8**
6/14/2024	**42**	**6.0**

PFAS-DPT0190

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
6 to 10	1/27/2021	**15.8**	**27.4**	**17.9**	45.3	
21 to 25	1/27/2021	**3.4 I**	**7.4**	2.0 U	9.4	
31 to 35	1/27/2021	**4.9 I**	**41.4**	**3.2 I**	44.6	
41 to 45	1/27/2021	**2.4 I**	**12.2**	2.0 U	14.2	

GSRY-SW0015/ PFAS-SW0135

Date	PFOS	PFOA
8/4/2021	**33.2**	**6.8**
9/26/2022	**26**	**5.9**
6/14/2024	**10**	**2.9**

GSRY-MW0080

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/11/2024	**18**	**46**	**6.3**	52.3	**1.9**

KENNEDY PKWY/S

FIGURE 4-2
Groundwater and Surface Water Analytical Results
Per- and Polyflouroalkyl Substances (PFAS)

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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5 CONCLUSIONS AND RECOMMENDATIONS

The GSRY, RRSY, and SPT14 PFAS assessment activities and results were presented to the KSCRT in December 2024, and the KSCRT agreed with the following conclusions and recommendations, with the understanding that the Florida DEP will review this report and provide comments. The ADP and KSCRT meeting minutes are provided in **Appendix A**. The Proposed PFAS Sampling Plan, with a list of the wells and locations to be sampled and measured for water levels, is presented in **Table 5-1** and on **Figure 5-1**.

Based on PFAS assessment activities performed during this reporting period, the following conclusions are provided:

- PFAS compounds were not detected above Florida DEP pSCTLs in shallow soils in the vicinity of GSRY-MW0074.
- PFAS compounds are present in groundwater and surface water above the current United States EPA MCLs and Florida DEP pSWSLs across the GSRY – SWMU 010, RRSY – PRL 237 LOC 31, and STP 14 – PRL 237 LOC 26 sites.
- PFAS compounds have been detected in monitoring wells screened from 2 feet bls to 40 feet bls and in DPT groundwater samples down to 45 feet bls.

Based on PFAS assessment activities performed during this reporting period, the following recommendations are provided:

- Collect annual water level measurements at 61 monitoring wells.
- Conduct annual groundwater sampling for PFAS at 22 monitoring wells.
- Conduct annual surface water sampling for PFAS at six locations.

Refer to the Proposed PFAS Sampling Plan, presented in **Table 5-1** and on **Figure 5-1**, for a full list of monitoring locations.

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Table 5-1
Proposed PFAS Sampling Plan
General Services Administration Reclamation Yard PFAS Group (SWMU 010)

Location ID	Screened Interval (feet bls)	Water Levels	Sample for PFAS Analysis	Rationale
2 to 18 feet bls				
MW0002S	2 to 12	X	X	Outbound northwest shallow GSRY well
MW0003S	2 to 12	X		
MW0004S	2 to 12	X		
MW0005S	2 to 12	X		
MW0006S	2 to 12	X		
MW0007S	2 to 12	X		
MW0008S	2 to 12	X	X	Central well between potential southwest GSRY plume and RRSY plume
MW0009S	2 to 12	X		
MW0011S	2 to 12	X		
MW0018S	2 to 12	X		
MW0030R	8 to 18	X		
MW0031	8 to 18	X		
MW0036R	2 to 12	X		
MW0040	2 to 12	X		
MW0041	2 to 12	X		
MW0042R	2 to 12	X		
MW0043	2 to 12	X		
MW0044	2 to 12	X		
MW0045	2 to 12	X		
MW0046R	2 to 12	X		
MW0053	2 to 12	X		
MW0054	8 to 18	X		
MW0055	8 to 18	X		
MW0060	2 to 12	X	X	Northwest shallow delineation well for RRSY Plume
MW0065	4 to 14	X		
MW0074	7 to 17	X	X	Southwest GSRY source/plume well
MW0078	7 to 17	X	X	East delineation well for GSRY-MW0074 and GSRY-MW0076
MW0079	2 to 12	X	X	Southwest GSRY source/plume well
MW0080	2 to 12	X	X	STP14 source well
MW0081	2 to 12	X	X	West RRSY shallow plume well
MW0082	2 to 12	X	X	Central east RRSY shallow plume well
MW0083	2 to 12	X	X	North RRSY shallow plume well
10 to 30 feet bls				
MW0002IS	25 to 30	X	X	Outbound northwest vertical well adjacent to GSRY-MW0002S
MW0004IS	25 to 30	X		
MW0013M	16 to 21	X		
MW0014M	15 to 20	X		
MW0015M	16 to 21	X		
MW0049	25 to 30	X		
MW0050	25 to 30	X		
MW0051	25 to 30	X		
MW0052	14 to 24	X		
MW0056	14 to 24	X		
MW0057	20 to 30	X		
MW0061	20 to 30	X		
MW0063	14 to 24	X		
MW0064	20 to 30	X	X	Northwest RRSY intermediate well
MW0066	20 to 30	X	X	Northwest intermediate delineation well for RRSY Plume
MW0067	10 to 20	X	X	North delineation well for GSRY-MW0076
MW0068	10 to 20	X		
MW0069	10 to 20	X	X	Southwest GSRY source/plume well
MW0070	10 to 20	X	X	Southeast delineation well for GSRY-MW0074 and GSRY-MW0079
MW0071	13 to 23	X	X	West delineation well for GSRY-MW0076 (downgradient as per the June 2024 groundwater flow direction)
MW0072	11 to 21	X		
MW0073	17 to 27	X	X	Southwest GSRY source plume well – vertical well adjacent to GSRY-MW0074 and GSRY-MW0079
MW0075	20 to 30	X		
MW0076	10 to 20	X	X	Southwest GSRY source/plume well – highest PFAS concentrations
MW0077	10 to 20	X	X	Northeast delineation well for GSRY-MW0076
MW0084	20 to 30	X	X	North RRSY vertical well adjacent to GSRY-MW0083
30 to 40 feet bls				
MW0058	30 to 40	X		
MW0059	30 to 40	X	X	Northwest vertical delineation well for RRSY Plume
MW0062	30 to 40	X		

Table 5-1
Proposed PFAS Sampling Plan
General Services Administration Reclamation Yard PFAS Group (SWMU 010)

Location ID	Screened Interval (feet bls)	Water Levels	Sample for PFAS Analysis	Rationale
Surface Water				
SW0010	SW		X	Adjacent to GSRY-MW0002S – second highest PFAS concentration in surface water
SW0011	SW		X	Canal west of potential southwest GSRY source/hotspot
SW0013	SW		X	Central area in canal between GSRY and RRSY – highest PFAS concentration in surface water
SW0016	SW		X	STP14 abandoned pond
SW0017	SW		X	Canal/wetland area south of GSRY
SW0018	SW		X	Canal south of potential southwest GSRY source/hotspot

Notes:
bls - below land surface
GSRY - General Services Administration Reclamation Yard
PFAS - Per- and Polyfluoroalkyl Substances
RRSY - Ransom Road Sandblast Yard
STP14 - Former Sewage Treatment Plant #14

N

0 90 180 Feet

Legend

- Monitoring Well (Sample and Water Level Measurement)
- Monitoring Well (Water Level Measurement Only)
- Surface Water (Sample Only)

Notes:
- PFAS - Per- and Polyfluoroalkyl Substances
- Aerial Source: FDOT 2018

FIGURE 5-1
Proposed PFAS Sampling Plan

GSA Reclamation Yard PFAS Group
(SWMU 010)
NASA Kennedy Space Center, Florida

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APPENDIX A

ADVANCE DATA PACKAGES AND KSC REMEDIATION TEAM MEETING MINUTES

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General Services Administration
Reclamation Yard (GSRY)
Solid Waste Management Unit (SWMU) 010

Per- and Polyfluoroalkyl Substances (PFAS) Site Assessment

Includes PFAS Investigation at GSRY - SWMU 010, Ransom Road Sandblast Yard (RRSY) – Potential Release Location (PRL) 237 Location of Concern (LOC) 31, and Former Sewage Treatment Plant #14 and Abandoned Treatment Pond (STP 14) – PRL 237 LOC 26

December 2024

This Advance Data Package (ADP) was prepared for NASA to aid in evaluation of site conditions and remedial actions. This is not a decision document. New information may come to light that makes this ADP outdated.

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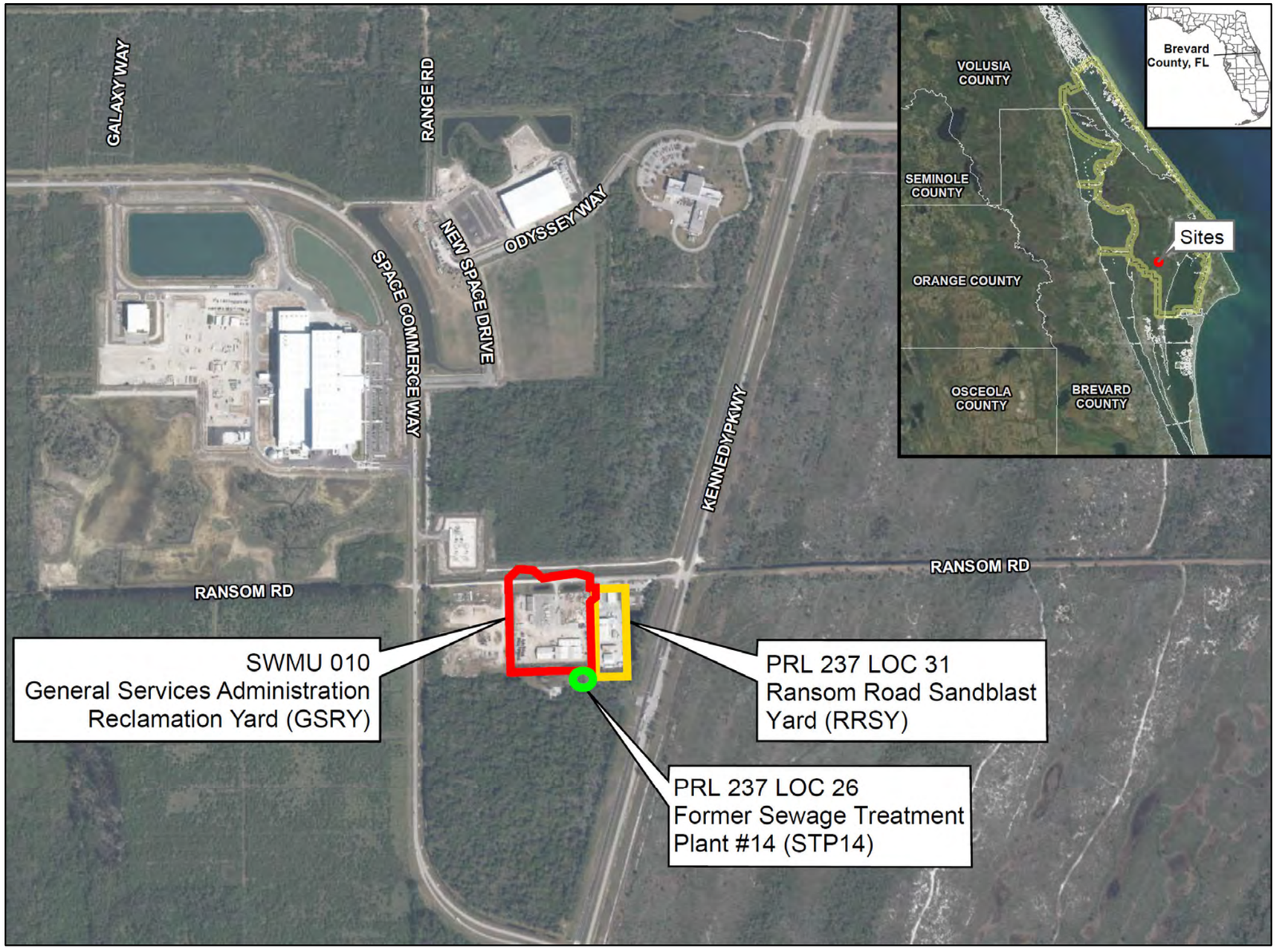
Outline

- Site Overview and Background
- PFAS Investigation – General Background
- 2022/2024 PFAS Investigation Field Activities and Analytical Results

Site Overview and Background

- The sites are located on Ransom Road between State Road 3 and Space Commerce Way
- **GSRY – SWMU 010**
  - Currently operates as the Reutilization, Recycling, and Marketing Facility
  - Constructed in the 1960s
  - Historically staged transformers, air conditioners, batteries, paints, solvents, pesticides, and adhesives
  - Current facility conducts reuse, resale, and recycling of materials and equipment
- **RRSY - PRL 237 LOC 31**
  - Currently operates as the Corrosion Control Facility
  - Constructed in 1967
  - Historically and currently used as a sandblasting and painting facility
- **STP 14 - PRL 237 LOC 26**
  - Formally operated as a package wastewater treatment plant and includes an abandoned treatment pond
  - Constructed in 1971
  - Historically processed wastewater from the RRSY and Industrial area of Kennedy Space Center
  - Facility was abandoned and equipment removed in 1986



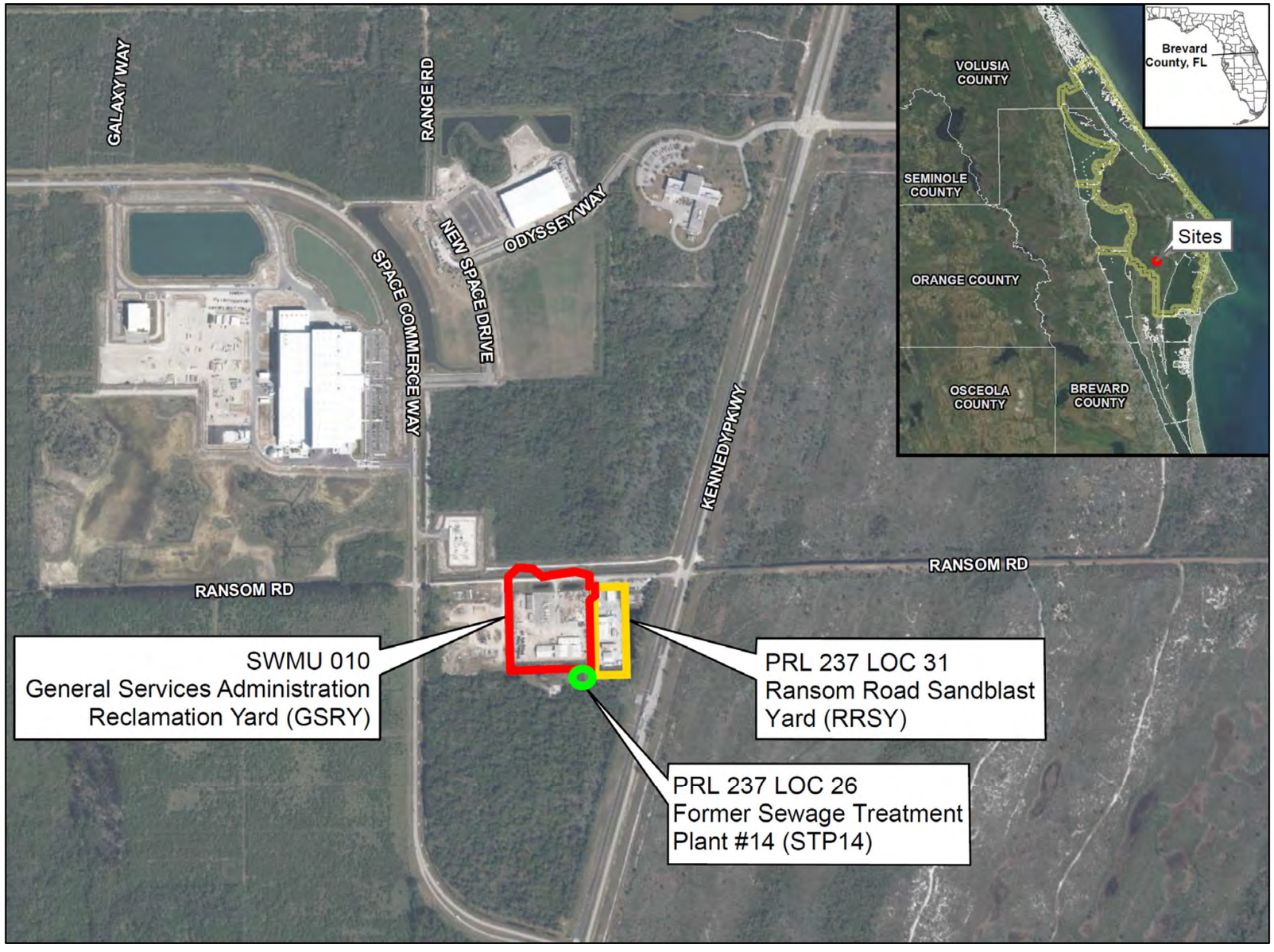
Site Overview and Background

STP 14 and RRSY Background

- STP 14 was formerly designated PRL 086B and was included in the RCRA Facility Investigation for RRSY, which was investigated under SWMU 021
- In 1997, groundwater and surface water samples were collected from the STP 14 area and analyzed for volatile and semi-volatile organic compounds, metals, pesticides, and herbicides.
- Exceedances of then-current groundwater screening levels for bis(2-ethylhexyl) phthalate, aluminum, and iron were reported
- No concerns were identified for surface water
- In 2001, the STP 14 monitoring well was re-sampled and analyzed for bis(2-ethylhexyl) phthalate, 1-methylnaphthalene, naphthalene, aluminum, and iron
- No result was above the State of Florida Groundwater Cleanup Target Levels (GCTLs) (which had been published in 1999)
- While no concerns were identified for the STP 14 area, it is included in the LUCIP for RRSY, which addresses polychlorinated biphenyls (PCBs) beneath paved surfaces at the site

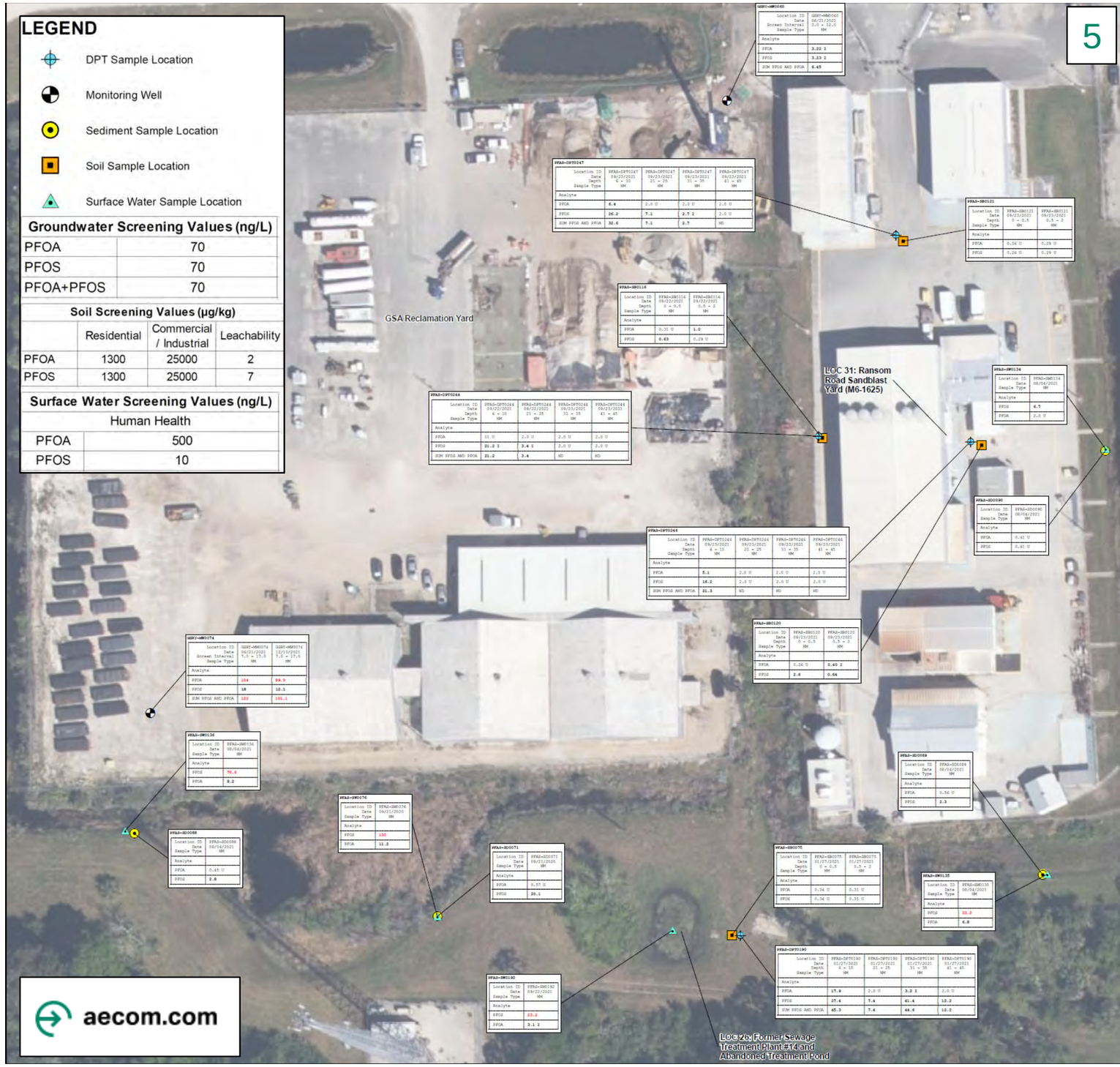
Site-Wide PFAS Investigation

- Investigation is ongoing to delineate PFAS in the groundwater and surface water at the site
- The investigation includes GSRY - SWMU 010, RRSY – PRL 237 LOC 31, and STP 14 – PRL 237 LOC 26



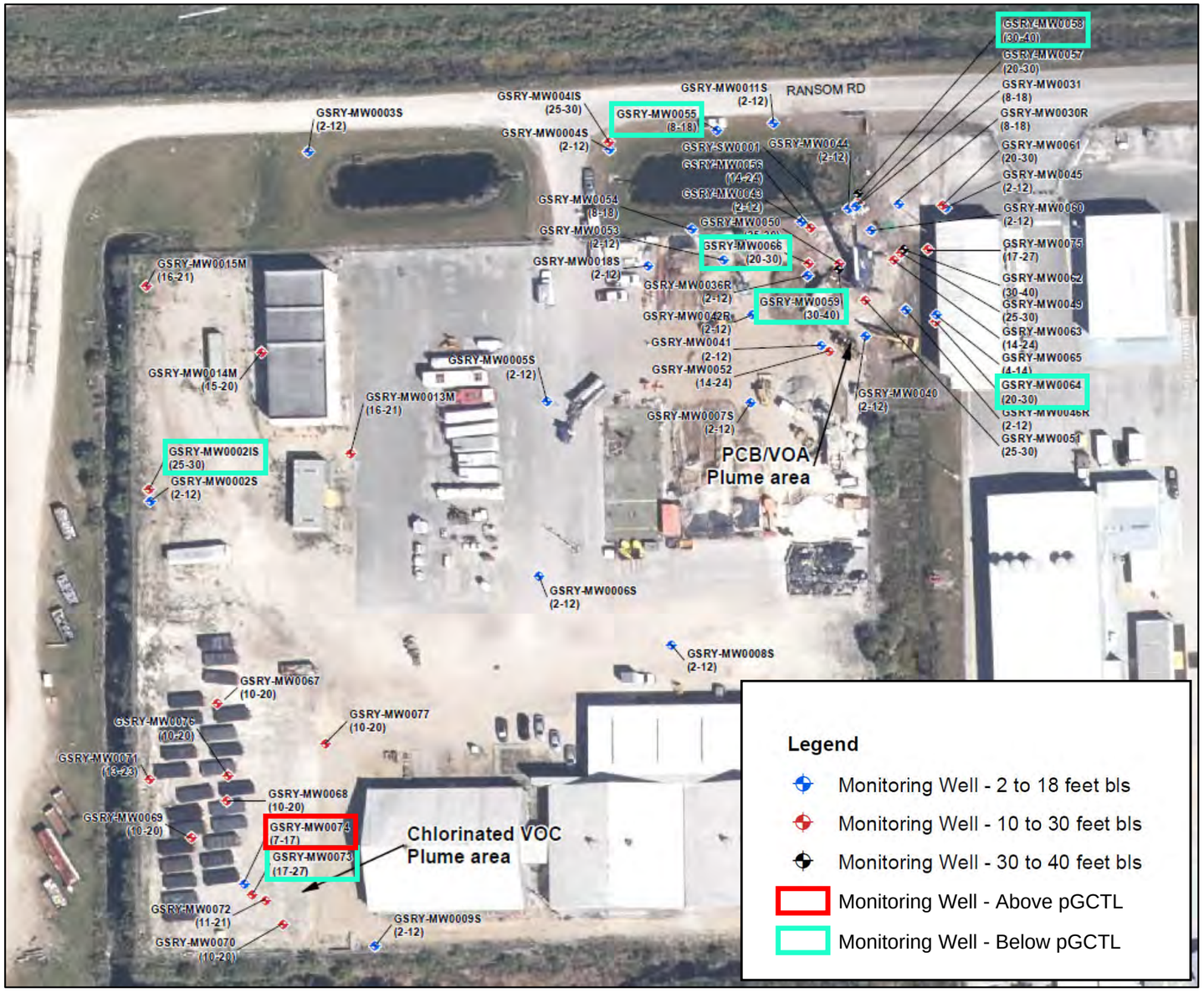
PFAS Investigation – Recent History

- 2019 – Initial assessment and confirmatory sampling conducted in the area under the Center-Wide PFAS Investigation
- 2020 through 2021 – Two LOCs were identified under the Center-Wide PFAS Project PRL 237: STP 14 LOC 26 and RRSY LOC 31
  - 16 groundwater samples were collected from 4 Direct Push Technology (DPT) locations
    - Samples were below the FDEP pGCTL of 70 nanograms per liter (ng/L) and below the then-current USEPA RSLs of 40 ng/L for PFOA, PFOS, and PFOA+PFOS
  - 2 monitoring wells were sampled
    - MW0074: PFOA+PFOS = 122 ng/L
    - MW0060: PFOA+PFOS = 6.45 ng/L
  - 5 surface water samples were collected
    - PFOA concentrations were below the FDEP pSWSL of 500 ng/L
    - PFOS concentrations were above the pSWSL of 10 ng/L at 4 locations
    - Maximum PFOS concentration was at SW0076: PFOS = 130 ng/L
- No Further Action was proposed for PFAS at LOCs 26 and 31
  - Based on the then-current FDEP pGCTLs and pSCTLs, and the then-current USEPA RSLs
  - After the remediation team agreed upon the path forward in September 2021, the USEPA updated RSLs in May 2022.
- PFAS investigation will continue at GSRY under existing SWMU 010



PFAS Investigation – Recent History

- December 2021: (prior to the updated USEPA RSLs in May 2022)
  - 8 monitoring wells were sampled for 18 PFAS compounds
  - Five monitoring wells, MW0055, MW0058, MW0064, MW0066, and MW0074, had detections of PFAS
  - One monitoring well, GSRY-MW0074, screened 7 to 17 feet below land surface (bls) had detections above the pGCTLs for PFOA and PFOA+PFOS::
    - PFOA: 89.0 ng/L
    - PFOS: 12.1 ng/L
    - PFOA+PFOS: 101.1 ng/L



PFAS Investigation – PFAS Screening Level Methodology

Samples were analyzed by United States Environmental Protection Agency (USEPA) Method 537 Isotope Dilution Modified Department of Defense Quality Systems Manual v5.4 by Eurofins Environmental Testing, Inc. for a 29-compound PFAS list.

Acronym List for PFAS Compounds with Screening Levels

PFOS – Perfluorooctanesulfonic acid
PFOA – Perfluorooctanoic acid
PFBS – Perfluorobutanesulfonic acid
PFHxS – Perfluorohexanesulfonic
HFPO-DA – Hexafluoropropylene oxide dimer acid (GenX)
PFBA – Perfluorobutanoic acid
PFHxA – Perfluorohexanoic acid
PFDOA – Perfluorododecanoic acid
PFTEA – Perfluorotetradecanoic acid
PFUNA – Perfluoroundecanoic acid

Soil results were compared to Florida Department of Environmental Protection (FDEP) provisional Soil Cleanup Target Levels (pSCTLs).

Groundwater results were compared to the April 2024 USEPA National Primary Drinking Water Regulation (NPDWR) Maximum Contaminant Levels (MCLs) for six PFAS compounds (PFOS, PFOA, PFBS, PFHxS, PFNA, and HFPO-DA). A Hazard Index (HI) was also calculated using the formula below for PFBS, PFHxS, PFNA, and HFPO-DA. The USEPA Fact Sheet with full instructions for calculating the HI is attached to this ADP. For PFAS compounds without MCLs, the May 2024 USEPA Regional Screening Levels (RSLs) for tap water (hazard quotient (HQ) 0.1) were used, if applicable. Groundwater was also compared to FDEP provisional GCTLs (pGCTLs), but they were not used for delineation purposes.

Surface water results were compared to FDEP provisional Surface Water Screening Levels (pSWSLs).

$$\text{Hazard Index} = \left(\frac{[\text{GenX}_{\text{water}}]}{[10\text{ ppt}]}\right) + \left(\frac{[\text{PFBS}_{\text{water}}]}{[2000\text{ ppt}]}\right) + \left(\frac{[\text{PFNA}_{\text{water}}]}{[10\text{ ppt}]}\right) + \left(\frac{[\text{PFHxS}_{\text{water}}]}{[9.0\text{ ppt}]}\right)$$

Screening Level	Media	PFOS	PFOA	PFOS+PFOA	PFBS	PFHxS	PFNA	HFPO-DA	PFBA	PFHxA	PFDOA	PFTEA	PFUNA
FDEP pSCTLs, Residential (mg/kg)	**Soil**	**1.3**	**1.3**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
FDEP pSCTLs, Industrial (mg/kg)	**Soil**	**25**	**25**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
FDEP pSCTLs, Leachability (mg/kg)	**Soil**	**0.007**	**0.002**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
USEPA RSLs (ng/L)	**Groundwater**	**0.2**	**0.0027**	**-**	**600**	**39**	**5.9**	**1.5**	**1800**	**990**	**100**	**2000**	**600**
FDEP pGCTLs (ng/L)	**Groundwater**	**70**	**70**	**70**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
USEPA MCLs (ng/L)	**Groundwater**	**4.0**	**4.0**	**-**	**HI>1**	**10 or HI>1**	**10 or HI>1**	**10 or HI>1**					
FDEP pSWSLs (ng/L)	**Surface Water**	**10**	**500**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Notes: HI – Hazard Index (calculated with a mixture containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS); mg/kg – milligrams per kilogram; ng/L – nanograms per liter; ppt = parts per trillion

Site Layout Map

Legend

- Monitoring Well - 2 to 18 feet bls
- Monitoring Well - 10 to 30 feet bls
- Monitoring Well - 30 to 40 feet bls

- SWMU #010 - GSA Reclamation Yard
- PRL 237 LOC 31 - Ransom Road Sandblast Yard
- PRL 237 LOC 26 - Sewage Treatment Plant #14

N

0 90 180 Feet

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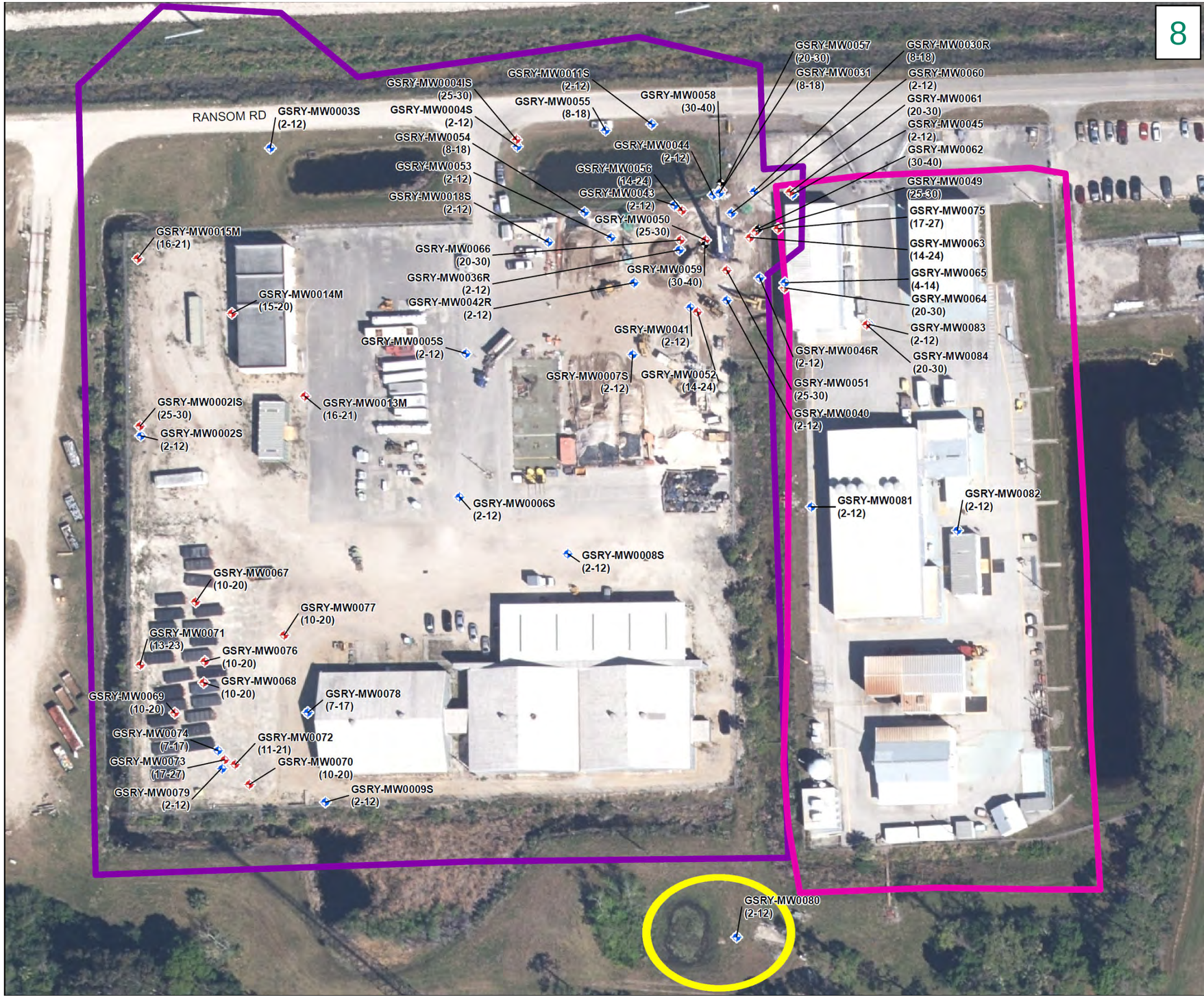
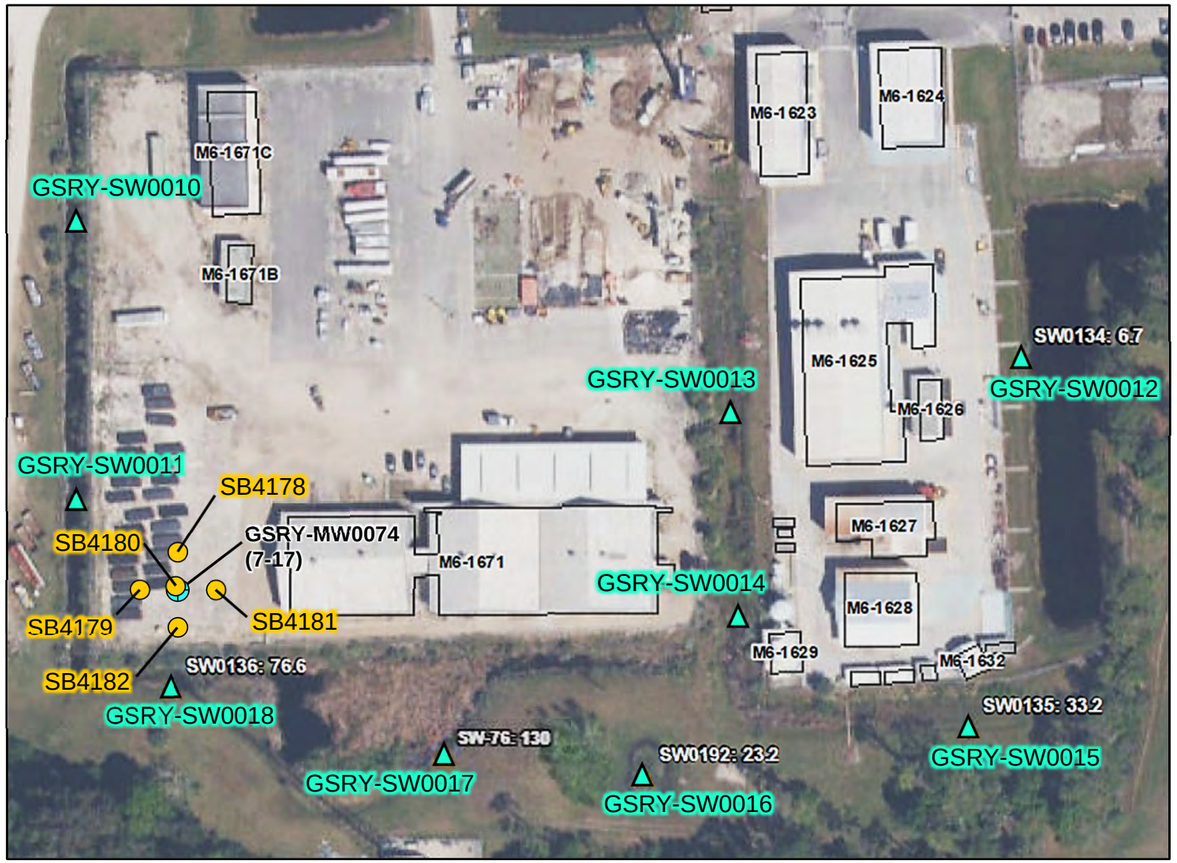
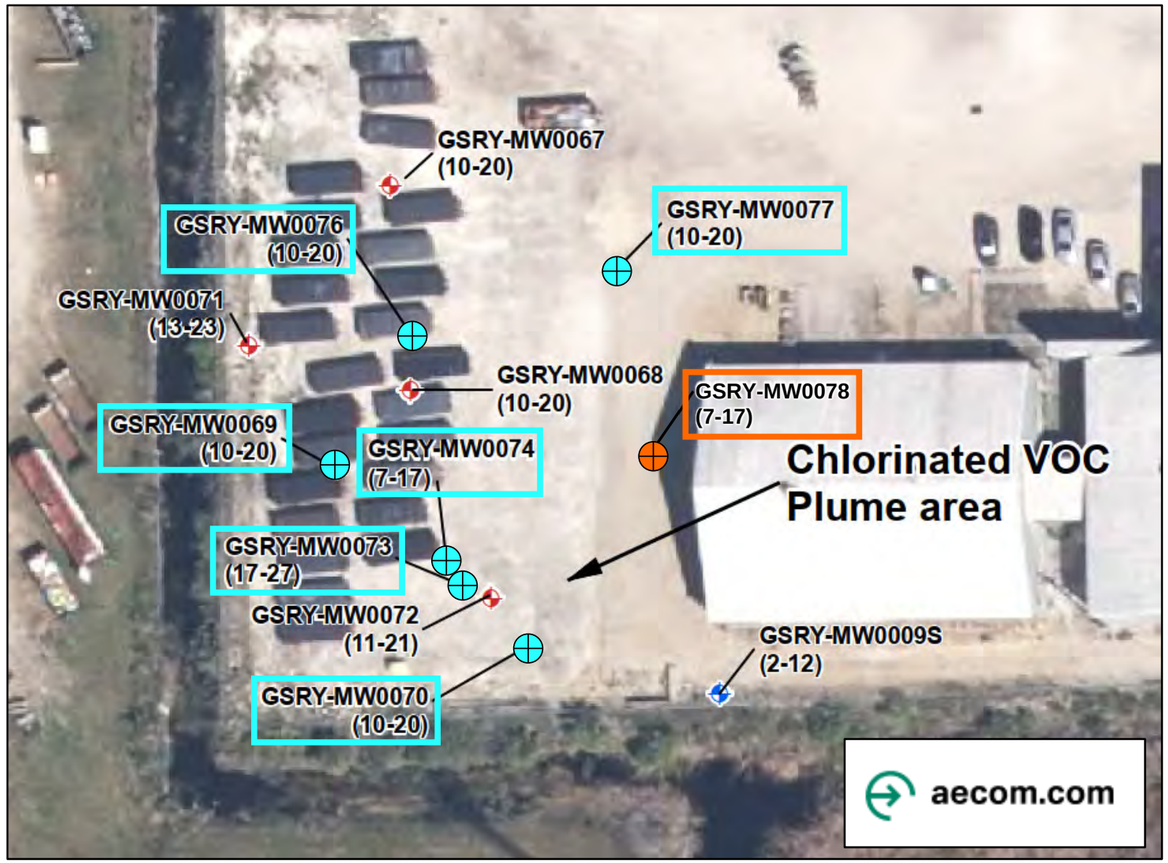


PFAS Investigation – 2022 Scope of Work

June through October 2022 (scope was determined based on Dec 2021 results prior to the May 2022 USEPA RSL update):

- Installed and developed one new monitoring well, GSRY-MW0078, screened 7 to 17 feet bls, east of GSRY-MW0074
- Collected 10 soil samples from five boring locations, GSRY-SB4178 through GSRY-SB4182, in the vicinity of GSRY-MW0074
  - Samples were collected at 0 to 0.5 feet bls and 0.5 to 2.0 feet bls at each location
  - Collected to determine if backfill from a 2005 Interim Measures may have been the source of PFAS observed in GSRY-MW0074
- Groundwater elevation measurements collected from 55 monitoring wells
- Groundwater samples collected from seven monitoring wells
- Collected surface water samples at nine locations
- Samples analyzed for 29 PFAS compounds

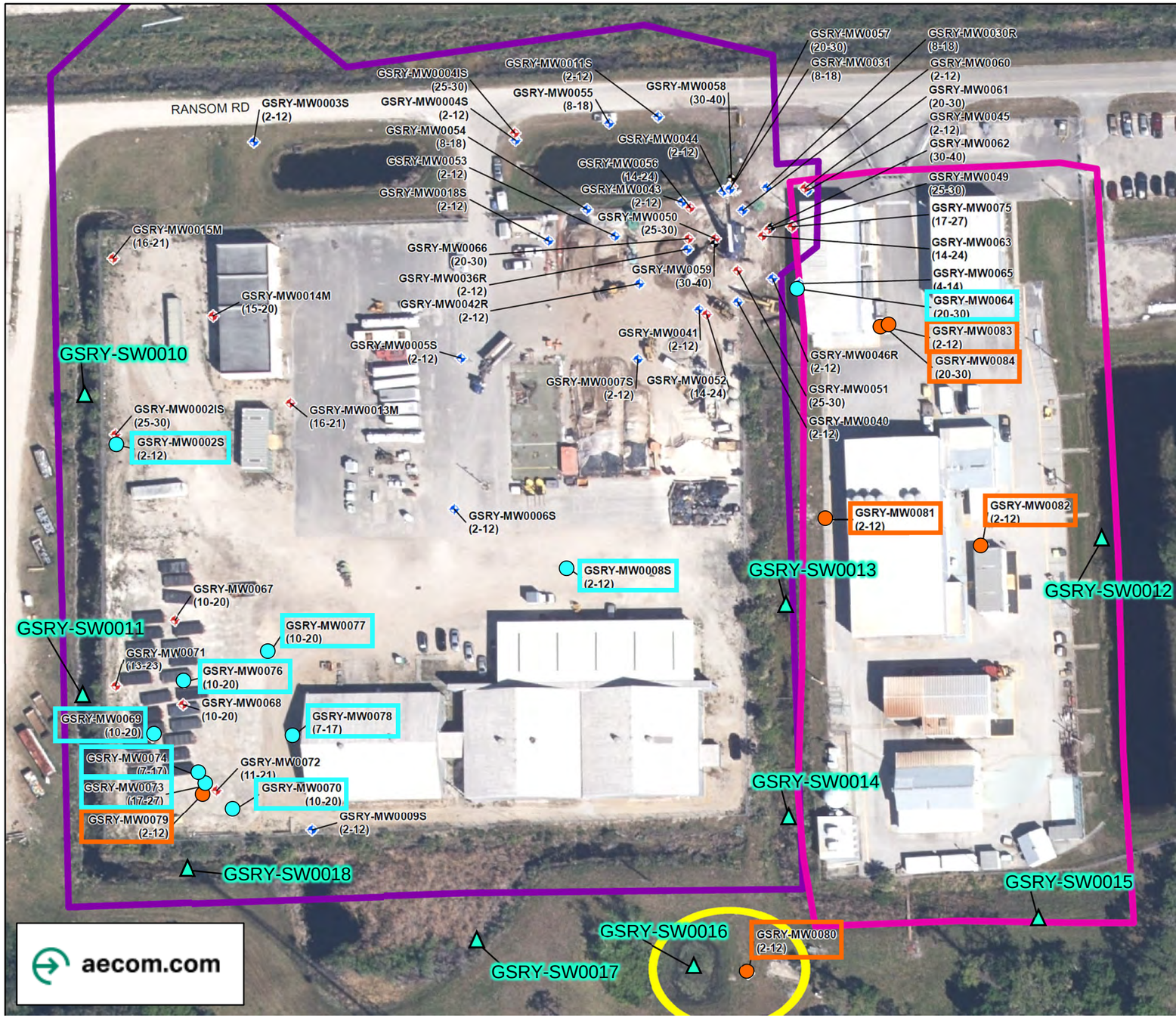




PFAS Investigation – 2024 Scope of Work

June 2024:

- Installed and developed six new monitoring wells, GSRY-MW0079 through GSRY-MW0083, screened 2 to 12 feet bls, and GSRY-MW0084, screened 20 to 30 feet bls; boxed in orange on the figure
- Groundwater elevation measurements collected from 61 monitoring wells
- Groundwater samples collected from 16 monitoring wells; boxed in blue and orange on the figure
- Collected surface water samples at nine locations
- Samples analyzed for 29 PFAS compounds



PFAS Investigation – 2022 and 2024 Sampling Plans

Location ID	Screen Interval (feet bls)	2022 – 29 PFAS	2024 – 29 PFAS
GSRY-MW0002S	2 to 12		X
GSRY-MW0008S	2 to 12		X
GSRY-MW0064	20 to 30		X
GSRY-MW0069	10 to 20	X	X
GSRY-MW0070	10 to 20	X	X
GSRY-MW0073	17 to 27	X	X
GSRY-MW0074	7 to 17	X	X
GSRY-MW0076	10 to 20	X	X
GSRY-MW0077	10 to 20	X	X
GSRY-MW0078	7 to 17		X
GSRY-MW0079	2 to 12		X
GSRY-MW0080	2 to 12		X
GSRY-MW0081	2 to 12		X
GSRY-MW0082	2 to 12		X
GSRY-MW0083	2 to 12		X
GSRY-MW0084	20 to 30		X
GSRY-SW0010	Surface Water	X	X
GSRY-SW0011	Surface Water	X	X
GSRY-SW0012	Surface Water	X	X
GSRY-SW0013	Surface Water	X	X
GSRY-SW0014	Surface Water	X	X
GSRY-SW0015	Surface Water	X	X
GSRY-SW0016	Surface Water	X	X
GSRY-SW0017	Surface Water	X	X
GSRY-SW0018	Surface Water	X	X

Notes: bls – below land surface; GSRY – General Services Administration Reclamation Yard; PFAS – Per- and Polyfluoroalkyl Substances

PFAS Investigation – Groundwater Flow Results for September 27, 2022

2 to 18 feet bls

- Sept 2022 groundwater flow:
  - Flow direction: North
  - Average depth to water (DTW): 2.10 feet bls
- Dec 2021 groundwater flow:
  - Flow direction: north
  - Average DTW: 2.50 feet bls

10 to 30 feet bls

- Sept 2022 groundwater flow:
  - Flow direction: north
  - Average DTW: 1.95 feet bls
- Dec 2021 groundwater flow:
  - Flow direction: north
  - Average DTW: 2.30 feet bls

30 to 40 feet bls

- Sept 2022 groundwater flow:
  - Flow direction: southeast
  - Average DTW: 0.57 feet bls
- Dec 2021 groundwater flow:
  - Flow direction: northwest
  - Average DTW: 0.99 feet bls

PFAS Investigation – Groundwater Flow Results for June 10, 2024

2 to 18 feet bls

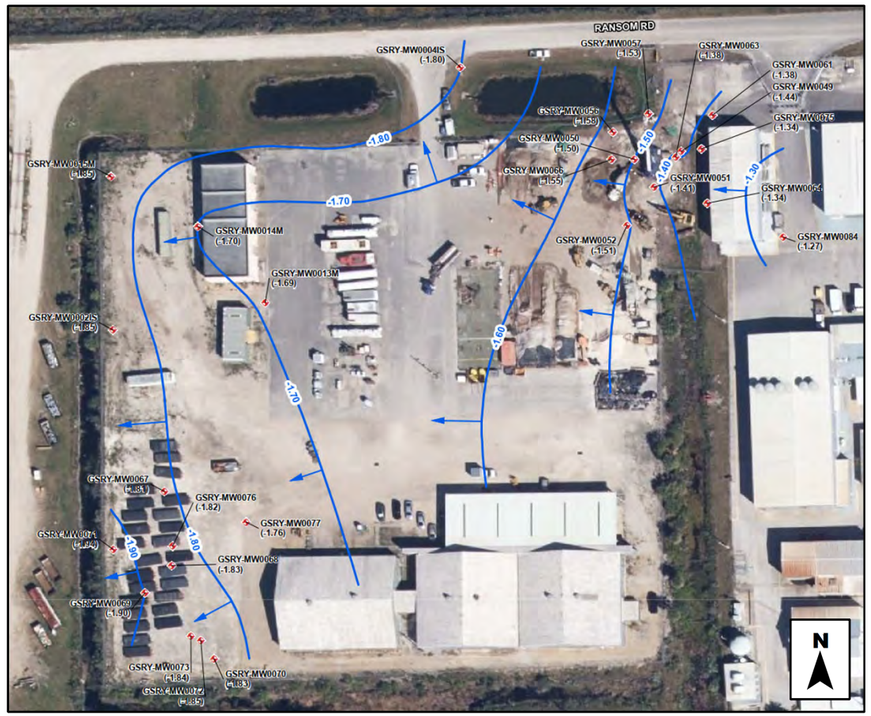
- June 2024 groundwater flow:
  - Flow direction: west
  - Average DTW: 4.92 feet bls
- Sept 2022 groundwater flow:
  - Flow direction: north
  - Average DTW: 2.10 feet bls

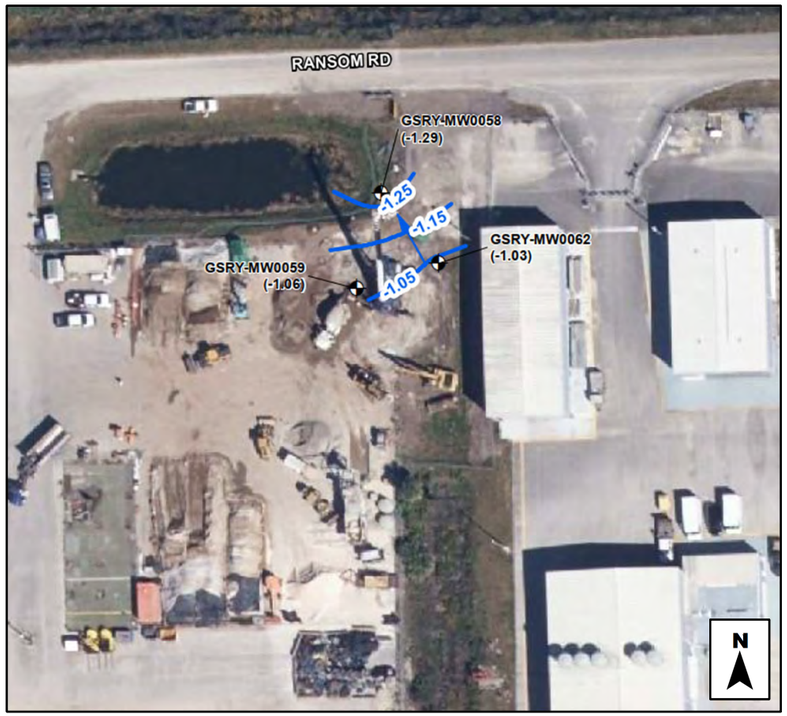
10 to 30 feet bls

- June 2024 groundwater flow:
  - Flow direction: northwest
  - Average DTW: 4.88 feet bls
- Sept 2022 groundwater flow:
  - Flow direction: north
  - Average DTW: 1.95 feet bls

30 to 40 feet bls

- June 2024 groundwater flow:
  - Flow direction: northwest
  - Average DTW: 3.87 feet bls
- Sept 2022 groundwater flow:
  - Flow direction: southeast
  - Average DTW: 0.57 feet bls





PFAS Investigation – Shallow Soil Analytical Results

- No soil samples collected during the 2022 event had PFAS concentrations detected above FDEP pSCTLs
- PFOS
  - Detected in four soil samples at two locations, SB4180 and SB4181 at 0 to 0.5 feet bls and 0.5 to 2 feet bls
  - Highest concentration was 0.0030 mg/kg, detected in SB4181 at 0.5 to 2 feet bls
- PFOA
  - Detected in four soil samples at three locations, SB4178 at 0 to 0.5 feet bls, SB4180 at 0 to 0.5 feet bls and 0.5 to 2 feet bls, and SB4181 at 0.5 to 2 feet bls
  - Highest concentration was 0.00059 I mg/kg, detected in SB4180 at 0 to 0.5 feet bls

Location ID	Sample Depth	Sample Date	PFOS	PFOA
		FDEP pSCTL, Residential	1.3	1.3
		FDEP pSCTL, Industrial	25	25
		FDEP pSCTL, Leachability	0.007	0.002
Units	feet bls		mg/kg	mg/kg
SB4178	0 to 0.5	9/27/2022	0.00027 U	**0.00050 I**
	0.5 to 2	9/27/2022	0.00025 U	0.00025 U
SB4179	0 to 0.5	9/27/2022	0.00026 U	0.00026 U
	0.5 to 2	9/27/2022	0.00024 U	0.00024 U
SB4180	0 to 0.5	9/27/2022	**0.00033 I**	**0.00059 I**
	0.5 to 2	9/27/2022	**0.00027 I**	**0.00028 I**
SB4181	0 to 0.5	9/27/2022	**0.00026 I**	0.00021 U
	0.5 to 2	9/27/2022	**0.0030**	**0.00051 I**
SB4182	0 to 0.5	9/27/2022	0.00026 U	0.00026 U
	0.5 to 2	9/27/2022	0.00023 U	0.00023 U

Notes: Detections are **bolded**; USEPA RSL exceedances are **red bolded**; I - The analytical result was greater than or equal to the method detection limit, but less than the practical quantitation limit; U - The analyte was not detected; bls – below land surface; mg/kg = milligrams per kilogram

PFAS Investigation – Shallow Soil Analytical Results

- No soil samples collected during the 2022 event had PFAS concentrations detected above FDEP pSCTLs
- Five soil samples collected at three locations had PFAS concentrations detected

GSRY-SB4178			
Date	Depth	PFOS	PFOA
9/27/2022	0 - 0.5	0.00027 U	**0.00050 I**
9/27/2022	0.5 - 2.0	0.00025 U	0.00025 U

GSRY-SB4179			
Date	Depth	PFOS	PFOA
9/27/2022	0 - 0.5	0.00026 U	0.00026 U
9/27/2022	0.5 - 2.0	0.00024 U	0.00024 U

GSRY-SB4181			
Date	Depth	PFOS	PFOA
9/27/2022	0 - 0.5	**0.00026 I**	0.00021 U
9/27/2022	0.5 - 2.0	**0.0030**	**0.00051 I**

GSRY-SB4180			
Date	Depth	PFOS	PFOA
9/27/2022	0 - 0.5	**0.00033 I**	**0.00059 I**
9/27/2022	0.5 - 2.0	**0.00027 I**	**0.00028 I**

GSRY-SB4182			
Date	Depth	PFOS	PFOA
9/27/2022	0 - 0.5	0.00026 U	0.00026 U
9/27/2022	0.5 - 2.0	0.00023 U	0.00023 U

PFAS Investigation – Groundwater Analytical Results (USEPA MCLs)

- PFOS
  - Detected above the USEPA MCL of 4.0 ng/L in 12 monitoring wells
  - Five wells had results ≥ 40 ng/L, which is 10x the MCL
  - Highest concentration was 78 ng/L, detected in MW0076
- PFOA
  - Detected above the USEPA MCL of 4.0 ng/L in 11 monitoring wells
  - Four wells had results ≥ 40 ng/L, which is 10x the MCL
  - One well had results ≥ 400 ng/L, which is 100x the MCL
  - Highest concentration was 710 ng/L, detected in MW0076
- PFHxS
  - Detected above the USEPA MCL of 10 ng/L in seven monitoring wells
  - Highest concentration was 84 ng/L, detected in MW0076
- Hazard Index - PFBS, PFHxS, PFNA, and HFPO-DA
  - The USEPA MCL HI calculation value was above the standard of 1.0 in 11 monitoring wells
  - Highest calculation was 9.9, calculated from the MW0076 analytical data

Location ID	Screen Interval	Sample Date	PFOS	PFOA	PFHxS	HI
MCL			4.0	4.0	10	1.0
Units	feet bls		ng/L	ng/L	ng/L	
MW0002S	2 to 12	6/11/2024	**72**	**13**	**25**	**2.8**
MW0008S	2 to 12	6/11/2024	**3.1**	**4.6**	**29**	**3.2**
MW0064	20 to 30	12/8/2021	**8.11**	0.801 U	**2.64**	**0.3**
		6/13/2024	**6.1**	**1.4 I**	**2.9**	**0.9**
MW0069	10 to 20	10/5/2022	**3.3**	**5.5**	**2.0**	**0.2**
		6/11/2024	**59**	**67**	**16**	**2.2**
MW0073	17 to 27	12/10/2021	0.0748 U	0.0748 U	0.617 U	**0**
		10/5/2022	0.94 U	0.47 U	0.47 U	**0**
		6/11/2024	**7.3**	**3.3**	**1.5 I**	**0.2**
MW0074	7 to 17	6/21/2021	**18**	**104**	**28**	**3.3**
		12/10/2021	**12.1**	**89**	**25.5**	**2.9**
		10/5/2022	**14**	**57**	**19**	**2.2**
		6/11/2024	**27**	**72**	**16**	**2.0**
MW0076	10 to 20	10/5/2022	**9.3**	**92**	**2.0**	**0.3**
		6/11/2024	**78**	**710**	**84**	**9.9**
MW0078	7 to 17	10/5/2022	**8.8**	**5.3**	**3.6**	**0.4**
		6/10/2024	**19**	**7.1**	**9.6**	**1.2**
MW0079	2 to 12	6/11/2024	**69**	**270**	**48**	**5.9**
MW0080	2 to 12	6/11/2024	**46**	**6.3**	**18**	**2.1**
MW0081	2 to 12	6/11/2024	**35**	**18**	**4.5**	**1.5**
MW0082	2 to 12	6/13/2024	**37**	**8.5**	**3.2**	**1.2**
MW0083	2 to 12	6/13/2024	**10**	**5.7**	**8.6**	**1.6**

Notes: Detections are **bolded**; USEPA MCL exceedances are **red bolded**; I – The analytical result was greater than or equal to the method detection limit, but less than the practical quantitation limit; U – The analyte was not detected; bls – below land surface; ng/L – nanograms per liter; HI – Hazard Index (USEPA NPDWR April 2024)

PFAS Investigation – Groundwater Analytical Results (FDEP pGCTLs)

- PFOS
  - Detected above the FDEP pGCTL of 70 ng/L in two monitoring wells
  - Highest concentration was 78 ng/L, detected in MW0076
- PFOA
  - Detected above the FDEP pGCTL of 70 ng/L in three wells
  - One well had a result ≥ 700 ng/L, which is 10x the pGCTL
  - Highest concentration was 710 ng/L, detected in MW0076
- PFOS + PFOA
  - Detected above the FDEP pGCTL of 70 ng/L in five wells
  - One well had a result ≥ 700 ng/L, which is 10x the pGCTL
  - Highest concentration was 788 ng/L, detected in MW0076

Location ID	Screen Interval	Sample Date	PFOS	PFOA	PFOS+PFOA
pGCTL			70	70	70
Units	feet bls		ng/L	ng/L	ng/L
MW0002S	2 to 12	6/11/2024	**72**	**13**	**85**
MW0069	10 to 20	10/5/2022	**3.3**	**5.5**	**8.8**
		6/11/2024	**59**	**67**	**126**
MW0074	7 to 17	6/21/2021	**18**	**104**	**122**
		12/10/2021	**12.1**	**89**	**101.1**
		10/5/2022	**14**	**57**	**71**
		6/11/2024	**27**	**72**	**99**
MW0076	10 to 20	10/5/2022	**9.3**	**92**	**101.3**
		6/11/2024	**78**	**710**	**788**
MW0079	2 to 12	6/11/2024	**69**	**270**	**339**

Notes:
- Detections are **bolded**
- FDEP pGCTL exceedances are **red bolded and highlighted yellow**
- bls – below land surface
- ng/L = nanograms per liter

- Monitoring Well Below pGCTL
- Monitoring Well Above pGCTL
- Monitoring Well 10x pGCTL
- Surface Water Below pSWSL
- Surface Water Above pSWSL
- Surface Water 10x pSWSL

PFAS Investigation – Surface Water Analytical Results

- PFOS
  - Detected above the FDEP pSWSL of 10 ng/L at seven locations SW0010, SW0011, SW0013, SW0014, SW0016, SW0017, and SW0018
  - One location had a result ≥ 100 ng/L, which is 10x the pSWSL
  - Highest concentration was 380 ng/L, detected at SW0013
- PFOA
  - Detected at nine locations, but below the FDEP pSWSL of 500 ng/L
  - Highest concentration was 18 ng/L, detected at SW0013
- Other PFAS compounds were detected; however, there were no screening levels for them at the time of this presentation

Location ID	Sample Date	PFOS	PFOA
FDEP pSWSL		10	500
Units		ng/L	ng/L
GSRY-SW0010	9/26/2022	**80**	**14**
	6/14/2024	**91**	**14**
GSRY-SW011	9/26/2022	**72**	**12**
	6/14/2024	**86**	**14**
GSRY-SW0012 / PFAS-SW0134	8/4/2021	**6.7**	2.0 U
	9/26/2022	**6.0**	**1.7**
	6/14/2024	**9.6**	**2.8**
GSRY-SW013	9/26/2022	**80**	**6.1**
	6/14/2024	**380**	**18**
GSRY-SW014	9/26/2022	**46**	**5.2**
	6/14/2024	**37**	**7.6**
GSRY-SW015 / PFAS-SW0135	8/4/2021	**33.2**	**6.8**
	9/26/2022	**26**	**5.9**
	6/14/2024	**10**	**2.9**
GSRY-SW0016/ PFAS-SW0192	9/22/2021	**23.2**	**3.1 I**
	9/26/2022	**14**	**1.8**
	6/14/2024	**42**	**6.0**
GSRY-SW0017/ PFAS-SW0076	9/21/2020	**130**	**11.2**
	9/26/2022	**47**	**6.2**
	6/14/2024	**74**	**14**
GSRY-SW0018/ PFAS-SW0136	8/4/2022	**76.6**	**8.2**
	9/26/2022	**55**	**6.9**
	6/14/2024	**79**	**20**

Table Notes: Detections are **bolded**; FDEP pSWSL exceedances are **red bolded**; I - The analytical result was greater than or equal to the method detection limit, but less than the practical quantitation limit; U - The analyte was not detected; ng/L = nanograms per liter

Legend

- Surface Water Sample
- Monitoring Well - 2 to 18 feet bls
- Monitoring Well - 10 to 30 feet bls
- Monitoring Well - 30 to 40 feet bls

N

0 40 80 Feet

Notes:
- Results are in nanograms per liter (ng/L)
- **Bolded** results indicate the presence of an analyte at the specified concentration
- Groundwater - Red font indicates an exceedance of United States Environmental Protection Agency MCL (or RSL, if no MCL is available)
- Groundwater - **Yellow highlighted cell** indicates an exceedance of pGCTLs as presented in the Florida Department of Environmental Protection PFAS Dynamic Plan, March 2022
- Surface Water - Red font indicates an exceedance of SWSL as presented in the Florida Department of Environmental Protection PFAS Dynamic Plan, March 2022
- Blank cells indicate the analyte was not analyzed for that specific well
- bls - below land surface
- HI - Hazard Index for drinking water (Calculated based on a mixture of HFPO-DA, PFBS, PFHxS, and PFNA; this was calculated with one sample result; ideally this should be calculated using the average from four consecutive quarterly sampling events)
- I - The analytical result was greater than or equal to the method detection limit, but less than the practical quantitation limit
- MCL - Maximum Contaminant Level
- pGCTL - Provisional Groundwater Cleanup Target Level
- PFAS - Per- and Polyfluoroalkyl Substances
- SWMU - Solid Waste Management Unit
- pSWSL - Provisional Surface Water Screening Level
- U - The analyte was not detected
- Depth - Monitoring Well Screen Interval in feet bls
- Aerial Source: FDEP 2018

ANALYTE	ACRONYM	MCL (ng/L)	pGCTL (ng/L)	pSWSL (ng/L)
PERFLUOROHEXANESULFONIC	PFHxS	10		
PERFLOUROOCTANESULFONIC ACID	PFOS	4.0	70	10
PERFLOUROOCTANOIC ACID	PFOA	4.0	70	500
	PFOS+PFOA		70	
HAZARD INDEX	HI	1.0		

GSRY-MW0058

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
30 to 40	12/9/2021	0.647 U	**0.887 I**	0.784 U	1.7	0

GSRY-MW0059

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
30 to 40	12/9/2021	0.586 U	0.710 U	0.710 U	1.4	0

GSRY-MW0055

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
8 to 18	12/8/2021	**1.46 I**	**2.34**	**0.771 I**	3.1	**0.2**

GSRY-MW0060

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/21/2021	**5.03**	**3.23 I**	**3.22 I**	6.5	**0.6**

GSRY-MW0066

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
20 to 30	12/9/2021	**0.803 I**	**1.57 I**	0.714 U	2.3	**0.1**

GSRY-MW0064

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
20 to 30	12/8/2021	**2.64**	**8.11**	0.801 U	8.9	**0.3**
	6/13/2024	**2.9**	**6.1**	**1.4 I**	7.5	**0.9**

GSRY-MW0084

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
20 to 30	6/13/2024	**1.2 I**	**3.7**	**0.85 I**	4.6	**0.2**

GSRY-MW0083

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/13/2024	**8.6**	**10**	**5.7**	15.7	**1.6**

GSRY-SW0010

Date	PFOS	PFOA
9/26/2022	**80**	**14**
6/14/2024	**91**	**14**

PFAS-DPT0247

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
6 to 10	9/23/2021	**13.1**	**26.2**	**6.4**	32.6	**1.5**
21 to 25	9/23/2021	**2.4**	**7.1**	2.0 U	9.1	**0.3**
31 to 35	9/23/2021	2.0 U	**2.7 I**	2.0 U	4.7	0
41 to 45	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0

GSRY-MW0002IS

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
25 to 30	12/10/2021	0.669 U	0.811 U	0.811 U	1.6	0

PFAS-DPT0244

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
6 to 10	9/22/2021	**27.4**	**21.2 I**	11 U	32.2	**3.0**
21 to 25	9/22/2021	**2.0 I**	**3.4 I**	2.0 U	5.4	**0.2**
31 to 35	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0
41 to 45	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0

GSRY-MW0002S

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/11/2024	**25**	**72**	**13**	**85**	**2.8**

GSRY-SW0012/ PFAS-SW0134

Date	PFOS	PFOA
8/4/2021	**6.7**	2.0 U
9/26/2022	**6.0**	**1.7**
6/14/2024	**9.6**	**2.8**

GSRY-MW0008S

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/11/2024	**29**	**3.1**	**4.6**	7.7	**3.2**

GSRY-MW0081

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/11/2024	**4.5**	**35**	**18**	53.0	**1.5**

PFAS-DPT0246

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
6 to 10	9/23/2021	2.0 U	**16.2**	**5.1**	21.3	**0.3**
21 to 25	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0
31 to 35	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0
41 to 45	9/23/2021	2.0 U	2.0 U	2.0 U	4.0	0

GSRY-MW0076

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
10 to 20	10/5/2022	**2.0**	**9.3**	**92**	**101.3**	**0.3**
	6/11/2024	**84**	**78**	**710**	**788**	**9.9**

GSRY-SW0013

Date	PFOS	PFOA
9/26/2022	**80**	**6.1**
6/14/2024	**380**	**18**

GSRY-MW0077

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
10 to 20	10/5/2022	0.46 U	0.91 U	0.46 U	1.4	0
	6/11/2024	0.44 U	**0.96 I**	0.44 U	1.4	0

GSRY-MW0082

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/13/2024	**3.2**	**37**	**8.5**	45.5	**1.2**

GSRY-SW0011

Date	PFOS	PFOA
9/26/2022	**72**	**12**
6/14/2024	**86**	**14**

GSRY-MW0078

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
7 to 17	10/5/2022	**3.6**	**8.8**	**5.3**	14.1	**0.4**
	6/10/2024	**9.6**	**19**	**7.1**	26.1	**1.2**

GSRY-MW0069

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
10 to 20	10/5/2022	**2.0**	**3.3**	**5.5**	8.8	**0.2**
	6/11/2024	**16**	**59**	**67**	**126**	**2.2**

GSRY-MW0073

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
17 to 27	12/10/2021	0.617 U	0.0748 U	0.0748 U	0.1	0
	10/5/2022	0.47 U	0.94 U	0.47 U	1.4	0
	6/11/2024	**1.5 I**	**7.3**	**3.3**	10.6	**0.2**

GSRY-SW0014

Date	PFOS	PFOA
9/26/2022	**46**	**5.2**
6/14/2024	**37**	**7.6**

GSRY-MW0074

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
7 to 17	6/21/2021	**28**	**18**	**104**	**122**	**3.3**
	12/10/2021	**25.5**	**12.1**	**89**	**101.1**	**2.9**
	10/5/2022	**19**	**14**	**57**	**71**	**2.2**
	6/11/2024	**16**	**27**	**72**	**99**	**2.0**

GSRY-MW0079

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/11/2024	**48**	**69**	**270**	**339**	**5.9**

GSRY-MW0070

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
10 to 20	10/5/2022	0.48 U	0.95 U	0.48 U	1.4	0
	6/11/2024	**2.4**	**3.5**	**1.7**	5.2	**0.3**

GSRY-SW0015/ PFAS-SW0135

Date	PFOS	PFOA
8/4/2021	**33.2**	**6.8**
9/26/2022	**26**	**5.9**
6/14/2024	**10**	**2.9**

GSRY-SW0018/ PFAS-SW0136

Date	PFOS	PFOA
8/4/2022	**76.6**	**8.2**
9/26/2022	**55**	**6.9**
6/14/2024	**79**	**20**

GSRY-SW0017/ PFAS-SW0076

Date	PFOS	PFOA
9/21/2020	**130**	**11.2**
9/26/2022	**47**	**6.2**
6/14/2024	**74**	**14**

PFAS-DPT0190

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
6 to 10	1/27/2021	**15.8**	**27.4**	**17.9**	45.3	
21 to 25	1/27/2021	**3.4 I**	**7.4**	2.0 U	9.4	
31 to 35	1/27/2021	**4.9 I**	**41.4**	**3.2 I**	44.6	
41 to 45	1/27/2021	**2.4 I**	**12.2**	2.0 U	14.2	

GSRY-SW0016/ PFAS-SW0192

Date	PFOS	PFOA
9/22/2021	**23.2**	**3.1 I**
9/26/2022	**14**	**1.8**
6/14/2024	**42**	**6.0**

GSRY-MW0080

Depth	Date	PFHxS	PFOS	PFOA	PFOS+PFOA	HI
2 to 12	6/11/2024	**18**	**46**	**6.3**	52.3	**2.1**

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PFAS Investigation – Groundwater and Surface Water Analytical Results (USEPA MCLs)

2024 PFAS Results

- Monitoring Well Below MCL
- Monitoring Well Above MCL
- Monitoring Well 10x MCL
- Monitoring Well 100x MCL
- Surface Water Below pSWSL
- Surface Water Above pSWSL
- Surface Water 10x pSWSL

- PFAS concentrations exceeded the USEPA MCLs in 13 monitoring wells
- PFAS concentrations exceeded the FDEP pSWSLs at seven locations

aecom.com

PFAS Investigation – Groundwater and Surface Water Analytical Results (FDEP pGCTLs)

2024 PFAS Results

- Monitoring Well Below pGCTL
- Monitoring Well Above pGCTL
- Monitoring Well 10x pGCTL
- Surface Water Below pSWSL
- Surface Water Above pSWSL
- Surface Water 10x pSWSL

- PFAS concentrations exceeded the FDEP pGCTLs in five monitoring wells
- PFAS concentrations exceeded the FDEP pSWSLs at seven locations

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PFAS Investigation – Conclusions

- PFAS compounds were not detected above FDEP pSCTLs in shallow soils in the vicinity of GSRY-MW0074
- PFAS compounds are present in groundwater and surface water above the current USEPA MCLs and FDEP pSWSLs across the GSRY – SWMU 010, RRSY – PRL 237 LOC 31, and STP 14 – PRL 237 LOC 26 sites
- PFAS compounds have been detected in monitoring wells screened from 2 to 40 feet bls and DPT groundwater samples down to 45 feet bls

PFAS Investigation – Test Consensus

- Collect annual water level measurements at 61 monitoring wells
- Conduct annual groundwater sampling for PFAS at 22 monitoring wells
- Conduct annual surface water sampling for PFAS at six locations

Location ID	Screen Interval (feet bls)	Annual Sampling PFAS
GSRY-MW0002S	2 to 12	X
GSRY-MW0002IS	25 to 30	X
GSRY-MW0008S	2 to 12	X
GSRY-MW0059	30 to 40	X
GSRY-MW0060	2 to 12	X
GSRY-MW0064	20 to 30	X
GSRY-MW0066	20 to 30	X
GSRY-MW0067	20 to 30	X
GSRY-MW0069	10 to 20	X
GSRY-MW0070	10 to 20	X
GSRY-MW0071	13 to 23	X
GSRY-MW0073	17 to 27	X
GSRY-MW0074	7 to 17	X
GSRY-MW0076	10 to 20	X

Location ID	Screen Interval (feet bls)	Annual Sampling PFAS
GSRY-MW0077	10 to 20	X
GSRY-MW0078	7 to 17	X
GSRY-MW0079	2 to 12	X
GSRY-MW0080	2 to 12	X
GSRY-MW0081	2 to 12	X
GSRY-MW0082	2 to 12	X
GSRY-MW0083	2 to 12	X
GSRY-MW0084	20 to 30	X
GSRY-SW0010	Surface Water	X
GSRY-SW0011	Surface Water	X
GSRY-SW0013	Surface Water	X
GSRY-SW0016	Surface Water	X
GSRY-SW0017	Surface Water	X
GSRY-SW0018	Surface Water	X

PFAS Investigation – Test Consensus

Location ID	Screen Interval (feet bls)	Annual Sampling PFAS	Rationale
GSRY-MW0002S	2 to 12	X	Outbound northwest shallow GSRY well
GSRY-MW0002IS	25 to 30	X	Outbound northwest vertical well adjacent to MW0002S
GSRY-MW0008S	2 to 12	X	Central well between potential southwest GSRY plume and RRSY plume
GSRY-MW0059	30 to 40	X	Northwest vertical delineation well for RRSY Plume
GSRY-MW0060	2 to 12	X	Northwest shallow delineation well for RRSY Plume
GSRY-MW0064	20 to 30	X	Northwest RRSY intermediate Well
GSRY-MW0066	20 to 30	X	Northwest intermediate delineation well for RRSY Plume
GSRY-MW0067	20 to 30	X	North delineation well for MW0076
GSRY-MW0069	10 to 20	X	Southwest GSRY source/plume well
GSRY-MW0070	10 to 20	X	Southeast delineation well for MW0074 and MW0079
GSRY-MW0071	13 to 23	X	West delineation well for MW0076 (downgradient according to the June 2024 groundwater flow direction in the southwest GSRY area)
GSRY-MW0073	17 to 27	X	Southwest GSRY source plume well – vertical well adjacent to MW0074 and MW0079
GSRY-MW0074	7 to 17	X	Southwest GSRY source/plume well
GSRY-MW0076	10 to 20	X	Southwest GSRY source/plume well – highest PFAS concentrations
GSRY-MW0077	10 to 20	X	Northeast delineation well for MW0076
GSRY-MW0078	7 to 17	X	East delineation well for MW0074 and MW0076
GSRY-MW0079	2 to 12	X	Southwest GSRY source/plume well
GSRY-MW0080	2 to 12	X	STP 14 source well
GSRY-MW0081	2 to 12	X	West RRSY shallow plume well
GSRY-MW0082	2 to 12	X	Central east RRSY shallow plume well
GSRY-MW0083	2 to 12	X	North RRSY shallow plume well
GSRY-MW0084	20 to 30	X	North RRSY vertical well adjacent to MW0083
GSRY-SW0010	Surface Water	X	Adjacent to MW0002S – second highest PFOS concentration in Surface Water
GSRY-SW0011	Surface Water	X	Canal west of potential southwest GSRY source/hotspot
GSRY-SW0013	Surface Water	X	Central area in Canal between GSRY and RRSY – highest PFAS concentration in Surface Water
GSRY-SW0016	Surface Water	X	STP 14 abandoned pond
GSRY-SW0017	Surface Water	X	Canal/wetland area south of GSRY
GSRY-SW0018	Surface Water	X	Canal south of potential southwest GSRY source/hotspot

PFAS Investigation – Test Consensus

2024 PFAS Results

- Monitoring Well Below MCL
- Monitoring Well Above MCL
- Monitoring Well 10x MCL
- Monitoring Well 100x MCL
- Surface Water Below pSWSL
- Surface Water Above pSWSL
- Surface Water 10x pSWSL

Proposed PFAS Sampling

- Annual Monitoring Well
- Annual Surface Water Sample
- Add monitoring well to the PFAS Sampling Plan
- Water Level Only Monitoring Well

General Services Administration
Reclamation Yard (GSRY)
Solid Waste Management Unit (SWMU) 010

Per- and Polyfluoroalkyl Substances (PFAS) Site Assessment

Includes PFAS Investigation at GSRY - SWMU 010, Ransom Road Sandblast Yard (RRSY) – Potential Release Location (PRL) 237 Location of Concern (LOC) 31, and Former Sewage Treatment Plant #14 and Abandoned Treatment Pond (STP 14) – PRL 237 LOC 26

Attachments:

- USEPA Fact Sheet: Understanding the PFAS National Primary Drinking Water Proposal Hazard Index
- Tables and figures presenting the analytical results discussed in this ADP

This is a partial version that only includes the minutes pertaining to the GSRY ADP Only. The GSRY minutes are boxed in red.

Revision 2 Meeting Minutes for December 3, 2024

Revision 2 Meeting Minutes for December 3, 2024

Attendees:

1. TJ Touran/FDEP
2. Natasha Darre/NASA
3. Deda Johansen/NASA
4. Anne Chrest/NASA
5. Michelle Moore/NEMCON
6. Mark Jonnet/Tetra Tech
7. Mark Speranza/Tetra Tech
8. Sarah Damphousse/Tetra Tech
9. Alex Murphy/Tetra Tech
10. Andrew Walters/Tetra Tech
11. Rob Simick/Tetra Tech
12. Chris Pike/Tetra Tech
13. Jen Buel/Tetra Tech
14. Chris Neumann/Tetra Tech
15. Jennifer Gootee/AECOM
16. Chad Lee/AECOM
17. Megan Garcia/AECOM
18. Richard Smith/HGL
19. Tim Jellett/HGL
20. Bruce Moore/HGL
21. Olivia Cain/Geosyntec
22. Eric Sager/Geosyntec

2412-M01 Michelle Moore/NEMCON

Meeting Minutes and Miscellaneous Items

Objective:

Test consensus on the Kennedy Space Center (KSC) Remediation Team (KSCRT) October 29, 2024, meeting minutes and review the open action items to close out action items where possible.

Discussion:

Team consensus was reached that Revision 1 of the meeting minutes and action/decision items for the October 29, 2024, KSCRT meeting will become final. Team members acknowledged and did not object to the fact that these meeting minutes may become public record as part of a final report at a later date **(2412-D01).**

The following action items were closed out:

CCF West Long-Term Monitoring: HGL will confirm that monitoring well IW0031 is clean for site closure before abandoning this well.

PFOS concentrations exceeded the DEP provisional soil cleanup target level (pSCTL) for leachability in surface soil. Leachability exceedance in surface soil has been delineated laterally and vertically to the northeast and east of the South Repeater Building.

There were no DEP pSCTL exceedances in subsurface soil (soil greater than 2 ft. below ground surface).

PFOS concentrations exceeded DEP provisional surface water screening level (pSWSL) in surface water. The extent of impacts has not been delineated throughout the stormwater ditches in the area.

Path Forward

Construction of a groundwater containment and ttreatment system for groundwater with DEP pGCTL exceedances began in October 2024 and will continue into 2025.

Install additional monitoring wells for performance monitoring of the hydraulic containment system and to further delineate the horizontal and vertical extent of PFAS in groundwater.

- Screen groundwater results against newer DEP and EPA values, as applicable.
- Continue quarterly surface water and monitoring well sampling
- Further evaluate groundwater flow direction in the vicinity of the South Repeater Building
- Evaluate surface water-to-groundwater interactions
- Complete Environmental Visualization System Modeling
- Collect additional DPT groundwater samples along the southern and western KSC border.

2412-M09 Chad Lee/AECOM

GSA Reclamation Yard

Objective: The objective of this ADP is to provide a brief background for the referenced areas, summaries of groundwater monitoring related work performed from June through October 2022 and in June 2024, and consensus statements for presentation to the KSCRT.

Description:

June through October 2022 Field Activities and Groundwater Flow Results

- Installation and development of one new monitoring well, GSRY-MW0078, screened 7 to 17 feet bls, east of monitoring well GSRY-MW0074. Collection of 10 soil samples from five boring locations, GSRY-SB4178 through GSRY-SB4182, in the vicinity of GSRY-MW0074.
- Groundwater elevation measurements at 55 monitoring wells.
- Groundwater samples collected from seven monitoring wells.
- Surface water samples collected at nine locations.
- Samples were analyzed for 29 PFAS compounds.

Groundwater flow in September 2022 was to the north in the 2 to 18 feet below land surface (bls) and 10 to 30 feet bls zones and was to the southeast in the 30 to 40 feet bls zone.

June 2024 Field Activities and Groundwater Flow Results

- Installation and development of six new monitoring wells, GSRY-MW0079 through GSRYMW0083, screened 2 to 12 feet bls, and GSRY-MW0084, screened 20 to 30 feet bls.

- Groundwater elevation measurements at 61 monitoring wells.
- Groundwater samples collected from 16 monitoring wells.
- Surface water samples collected at nine locations.
- Samples were analyzed for 29 PFAS compounds.

Groundwater flow in June 2024 was to the west in the 2 to 18 feet below land surface (bls) zone and to the northwest in the 10 to 30 feet bls zone and the 30 to 40 feet bls zone.

Site-Wide PFAS Investigation – Analytical Results

Analytical results indicate that PFAS compound concentrations did not exceed the Florida Department of Environmental Protection (FDEP) provisional Soil Cleanup Target Levels in the shallow soil samples collected and analyzed in 2022.

Analytical results indicate that PFAS compound concentrations were above United States Environmental Protection Agency (USEPA)

Maximum Contaminant Levels (MCLs; April 2024) in 13 monitoring wells.

- Five monitoring wells had concentrations that exceeded 10 times the USEPA MCLs.
- One monitoring well had a concentration that exceeded 100 times the USEPA MCLs.

Analytical results indicate that PFAS compound concentrations were above FDEP provisional Surface Water Screening Levels (pSWSLs) at 7 locations. One surface water location had concentrations that exceeded 10 times the FDEP pSWSLs.

FDEP inquired about the surface water on this site; ultimately what is the water connected to?

NASA responded there is one discharge point from the site through a culvert in the northwest corner that discharges on the north side of Ransom Road. That ditch continues west all the way to the lagoon. In the Center-wide PFAS investigation, surface water samples were collected near Ransom Road Landfill and in the ditch further west prior to the discharge to the river.

We have one well near MILA that is sampled quarterly that had some exceedances of EPA regional screening levels for PFOS and PFOA.

Path Forward

The Team reached consensus to collect annual water level measurements at 61 monitoring wells (2412-D09).

The Team reached consensus to conduct annual groundwater sampling for PFAS at 22 monitoring wells GSRY-MW0002S, GSRY-MW0002IS, GSRY-MW0008S, GSRY-MW0059, GSRY-MW0060, GSRY-MW0064, GSRY-MW0066, GSRY-MW0067, GSRY-MW0069, GSRY-MW0070, GSRY-MW0071, GSRY-MW0073, GSRY-MW0074, GSRY-MW0076, GSRY-MW0077, GSRY-MW0078, GSRY-MW0079, GSRY-MW0080, GSRY-MW0081, GSRY-MW0082, GSRY-MW0083, and GSRY-MW0084 (**2412-D10).**

The Team reached consensus to conduct annual surface water sampling for PFAS at six locations (GSRY-SW0010, GSRY-SW0011, GSRY-SW0013, GSRY-SW0016, GSRY-SW0017, GSRY-SW0018) (**2412-D11).**

These wells and the rationale for sampling each are provided on Slide 24 of the ADP. A figure showing the location of these wells is provided on Slide 25.

Results: Decision Item 2412-D09 through D11

2412-M10 Anne Chrest

Miscellaneous Discussion

CAMP is getting updated with all the latest correspondence.

Virtual meeting January 28 (9-11) virtual only. Meeting will be 1-3pm EST and Anne will send out invite to the Team.

For March Meeting, please send the agenda topics to Anne Chrest. Will figure out who will be the Team lead tomorrow.

Action for Anne-send out Team meeting invites after finding locations.

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APPENDIX B

FIELD NOTES AND SAMPLING LOGS

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NASA - GSRY CL

06/17/22 MW Install (MW0078) p. 1 of 1

08:00 GL & EDS onsite. Keith Olsen and Carl Leonhardt onsite. H&S tailgate and sign in @ REMF

08:20 EDS sets up & Tests Rig.

08:28 Begin GSRY-MW0078 by hand augering to 5' BLS to clear utilities.

08:52 Advance 5' DPT cores for soil sampling to 20' BLS. Litho recorded in Collect and uploaded to AECOM Server.

09:05 Begin Well install. 1" Diameter pre-pack screen 0.010-slot, from 7' to 17' BLS. Details recorded in Collect.

09:18 Well is in; all rods out; drill mast down.

09:21 Begin well development. Geopump II with 3/8" OD HDPE is used to develop the well. Start pump.

09:51 Stop pump. Water is clear w/no odor. 10 gallons removed @ 0.3 gpm. Water is containerized in on-site drums. See photos for drum information.

10:40 EDS offsite. Well was finished with a locking well cap encased in a 8-inch boltdown steel manhole encased in a 2' x 2' x 4" thick concrete pad; flush mounted.

11:00 CL offsite.

KSC - GSRy

CL GK
MP DS

9/26/22

project # 606 14327.4

0815 Chad Lee onsite with Jeff McDowell (KSC utility locator)
- underground utilities clear in area of soil borings.

0830 Greg Kusel onsite

0845 Dustin Slater onsite and Jeff McDowell offsite.

0850 Madan parsotan onsite.

0900 Land + Sea Surveyors onsite
- Survey in GSRy - MW0078.

1015 Land + Sea offsite.

1020 MP begin redeveloping monitoring wells.

1030 CL offsite.

1045 GK begin redeveloping monitoring wells.

1115 GK, DS, MP to CCF to unload IDW.

1205 GK, DS, MP onsite at GSRy.
- MP continue developing MWs
- GK + DS begin collecting SW samples.
* FD and MS/MSD collected at SW0012.
- Collected SW0010 through SW0018 with a MS/MSD, FD, FB, and EB samples.

1515 Crew drives to CCF to unload IDW.

1525 Unload IDW and secure spill pallets.

1545 Crew offsite.

9/27/22 KSC - GSRy GK mp DS

0730 GK onsite, check in at office.

0745 Begin opening monitoring wells.

Well ID	Time opened / Time gauged	(Ft BTOC) DTW
MW0002S	0806 / 0855	1.32
MW0002IS	0807 / 0856	4.05
MW0003S	0821 / 0910	2.34
MW0004S	0814 / 0912	2.17
MW0004IS	0814 / 0911	2.17
MW0005S	0822 / 0935	2.45
MW0006S	0811 / 0900	2.30
MW0007S	0812 / 0902	2.30
MW0008S	0811 / 0901	2.28
MW0009S	0757 / 0846	1.54
MW0011S	0816 / 0920	2.55
MW0013M	0810 / 0859	2.07
MW0014M	0804 / 0858	1.89
MW0015M	0808 / 0857	4.24
MW0018S	0813 / 0909	2.51
MW0030R	0827 / 0926	2.42
MW0031	0818 / 0916	2.15
MW0036R	0813 / 0907	2.46
MW0040	0812 / 0905	1.89
MW0041	0812 / 0903	2.00
MW0042R	0813 / 0908	2.20
MW0043	0819 / 0913	2.39
MW0044	0818 / 0915	1.89
MW0045	0826 / 0925	2.85
MW0046R	0833 / 0932	0.22
MW0049	0832 / 0929	0.75
MW0050	0813 / 0906	2.11
MW0051	0812 / 0906	1.76
MW0052	0812 / 0904	1.96
MW0053	0813 / 0908	2.61
MW0054	0820 / 0912	1.62
MW0055	0815 / 0921	2.80
MW0056	0819 / 0914	2.16
MW0057	0817 / 0916	1.92
MW0058	0817 / 0917	0.76
MW0059	0813 / 0906	0.95
MW0060	0828 / 0927	2.10
MW0061	0826 / 0925	2.60
MW0062	0832 / 0929	> TOC
MW0063	0832 / 0929	0.55
MW0064	0834 / 0932	2.40
MW0065	0834 / 0930	2.45
MW0066	0813 / 0907	2.15
MW0067	0804 / 0854	2.04

9/27/22 KSC - GSRy GK mp DS

Well ID	Time opened / Time gauged	(Ft BTOC) DTW
MW0068	0803 / 0851	1.68
MW0069	0802 / 0850	1.75
MW0070	0758 / 0847	0.98
MW0071	0804 / 0853	2.11
MW0072	0759 / 0848	1.52
MW0073	0800 / 0848	1.37
MW0074	0801 / 0849	1.41
MW0075	0832 / 0929	0.62
MW0076	0805 / 0852	1.90
MW0077	0756 / 0845	2.02
MW0078	0755 / 0846	1.87

0745 DS onsite.

0830 mp onsite.

0845 Begin collecting water levels.

1000 mp continues developing wells and GK + DS collect soil samples.

★ GSRy-ED-20220927 collected at SB4181-002.0.

1205 mp + DS drive to CCF to unload IDW.

1245 mp + DS onsite. Continue soil sampling and developing wells.

1310 Complete soil sampling at SB4178 through SB4182 at 000.5 and 002.0 FT.

1315 GK + DS begin developing wells.

1355 Crew drives to CCF to unload IDW. - 22 wells redeveloped.

1430 Crew offsite. Soil decon water in drum #220342.

9/27/22
GK

10/3/22 KSC - GSRy GK mp

0830 GK + mp onsite. Check in at office.

0845 Move to CCF to complete well developments. (Corrosion Control Facility)

1010 Drive to CCF to offload IDW.

1115 onsite at the Corrosion Control Facility.
- mp develops one more well. other 4 wells submerged: 46R, 49, 62, and 63.
- GK calibrates aquatrolls. one meter not calibrating DO. mp to use YSI.

1215 Sort through sample bottleware kits.

1230 Begin Sampling PCB/VOC wells around the pond (115, 31, 43, 44, ~~44~~ GK, 55, 56, 57, 56, SW01)

1815 GK Organize samples and Sign out of the GSRy office.

1820 GK Drive to CCF to offload IDW.

1600 GK + mp offsite. mp to drop off Samples at the lab.

10/3/22
GK

10/4/22 KSC - GSRy GK mp

0730 GK onsite. Sign in and prep equipment.

0815 mp onsite. Sign in and prep eq.

0900 Begin Sampling PCB/VOA wells.

1105 DS onsite. prep equipment and begin sampling wells at the corrosion control facility.

1345 GK moves to sample wells in the CVOC plume area.

1510 Crew organizes samples.

1525 Crew offsite from GSRy.
- GK + DS to CCF.
- mp to drop off samples at the lab.

Drum #	Clamshell #	% Full	IDW # GK ~~S + TC~~	pH
226062	226061	80	08	7.25
226063	↓	80	09	7.32
220334	↓	80	06	7.94
220335	↓	80	07	7.55
220336	220340	80	04	7.70
220337	↓	80	05	7.72
220338	↓	80	01	7.85
220339	↓	80	02	7.68
220342	220341	35	03	7.66
228461	↓	75	10	7.18
228462	↓		11	7.41

10/5/22 KSC-GSRY DS/MJ

0830- Dustin Slaten & Megan Johansson arrive at CCF to drop off drum.

0845- Arrive onsite
Sign in at office.
Weather: Sunny, 73°F.
H+S meeting -
- Begin with well GSRY-MW0073
- Collect GSRY-FD-20221005 from well GSRY-MW0074 @ 1030
- Collect GSRY-MS-20221005 from well GSRY-MW0074 @ 1033
- Collect GSRY-MSD-20221005 from well GSRY-MW0074 @ 1036

1510 - All wells sampled.

1512 - Collect GSRY-FB-20221005

1515 - Collect GSRY-EB-20221005

1520 - Head to CCF to dump purge water into drum

1535 - DS/MJ offsite.
- Samples to be dropped off at lab.

10/27/22 KSC - GSRY GK CB

0730 Greg Kusel and Caroline Bekins onsite at the corrosion control facility.
- Sign in at the office.
- H+S meeting
- organize equipment

0805 Begin developing remaining four monitering wells: MW0063, MW0049, MW0063, and MW0046R.

0915 GK + CB to the CCF to unload IDW purge water.

1010 Drive back to develop last well.

1030 purge MW0046R.

1050 Sign out From Corrosion Control Facility.
GK ~~- drive to CCF to unload IDW.~~
- drive to logistics building for ICE.

1125 Drive to Wilson Corners to drop off ice and large geopump.

1230 onsite at the CCF. prep to sample drums and pour purge water into drum.

1300 Calibrate YSI.

1345 Begin ~~calibrating~~ GK Sampling IDW drums. Sampling table on next page.

1520 GK + CB OFFSite.

10/27/22 KSC-GSRy GK CB

Drum	IDW #	Time
220338	IDW01	1350
220339	IDW02	1358
220342	IDW03	1405
220336	IDW04	1415
220337	IDW05	1422
220334	IDW06	1430
220335	IDW07	1438
226062	IDW08	1445
226063	IDW09	1452
~~220342~~ 228461	IDW10	1500
228462	IDW11 (10/28)	1215

GK 10/28/22

10/28/22 KSC - GSRy GK CB

0730 GK + CB onsite at the Corrosion Control Facility.
- Sign in at the office
- H+S meeting
- organize equipment

0745 Calibrate equipment.

0830 Begin ~~Sampling~~ purging GK GSRy-MW0062-035.0-20221028.

0900 Begin ~~Sampling~~ purging GK GSRy-MW0049-027.5-20221028.

0930 Begin purging GSRy-MW0063-019.0-20221028.

1045 Begin purging GSRy-MW0046R-003.0-20221028.

1130 Drive to the logistics building for ice.

1200 Arrive at the CCF to unload and Sample IDW.

1215 Sample IDW 11.

1245 GK + CB offsite. GK to drop off Samples at the Lab.

GK 8/28/22

KSC GSRY

6/3/24 P. 1 of 12 PB

645 PB arrive at depot, load up
700 PB Depart for KSC
800 PB meet KSC Utility locator at GSRY, start locate
930 complete locate
935 PB+ KSC locator headed to A3RB for locate, offsite
1300 PB Depart KSC for Orlando
1410 PB arrive at depot, Prepair for Drilling / sampling
1620 PB finish prep work, end of day

PB

KSC-GSRY

6/4/23 P. 2 of 12 PB

700 PB Depart orlando for KSC
805 PB meet prefered at KSC Badging office
850 complete Badging, headed to GSRY
915 arrive at GSRY, sign in
925 Tailgate HS meeting
SOW: MW install
Truck: 905
weather: 73° P. Cloudy
935 Set up on first location
940 hand clear top 5', begin drilling mw0079
1020 complete mw0079
1030 Begin developing mw0079
1100 complete development, Clear 5gal
1105 load up mobe to next location
1130 Break for lunch
1230 resume work
1235 set up on mw0080, hand clear top 5', begin drilling
1300 complete mw0080
1305 Begin developing mw0080
1345 complete development, clear 7gal
1350 mobe to corrosion control fac
1430 stage equipment inside fence off site

6/5/24 KSC - GSRX P.3 of 12 PB

700 PB Depart orlando for KSC
745 heavey traffic before main gate
900 PB meet PDS onsite, go through gate, sign in
910 Tailgate H/S meeting + Site walk
SOW: MW installation
Truck: 905
Weather: 83°F P. Cloudy
920 mobe to mw0081, set up, hand clear top 5'. begin drilling
1010 complete mw0081
1015 Begin developing mw0081
1055 complete developing, clear 5 gal
1100 Break for lunch
1140 resume work mobe to next loc.
1150 set up on mw0082, hand clear top 5', begin drilling
1315 complete mw0082, begin development
1420 complete development, clear 15 gal
1425 clean up work area, set up for tomorrow
1440 PB + PDS off site
1605 end of day

PB

6/6/24 KSC - GSRX P.4 of 12 PB

700 PB Departs orlando for KSC
805 PB meets PDS onsite, H/S meeting
SOW: MW install
Truck: 905
Weather: 80°F Clear
820 Prepare work area for today
830 Set up on mw0084, hand clear Top 5', begin drilling
915 complete mw0084
920 set up on mw0083, hand clear top 5', drill mw0083
945 complete mw0083, start building pad
1010 Start developing mw0062
1030 finish developing mw0062, 6 gal clear, Begin developing mw0084
1035 Begin developing mw0063
1045 Begin developing mw0049
1105 complete developing mw0084 and mw0049, clear, 7 gal each
1110 Begin developing mw0083 + mw0075
1115 complete developing mw0063, dark/clear 30 gal
1140 finish developing mw0083 + mw0075 clear 7gal + 6 gal, Begin developing mw0061
1145 PDS Break for lunch

KSC - GSRY

6/6/24 P. 5 of 12 PB

1215 complete developing mw0061, Clear + 7gal
1245 PDS Back from lunch, cleanup
1300 work area mobe to gsry
1305 begin developing mw0057
1320 complete development mw0057, Clear 8 gal
1325 Begin developing mw0056
1330 complete developing mw0056, ~~1300~~ clear 5 gal
1330 Begin developing mw0043
1335 complete developing mw0043, 6gal, Clear
1335 Begin developing mw0066
1345 complete developing mw0066, 8gal clear
~~1345~~ Begin developing mw0036R
~~1345~~ 1350 complete developing mw0036R clear 5gal, Purged dry
1350 Begin developing mw0050
1400 complete developing mw0050, clear 5 gal
1405 Begin developing mw0051
1425 complete developing mw0051, clear, 8gal
1430 Clean up work area, leave site
1645 end of day

KSC- GSRY

6/7/24 P. 6 of 12 PB P

700 PB depart orlando for KSC
805 PB meet PDS on site, H/S meting
SOW: mw development
Truck: 905
Weather: 78°F Clear
825 set up work area for the day
840 start developing mw0073
850 Complete developing mw0073, clear, 7gal
855 Begin developing mw0071
905 complete developing mw0071, clear 5gal
~~900~~ 910 Begin developing mw0067
915 complete developing mw0067, clear 5gal
920 clean up work area, load up
940 leave gsry for CCF
955 stage 4 Drums on clamshell
1015 headed to POL
1025 arrive at POL Stage Final Drum
1030 PB+ PDS depart Nasa
1145 PB arrive at depot, organize coolers for sampling
1330 end of day

PB

KSC-GSRY

6/10/24 P. 7 of 12 PB/mp

PB + mp depart orlando for KSC
830 PB + mp arrive at GSRY H/S meeting
SOW: MW Gauging + Sampling
Trucks: 905 932
Weather: 76°F Partly Cloudy
845 PB + mp set set up for the day.
710 Begin Collecting water levels
1020 Surveyors on site. H/S meeting review SOW
1300 Finish collecting water levels start calibrating equipment
1330 Start sampling
1350 PB Geopump #3 not working
1415 PB headed to orlando for new Pump
1427 GSRY-MW0078 collected w FD01 @ 1430
1450 mp offsite drum IDW at POL
1510 mp offsite
1515 PB at depot swap pump
1550 PB depart depot, end of day

KSC - GSRY

6/11/24 P. 8 of 12 PB/mp

0700 PB/mp Depart Orlando for KSC
0800 onsite, H/S meeting
SOW: mw sampling
Trucks: 905 932
Weather: 74°F Overcast
810 set up for sampling / calibrate
815 Begin sampling
847 GSRY-MW0077 collected
855 GSRY-FEB01 collected
925 GSRY-mw0005 collected
927 GSRY-MW0073 collected
1021 GSRY-mw0025 collected
1037 GSRY-mw0070 collected
1052 GSRY-mw0076 collected
1100 GSRY-FB01 collected
1117 GSRY-mw0074 collected
1124 GSRY-mw0069 collected
1147 GSRY-mw0067 collected
1156 GSRY-mw0079 collected
1254 GSRY-mw0071 collected
1254 GSRY-mw0080 collected
1300 Begin rain, finish sampling head to POL
1325 finish at POL mp headed to lab
1330 PB mp off site
1500 end of day

KSC - GSRX

6/12/24 P. 9 of 12 PB/mp

630 PB+mp depart orlando for KSC
735 arrive onsite H/S meeting
SOW: GW Sampling
Trucks: 905, 932
Weather: 76°F Partly Cloudy
745 Set up and calibrate equipment
800 Start sampling
831 ~~GSRX-PB~~ GSRX-mw0036R collected
837 GSRX-mw0050 collected
910 GSRX-mw0066 collected
922 GSRX-mw0051 collected
1014 GSRX-mw0043 collected
1027 GSRX-mw0057 collected
1039 GSRX-mw0056 collected
1132 GSRX-mw00~~54~~49 collected
1140 GSRX-mw0061 collected
1213 GSRX-mw0075 collected
1217 GSRX-mw0062 collected
1252 GSRX-mw00~~48~~63 collected
1310 complete sampling, headed to POL
1335 finish drumming IDW mp headed to lab
PB headed to logistics for ice
1420 PB offsite
1540 end of day

PB

KSC - GSRX

6/13/24 P. 10 of 12 PB/mp

630 PB+mp depart orlando for KSC
740 onsite, get ice setup equipment
755 H/S meeting / calibrate
SOW: MW sampling
Weather: Overcast 74°F
Trucks: 905, 932
820 Begin sampling
913 GSRX-mw0082 collected
922 GSRX-mw0083 collected w fb02 @900
939 GSRX-mw0081 collected
1007 GSRX-mw0064 collected
1012 GSRX-mw0084 collected w ms/msd
1020 GSRX-~~EB01~~ ~~FB0201~~ collected
1025 PB+mp headed to POL to dump
Time sample IDW

	Drum #	Sample ID	pH	cap%
1050	~~FDW0~~ 231296	IDW01	7.61	50%
1055	~~FDW0~~ PD231295	IDW02	7.31	80%
1140	231292	IDW03	7.39	80%
1145	231294	IDW04	8.14	80%
1150	231291	IDW05	7.59	80%
1155	231293	IDW06	8.09	80%

1115 PB+mp leave POL for CCF
1135 Begin sampling IDW at CCF
1225 GSRX-FB02 collected

6/13/24 KSC-GSRY PB/mp

P. 11 of 12

1230 PB+mp finish sampling IDW headed to logistics for Ice

1300 MP headed to lab PB offsite

1420 end of day

~~1428~~ PB

6/14/24 KSC-GSRY PB/mp

P. 12 of 12

730 PB+mp depart orlando for KSC

830 onsite H/S meeting
SOW: SW sampling
Trucks: 932, 905
Weather: P. Cloudy 78°F

840 calibrate equipment / prepair for sampling

855 Begin sampling

900 FB-01 collected

915 GSRY-SW0017 collected

925 GSRY-SW0016 collected

932 GSRY-SW0014 collected

~~93~~ 935 PB GSRY-SW0010 +MS/MSD collected

1020 GSRY-SW0011 collected

1025 GSRY-SW0018 collected

1040 GSRY-SW0013 collected

1045 GSRY-SW0015 collected

1050 GSRY-SW0012 + FD01 collected @ 1000

1100 PB+mp finish SW sampling, offsite

1230 Samples dropped off at lab

1300 arrive at depot, unload

1345 end of day

PB

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center GSRY

Site Name: GSA Reclamation Yard

Project No: 60614327

Sample ID: GSRY-MW0069-015.0-20221005 Sampler: Dustin Slater

Well ID: GSRY-MW0069 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	0.86
Top of Screen (ft-BTOR):	10	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	20	Sample Analysis:	Select PFAS
Total Depth of Well (ft-BTOR):	NM		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
10/5/2022	13:33			0	0.86								Clear	None
10/5/2022	13:53	0.05	1	1	0.87	6.5	2651	0.2	174	26.3	-92	1.33	White	None
10/5/2022	15:03	0.05	3	4	0.87	6.48	2679	0.12	60.9	26.4	-102.2	1.34	White	None
10/5/2022	15:05	0.05	0.1	4.1	0.87	6.47	2678	0.12	61.2	26.4	-101.7	1.34	White	None
10/5/2022	15:08	0.05	0.1	4.2	0.87	6.48	2679	0.1	59.7	26.4	-102.5	1.34	White	None

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
13:33	15:08	95	4.2	6.48	2679	0.1	59.7	26.4	-102.5

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center GSRY

Site Name: GSA Reclamation Yard

Project No: 60614327

Sample ID: GSRY-MW0070-015.0-20221005 Sampler: Dustin Slater

Well ID: GSRY-MW0070 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	0.15
Top of Screen (ft-BTOR):	10	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	20	Sample Analysis:	Select PFAS
Total Depth of Well (ft-BTOR):	NM		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
10/5/2022	10:47			0	0.15								Clear	None
10/5/2022	11:07	0.05	1	1	0.2	7.23	1454	0.3	3.42	25.5	-122.9	0.72	None	None
10/5/2022	11:09	0.05	0.1	1.1	0.2	7.22	1453	0.21	2.95	25.4	-122.6	0.72	None	None
10/5/2022	11:11	0.05	0.1	1.2	0.2	7.22	1452	0.2	2.87	25.4	-122.3	0.72	None	None
10/5/2022	11:13	0.05	0.1	1.3	0.2	7.22	1452	0.21	2.59	25.4	-122	0.72	None	None

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
10:47	11:13	26	1.3	7.22	1452	0.21	2.59	25.4	-122

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center GSRY

Site Name: GSA Reclamation Yard

Project No: 60614327

Sample ID: GSRY-MW0074-012.0-20221005 Sampler: Dustin Slater

Well ID: GSRY-MW0074 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	0.58
Top of Screen (ft-BTOR):	7	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	17	Sample Analysis:	Select PFAS
Total Depth of Well (ft-BTOR):	NM		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
10/5/2022	9:52			0	0.58								Clear	None
10/5/2022	10:12	0.05	1	1	0.58	6.55	1981	0.1	12.4	27.1	-117.3	0.96	None	None
10/5/2022	10:22	0.05	0.5	1.5	0.58	6.55	1986	0.06	8.91	27	-117.3	0.97	None	None
10/5/2022	10:24	0.05	0.1	1.6	0.58	6.56	1992	0.06	9.28	27.1	-119.1	0.97	None	None
10/5/2022	10:26	0.05	0.1	1.7	0.58	6.56	1990	0.07	7.45	27	-119.6	0.97	None	None

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
9:52	10:26	34	1.7	6.56	1990	0.07	7.45	27	-119.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center GSRY

Site Name: GSA Reclamation Yard

Project No: 60614327

Sample ID: GSRY-MW0076-015.0-20221005 Sampler: Dustin Slater

Well ID: GSRY-MW0076 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	
Top of Screen (ft-BTOR):	10	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	20	Sample Analysis:	Select PFAS
Total Depth of Well (ft-BTOR):	20		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
10/5/2022	13:00			0	1								Clear	None
10/5/2022	13:20	0.05	1	1	1.31	6.6	2579	0.09	3.55	27.2	-110.2	1.27	None	None
10/5/2022	13:22	0.05	0.1	1.1	1.31	6.6	2573	0.08	3.32	27.3	-111.2	1.26	None	None
10/5/2022	13:24	0.05	0.1	1.2	1.31	6.6	2569	0.08	3.94	27.4	-112.2	1.26	None	None
10/5/2022	13:26	0.05	0.1	1.3	1.31	6.6	2571	0.08	3.6	27.4	-112.6	1.26	None	None

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
13:00	13:26	26	1.3	6.6	2571	0.08	3.6	27.4	-112.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center GSRY

Site Name: GSA Reclamation Yard

Project No: 60614327

Sample ID: GSRY-MW0077-015.0-20221005 Sampler: Dustin Slater

Well ID: GSRY-MW0077 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	
Top of Screen (ft-BTOR):	10	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	20	Sample Analysis:	Select PFAS
Total Depth of Well (ft-BTOR):	20		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
10/5/2022	12:24			0	1.12								Clear	None
10/5/2022	12:44	0.05	1	1	1.13	6.87	1542	0.08	2.95	26.6	-79.6	0.75	None	None
10/5/2022	12:46	0.05	0.1	1.1	1.13	6.88	1545	0.08	3.02	26.6	-81.2	0.75	None	None
10/5/2022	12:48	0.05	0.1	1.2	1.13	6.88	1548	0.07	3.6	26.6	-82.3	0.75	None	None
10/5/2022	12:51	0.05	0.1	1.3	1.13	6.88	1548	0.06	3.72	26.6	-83	0.75	None	None

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
12:24	12:51	27	1.3	6.88	1548	0.06	3.72	26.6	-83

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center GSRY

Site Name: GSA Reclamation Yard

Project No: 60614327

Sample ID: GSRY-MW0078-012.0-20221005 Sampler: Dustin Slater

Well ID: GSRY-MW0078 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	
Top of Screen (ft-BTOR):	7	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	17	Sample Analysis:	Select PFAS
Total Depth of Well (ft-BTOR):	17		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
10/5/2022	11:21			0	0.97								Clear	None
10/5/2022	11:41	0.05	1	1	1.01	7.09	923	0.15	35.2	26.9	-122.3	0.43	None	None
10/5/2022	12:01	0.05	1	2	1.01	7.07	901	0.1	15.9	27.1	-118.8	0.42	None	None
10/5/2022	12:11	0.05	0.5	2.5	1.01	7.06	894	0.13	9.27	26.9	-118.6	0.42	None	None
10/5/2022	12:13	0.05	0.1	2.6	1.01	7.06	891	0.1	8.56	26.8	-118.2	0.42	None	None
10/5/2022	12:15	0.05	0.1	2.7	1.01	7.06	892	0.08	7.88	26.9	-118.4	0.42	None	None

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
11:21	12:15	54	2.7	7.06	892	0.08	7.88	26.9	-118.4

SURFACE WATER SAMPLE LOG SHEET

AECOM

Event:	Kennedy Space Center GSRY
Site Name:	GSA Reclamation Yard
Project No:	60614327

Sample ID:	GSRY-SW0010-001.0-20220926	Sampler:	Dustin Slater
Location ID:	GSRY-SW0010	Location Type:	Surface Water
Sample Analysis	Select PFAS		

Remark:

Purge Information

Date	Time	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
9/26/2022	12:57	N/A	7.37	631	2.31	5.88	28.9	52.1	0.28	Yellow	None

SURFACE WATER SAMPLE LOG SHEET

AECOM

Event:	Kennedy Space Center GSRY
Site Name:	GSA Reclamation Yard
Project No:	60614327

Sample ID:	GSRY-SW0011-001.0-20220926	Sampler:	Dustin Slater
Location ID:	GSRY-SW0011	Location Type:	Surface Water
Sample Analysis	Select PFAS		

Remark:

Purge Information

Date	Time	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
9/26/2022	13:19	N/A	7.45	697	3.26	7.17	29.1	62.5	0.31	Yellow	None

SURFACE WATER SAMPLE LOG SHEET

AECOM

Event:	Kennedy Space Center GSRY
Site Name:	GSA Reclamation Yard
Project No:	60614327

Sample ID:	GSRY-SW0012-001.0-20220926	Sampler:	Dustin Slater
Location ID:	GSRY-SW0012	Location Type:	Surface Water
Sample Analysis	Select PFAS		

Remark:

Purge Information

Date	Time	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
9/26/2022	13:40	N/A	7.41	333	2.68	4.21	30.6	44.3	0.14	None	None

SURFACE WATER SAMPLE LOG SHEET

AECOM

Event:	Kennedy Space Center GSRY
Site Name:	GSA Reclamation Yard
Project No:	60614327

Sample ID:	GSRY-SW0013-001.0-20220926	Sampler:	Dustin Slater
Location ID:	GSRY-SW0013	Location Type:	Surface Water
Sample Analysis	Select PFAS		

Remark:

Purge Information

Date	Time	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
9/26/2022	13:53	N/A	7.53	560	7.86	6.15	29.1	65.2	0.25	Yellow	None

SURFACE WATER SAMPLE LOG SHEET

AECOM

Event:	Kennedy Space Center GSRY
Site Name:	GSA Reclamation Yard
Project No:	60614327

Sample ID:	GSRY-SW0014-001.0-20220926	Sampler:	Dustin Slater
Location ID:	GSRY-SW0014	Location Type:	Surface Water
Sample Analysis	Select PFAS		

Remark:

Purge Information

Date	Time	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
9/26/2022	14:04	N/A	7.28	558	1.63	8.14	28.5	42.3	0.25	None	None

SURFACE WATER SAMPLE LOG SHEET

AECOM

Event:	Kennedy Space Center GSRY
Site Name:	GSA Reclamation Yard
Project No:	60614327

Sample ID:	GSRY-SW0015-001.0-20220926	Sampler:	Dustin Slater
Location ID:	GSRY-SW0015	Location Type:	Surface Water
Sample Analysis	Select PFAS		

Remark:

Purge Information

Date	Time	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
9/26/2022	14:18	N/A	7.35	505	4.85	11.9	33.4	60.1	0.21	Yellow	None

SURFACE WATER SAMPLE LOG SHEET

AECOM

Event:	Kennedy Space Center GSRY
Site Name:	GSA Reclamation Yard
Project No:	60614327

Sample ID:	GSRY-SW0016-001.0-20220926	Sampler:	Dustin Slater
Location ID:	GSRY-SW0016	Location Type:	Surface Water
Sample Analysis	Select PFAS		

Remark:

Purge Information

Date	Time	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
9/26/2022	14:25	N/A	6.69	153	3.6	7.28	29.3	56.3	0.07	Yellow	None

SURFACE WATER SAMPLE LOG SHEET

AECOM

Event:	Kennedy Space Center GSRY
Site Name:	GSA Reclamation Yard
Project No:	60614327

Sample ID:	GSRY-SW0017-001.0-20220926	Sampler:	Dustin Slater
Location ID:	GSRY-SW0017	Location Type:	Surface Water
Sample Analysis	Select PFAS		

Remark:

Purge Information

Date	Time	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
9/26/2022	14:36	N/A	7.2	580	5.25	22.4	30	56.7	0.26	Yellow	None

SURFACE WATER SAMPLE LOG SHEET

AECOM

Event:	Kennedy Space Center GSRY
Site Name:	GSA Reclamation Yard
Project No:	60614327

Sample ID:	GSRY-SW0018-001.0-20220926	Sampler:	Dustin Slater
Location ID:	GSRY-SW0018	Location Type:	Surface Water
Sample Analysis	Select PFAS		

Remark:

Purge Information

Date	Time	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
9/26/2022	14:46	N/A	7.25	626	2.98	4.05	29.7	57.3	0.29	Yellow	None

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0002S-007.0-20240611
Well ID: GSRY-MW0002S
Location Type: Monitoring Well
Comments:

Sample Date: 6/11/2024 10:21:00 AM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):		Static Water Level (ft-BTOC):	4.35
Top of Screen (ft-BTOC):	2.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	12.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
10:15 AM	0.08	1.22	1.22	4.37	7.24	468.0	0.11	4.53	22.10	-157.7		Clear	None
10:17 AM	0.08	0.16	1.38	4.37	7.24	467.0	0.11	6.73	22.10	-157.7		Clear	None
10:19 AM	0.08	0.16	1.54	4.38	7.24	469.0	0.10	6.55	22.10	-155.8		Clear	None
10:21 AM	0.08	0.16	1.70	4.38	7.24	467.0	0.10	4.38	22.10	-155.7		Clear	None

Start Purge:	6/11/2024 10:00:00 AM	End Purge:	6/11/2024 10:21:00 AM	Total Volume (gal):	1.70

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0008S-007.0-20240611
Well ID: GSRY-MW0008S
Location Type: Monitoring Well
Comments:

Sample Date: 6/11/2024 9:25:00 AM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):		Static Water Level (ft-BTOC):	5.08
Top of Screen (ft-BTOC):	2.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	12.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
9:19 AM	0.08	1.10	1.10	5.15	6.91	613.0	0.59	8.47	22.30	-100.1		Clear	None
9:21 AM	0.08	0.16	1.26	5.16	6.91	610.0	0.47	7.56	22.30	-98.8		Clear	None
9:23 AM	0.08	0.16	1.42	5.16	6.90	609.0	0.39	8.21	22.30	-97.3		Clear	None
9:25 AM	0.08	0.16	1.58	5.17	6.90	608.0	0.39	6.44	22.30	-96.8		Clear	None

Start Purge:	6/11/2024 9:05:00 AM	End Purge:	6/11/2024 9:25:00 AM	Total Volume (gal):	1.58

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0036R-007.0-20240612
Well ID: GSRY-MW0036R
Location Type: Monitoring Well
Comments:

Sample Date: 6/12/2024 8:31:00 AM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):	2	Static Water Level (ft-BTOC):	6.87
Top of Screen (ft-BTOC):	2.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	12.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
8:20 AM	0.08	0.82	0.82	7.33	9.14	834.0	0.12	8.94	23.00	-130.6		Clear	None
8:22 AM	0.08	0.16	0.98	7.33	9.29	824.0	0.07	12.30	23.00	-149.7		Clear	None
8:27 AM	0.08	0.40	1.38	7.33	9.31	819.0	0.04	7.69	23.00	-154.2		Clear	None
8:29 AM	0.08	0.16	1.54	7.34	9.28	818.0	0.07	8.32	23.00	-153.4		Clear	None
8:31 AM	0.08	0.16	1.70	7.34	9.29	820.0	0.07	7.39	23.00	-154.2		Clear	None

Start Purge:	6/12/2024 8:09:00 AM	End Purge:	6/12/2024 8:31:00 AM	Total Volume (gal):	1.70

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0043-007.0-20240612
Well ID: GSRY-MW0043
Location Type: Monitoring Well
Comments:

Sample Date: 6/12/2024 10:14:00 AM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	4.66
Top of Screen (ft-BTOC):	2.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	12.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
10:06 AM	0.08	1.20	1.20	4.78	7.95	435.0	0.10	12.20	23.60	-231.3		Clear	None
10:08 AM	0.08	0.16	1.36	4.78	7.94	434.0	0.10	9.97	23.50	-220.4		Clear	None
10:10 AM	0.08	0.16	1.52	4.79	7.95	431.0	0.10	9.85	23.60	-223.1		Clear	None
10:12 AM	0.08	0.16	1.68	4.79	7.97	431.0	0.11	6.82	23.60	-223.5		Clear	None
10:14 AM	0.08	0.16	1.84	4.80	7.97	432.0	0.10	5.12	23.60	-222.6		Clear	None

Start Purge:	6/12/2024 9:51:00 AM	End Purge:	6/12/2024 10:14:00 AM	Total Volume (gal):	1.84

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0049-027.5-20240612
Well ID: GSRY-MW0049
Location Type: Monitoring Well
Comments:

Sample Date: 6/12/2024 11:32:00 AM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	2	Static Water Level (ft-BTOC):	3.28
Top of Screen (ft-BTOC):	25.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	30.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
11:05 AM	0.05	0.00	0.00	3.28								Clear	None
11:25 AM	0.05	1.00	1.00	3.34	6.89	5674.9	1.59	684.57	27.23	-180.5	3.03	Clear	None
11:27 AM	0.05	0.10	1.10	3.34	6.90	5670.5	1.52	684.82	27.31	-180.8	3.17	Clear	None
11:29 AM	0.05	0.10	1.20	3.34	6.89	5742.8	1.45	683.45	27.38	-181.8	3.15	Clear	None
11:31 AM	0.05	0.10	1.30	3.34	6.88	5638.5	1.35	683.77	27.35	-182.7	3.09	Clear	None

Start Purge:	6/12/2024 11:05:00 AM	End Purge:	6/12/2024 11:31:00 AM	Total Volume (gal):	4.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0050-027.5-20240612
Well ID: GSRY-MW0050
Location Type: Monitoring Well
Comments:

Sample Date: 6/12/2024 8:37:00 AM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	2	Static Water Level (ft-BTOC):	4.57
Top of Screen (ft-BTOC):	25.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	30.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
8:10 AM	0.05	0.00	0.00	4.57								Clear	None
8:30 AM	0.05	1.00	1.00	5.28	7.14	2338.5	0.07	5.27	28.06	-258.9	1.22	Clear	None
8:32 AM	0.05	0.10	1.10	5.28	7.13	2348.7	0.07	5.34	28.05	-262.3	1.22	Clear	None
8:34 AM	0.05	0.10	1.20	5.28	7.13	2356.1	0.06	5.32	28.03	-267.2	1.23	Clear	None
8:36 AM	0.05	0.10	1.30	5.28	7.13	2356.9	0.06	5.32	28.01	-269.9	1.23	Clear	None

Start Purge:	6/12/2024 8:10:00 AM	End Purge:	6/12/2024 8:36:00 AM	Total Volume (gal):	4.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0051-027.5-20240612
Sample Date: 6/12/2024 9:22:00 AM
Well ID: GSRY-MW0051
Sampler: Madan Parsotan
Location Type: Monitoring Well
Comments:

Well Information			
Well Diameter (in):	2	Static Water Level (ft-BTOC):	4.21
Top of Screen (ft-BTOC):	25.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	30.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
8:55 AM	0.05	0.00	0.00	4.21								Clear	None
9:15 AM	0.05	1.00	1.00	4.37	8.34	1454.3	0.09	7.87	28.09	-350.5	0.74	Clear	None
9:17 AM	0.05	0.10	1.10	4.37	8.40	1389.9	0.09	7.75	28.05	-351.7	0.70	Clear	None
9:19 AM	0.05	0.10	1.20	4.37	8.40	1397.8	0.09	7.64	28.05	-351.1	0.71	Clear	None
9:21 AM	0.05	0.10	1.30	4.37	8.51	1404.6	0.09	7.55	28.04	-352.2	0.71	Clear	None

Start Purge:	6/12/2024 8:55:00 AM	End Purge:	6/12/2024 9:21:00 AM	Total Volume (gal):	4.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0056-019.0-20240612
Sample Date: 6/12/2024 10:39:00 AM
Well ID: GSRY-MW0056
Sampler: Patrick Bendl
Location Type: Monitoring Well
Comments:

Well Information			
Well Diameter (in):	2	Static Water Level (ft-BTOC):	4.56
Top of Screen (ft-BTOC):	14.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	24.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
10:33 AM	0.08	0.80	0.80	4.68	7.36	688.0	0.11	8.42	23.80	-181.4		Clear	None
10:35 AM	0.08	0.16	0.96	4.68	7.36	689.0	0.11	4.38	23.80	-181.9		Clear	None
10:37 AM	0.08	0.16	1.12	4.69	7.36	688.0	0.11	6.84	23.80	-182.2		Clear	None
10:39 AM	0.08	0.16	1.28	4.69	7.36	687.0	0.10	4.78	23.80	-182.3		Clear	None

Start Purge:	6/12/2024 10:23:00 AM	End Purge:	6/12/2024 10:39:00 AM	Total Volume (gal):	1.28

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0057-025.0-20240612
Well ID: GSRY-MW0057
Location Type: Monitoring Well
Comments:

Sample Date: 6/12/2024 10:27:00 AM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	2	Static Water Level (ft-BTOC):	4.37
Top of Screen (ft-BTOC):	20.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	30.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
9:50 AM	0.05	0.00	0.00	4.37								Clear	None
10:20 AM	0.05	1.50	1.50	4.41	7.04	615.9	0.04	6.87	29.25	-167.1	0.30	Clear	None
10:22 AM	0.05	0.10	1.60	4.41	7.05	615.8	0.04	6.71	29.26	-167.8	0.30	Clear	None
10:24 AM	0.05	0.10	1.70	4.41	7.05	607.9	0.04	6.55	29.32	-168.7	0.30	Clear	None
10:26 AM	0.05	0.10	1.80	4.41	7.05	607.5	0.04	6.41	29.38	-169.6	0.28	Clear	None

Start Purge:	6/12/2024 9:50:00 AM	End Purge:	6/12/2024 10:26:00 AM	Total Volume (gal):	6.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0061-015.0-20240612
Well ID: GSRY-MW0061
Location Type: Monitoring Well
Comments:

Sample Date: 6/12/2024 11:40:00 AM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):	2	Static Water Level (ft-BTOC):	4.97
Top of Screen (ft-BTOC):	20.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	30.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
11:34 AM	0.08	0.80	0.80	4.98	7.07	698.0	0.12	7.66	23.90	-55.0		Clear	None
11:36 AM	0.08	0.16	0.96	4.98	7.08	701.0	0.12	7.45	23.90	-55.7		Clear	None
11:38 AM	0.08	0.16	1.12	4.98	7.08	703.0	0.11	7.82	23.90	-56.3		Clear	None
11:40 AM	0.08	0.16	1.28	4.98	7.08	704.0	0.11	4.59	23.90	-55.7		Clear	None

Start Purge:	6/12/2024 11:24:00 AM	End Purge:	6/12/2024 11:40:00 AM	Total Volume (gal):	1.28

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0062-035.0-20240612
Well ID: GSRY-MW0062
Location Type: Monitoring Well
Comments:

Sample Date: 6/12/2024 12:17:00 PM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	2	Static Water Level (ft-BTOC):	2.90
Top of Screen (ft-BTOC):	30.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	40.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
11:40 AM	0.05	0.00	0.00	2.90								Clear	None
12:10 PM	0.05	1.50	1.50	3.07	8.97	7029.5	0.10	24.46	29.54	-630.0	3.91	Clear	None
12:12 PM	0.05	0.10	1.60	3.07	8.95	7022.4	0.12	22.63	29.63	-636.5	3.91	Clear	None
12:14 PM	0.05	0.10	1.70	3.07	8.98	6984.7	0.09	25.85	29.51	-643.0	3.89	Clear	None
12:16 PM	0.05	0.10	1.80	3.07	8.97	6943.6	0.07	22.73	29.38	-646.5	3.86	Clear	None

Start Purge:	6/12/2024 11:40:00 AM	End Purge:	6/12/2024 12:16:00 PM	Total Volume (gal):	6.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0063-019.0-20240612
Well ID: GSRY-MW0063
Location Type: Monitoring Well
Comments:

Sample Date: 6/12/2024 12:52:00 PM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	2	Static Water Level (ft-BTOC):	2.75
Top of Screen (ft-BTOC):	14.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	24.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
12:25 PM	0.05	0.00	0.00	2.75								Clear	None
12:45 PM	0.05	1.00	1.00	2.81	7.33	1666.1	0.12	7.81	27.66	-239.2	0.85	Clear	None
12:47 PM	0.05	0.10	1.10	2.81	7.34	1712.8	0.13	7.75	27.61	-239.6	0.88	Clear	None
12:49 PM	0.05	0.10	1.20	2.81	7.33	1716.9	0.13	7.62	27.57	-239.7	0.88	Clear	None
12:51 PM	0.05	0.10	1.30	2.81	7.34	1717.5	0.14	7.55	27.56	-240.0	0.88	Clear	None

Start Purge:	6/12/2024 12:30:00 PM	End Purge:	6/12/2024 12:51:00 PM	Total Volume (gal):	4.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0064-025.0-20240613
Well ID: GSRY-MW0064
Location Type: Monitoring Well
Comments:

Sample Date: 6/13/2024 10:07:00 AM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):	2	Static Water Level (ft-BTOC):	6.83
Top of Screen (ft-BTOC):	20.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	30.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
10:01 AM	0.08	1.00	1.00	6.87	7.02	477.0	0.10	8.54	22.50	-61.2		Clear	None
10:03 AM	0.08	0.16	1.16	6.87	7.02	486.0	0.10	5.67	22.50	-58.8		Clear	None
10:05 AM	0.08	0.16	1.32	6.87	7.02	526.0	0.10	5.49	22.50	57.1		Clear	None
10:07 AM	0.08	0.16	1.48	6.87	7.02	532.0	0.10	4.65	22.50	-58.8		Clear	None

Start Purge:	6/13/2024 9:51:00 AM	End Purge:	6/13/2024 10:07:00 AM	Total Volume (gal):	1.48

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0066-025.0-20240612
Well ID: GSRY-MW0066
Location Type: Monitoring Well
Comments:

Sample Date: 6/12/2024 9:10:00 AM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):		Static Water Level (ft-BTOC):	6.70
Top of Screen (ft-BTOC):	20.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	30.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
9:04 AM	0.08	0.80	0.80	6.75	7.32	1352.0	0.12	6.62	23.10	-112.2		Clear	None
9:06 AM	0.08	0.16	0.96	6.75	7.29	1382.0	0.11	5.23	23.10	-113.1		Clear	None
9:08 AM	0.08	0.16	1.12	6.75	7.28	1398.0	0.12	7.32	23.10	-113.7		Clear	None
9:10 AM	0.08	0.16	1.28	6.75	7.26	1447.0	0.10	5.63	23.10	-112.4		Clear	None

Start Purge:	6/12/2024 8:54:00 AM	End Purge:	6/12/2024 9:10:00 AM	Total Volume (gal):	1.28

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0067-015.0-20240611
Well ID: GSRY-MW0067
Location Type: Monitoring Well
Comments: 6010D-Iron

Sample Date: 6/11/2024 11:47:00 AM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	5.05
Top of Screen (ft-BTOC):	10.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	20.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
11:30 AM	0.05	0.00	0.00	5.05								Clear	None
11:50 AM	0.05	1.00	1.00	5.08	6.56	941.2	0.18	5.76	26.90	-123.4	0.49	Clear	None
11:52 AM	0.05	0.10	1.10	5.08	6.56	940.9	0.18	5.55	26.72	-128.2	0.47	Clear	None
11:54 AM	0.05	0.10	1.20	5.08	6.56	940.4	0.18	5.41	26.71	-130.0	0.46	Clear	None
11:56 AM	0.05	0.10	1.30	5.08	6.56	940.7	0.18	5.32	26.67	-131.5	0.47	Clear	None

Start Purge:	6/11/2024 11:30:00 AM	End Purge:	6/11/2024 11:56:00 AM	Total Volume (gal):	4.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0069-015.0-20240611
Well ID: GSRY-MW0069
Location Type: Monitoring Well
Comments:

Sample Date: 6/11/2024 11:24:00 AM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	4.90
Top of Screen (ft-BTOC):	10.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	20.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
11:18 AM	0.08	0.80	0.80	4.91	6.46	1634.0	0.42	6.54	22.30	-52.0		Clear	None
11:20 AM	0.08	0.16	0.96	4.91	6.46	1636.0	0.44	6.59	22.30	-53.1		Clear	None
11:22 AM	0.08	0.16	1.12	4.92	6.46	1637.0	0.39	7.93	22.30	-54.6		Clear	None
11:24 AM	0.08	0.16	1.28	4.92	6.46	1636.0	0.38	5.69	22.30	-54.3		Clear	None

Start Purge:	6/11/2024 11:08:00 AM	End Purge:	6/11/2024 11:24:00 AM	Total Volume (gal):	1.28

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0070-015.0-20240611
Well ID: GSRY-MW0070
Location Type: Monitoring Well
Comments:

Sample Date: 6/11/2024 10:37:00 AM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	4.08
Top of Screen (ft-BTOC):	10.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	20.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
10:00 AM	0.05	0.00	0.00	4.08								Clear	None
10:30 AM	0.05	1.50	1.50	4.09	7.08	1305.9	0.10	37.09	25.69	-178.6	0.66	Clear	None
10:32 AM	0.05	0.10	1.60	4.09	7.07	1288.2	0.10	36.56	25.86	-178.9	0.65	Clear	None
10:34 AM	0.05	0.10	1.70	4.09	7.08	1302.1	0.10	39.09	25.88	-178.9	0.66	Clear	None
10:36 AM	0.05	0.10	1.80	4.09	7.08	1302.8	0.10	38.65	25.99	-179.2	0.60	Clear	None

Start Purge:	6/11/2024 10:00:00 AM	End Purge:	6/11/2024 10:36:00 AM	Total Volume (gal):	6.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0071-018.0-20240611
Sample Date: 6/11/2024 12:32:00 PM
Well ID: GSRY-MW0071
Sampler: Madan Parsotan
Location Type: Monitoring Well
Comments: 2540C-Calcd-total Dissolved Solids /6010-Iron

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	5.27
Top of Screen (ft-BTOC):	13.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	23.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
12:05 PM	0.05	0.00	0.00	4.27								Clear	None
12:25 PM	0.05	1.00	1.00	4.32	6.88	863.8	0.26	6.76	26.09	-157.9	0.43	Clear	None
12:27 PM	0.05	0.10	1.10	4.32	6.89	858.0	0.25	6.21	26.02	-159.7	0.43	Clear	None
12:29 PM	0.05	0.10	1.20	4.32	6.89	855.1	0.26	5.91	26.00	-160.2	0.42	Clear	None
12:31 PM	0.05	0.10	1.30	4.32	6.89	853.7	0.24	5.71	26.10	-162.7	0.42	Clear	None

Start Purge:	6/11/2024 12:10:00 PM	End Purge:	6/11/2024 12:31:00 PM	Total Volume (gal):	4.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0073-022.0-20240611
Sample Date: 6/11/2024 9:27:00 AM
Well ID: GSRY-MW0073
Sampler: Madan Parsotan
Location Type: Monitoring Well
Comments:

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	4.48
Top of Screen (ft-BTOC):	17.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	27.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
9:00 AM	0.05	0.00	0.00	4.48								Clear	None
9:20 AM	0.05	1.00	1.00	4.51	6.63	1303.5	0.10	4.96	25.90	-145.1	0.75	Clear	None
9:22 AM	0.05	0.10	1.10	4.51	6.63	1302.5	0.10	4.81	25.84	-146.4	0.73	Clear	None
9:24 AM	0.05	0.10	1.20	4.51	6.64	1302.8	0.11	4.72	25.86	-147.5	0.71	Clear	None
9:26 AM	0.05	0.10	1.30	4.51	6.64	1301.9	0.06	4.56	25.84	-148.9	0.74	Clear	None

Start Purge:	6/11/2024 8:56:00 AM	End Purge:	6/11/2024 9:26:00 AM	Total Volume (gal):	4.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0074-012.0-20240611
Well ID: GSRY-MW0074
Location Type: Monitoring Well
Comments:

Sample Date: 6/11/2024 11:17:00 AM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	4.44
Top of Screen (ft-BTOC):	7.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	17.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
10:50 AM	0.05	0.00	0.00	4.44								Clear	None
11:10 AM	0.05	1.00	1.00	4.47	6.57	1405.7	0.03	17.98	26.83	-151.9	0.71	Clear	None
11:12 AM	0.05	0.10	1.10	4.47	6.56	1440.4	0.01	17.76	26.85	-155.0	0.73	Clear	None
11:14 AM	0.05	0.10	1.20	4.47	6.55	1405.7	0.01	17.54	26.83	-156.0	0.71	Clear	None
11:16 AM	0.05	0.10	1.30	4.47	6.56	1344.2	0.02	17.42	26.92	-157.5	0.68	Clear	None

Start Purge:	6/11/2024 10:43:00 AM	End Purge:	6/11/2024 11:16:00 AM	Total Volume (gal):	4.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0075-025.0-20240612
Well ID: GSRY-MW0075
Location Type: Monitoring Well
Comments:

Sample Date: 6/12/2024 12:12:00 PM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):	2	Static Water Level (ft-BTOC):	2.91
Top of Screen (ft-BTOC):	17.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	27.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
12:04 PM	0.08	0.80	0.80	2.94	7.27	834.0	0.09	13.50	24.00	-134.3		Clear	None
12:06 PM	0.08	0.16	0.96	2.94	7.27	807.0	0.09	11.40	24.00	-132.4		Clear	None
12:08 PM	0.08	0.16	1.12	2.94	7.27	785.0	0.07	10.80	24.00	-140.0		Clear	None
12:10 PM	0.08	0.16	1.28	2.94	7.27	779.0	0.07	7.43	24.00	-137.2		Clear	None
12:12 PM	0.08	0.10	1.38	2.94	7.27	782.0	0.07	6.98	24.10	-138.9		Clear	None

Start Purge:	6/12/2024 11:54:00 AM	End Purge:	6/12/2024 12:12:00 PM	Total Volume (gal):	1.38

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0076-015.0-20240611
Well ID: GSRY-MW0076
Location Type: Monitoring Well
Comments:

Sample Date: 6/11/2024 10:52:00 AM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	4.91
Top of Screen (ft-BTOC):	10.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	20.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
10:46 AM	0.08	0.80	0.80	5.10	6.62	1067.0	0.14	7.75	22.20	-82.0		Clear	None
10:48 AM	0.08	0.16	0.96	5.11	6.58	1071.0	0.14	4.51	22.20	-82.5		Clear	None
10:50 AM	0.08	0.16	1.12	5.11	6.58	1079.0	0.14	6.93	22.30	-84.3		Clear	None
10:52 AM	0.08	0.16	1.28	5.12	6.59	1079.0	0.14	8.43	22.30	-83.8		Clear	None

Start Purge:	6/11/2024 10:36:00 AM	End Purge:	6/11/2024 10:52:00 AM	Total Volume (gal):	1.28

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0077-015.0-20240611
Well ID: GSRY-MW0077
Location Type: Monitoring Well
Comments:

Sample Date: 6/11/2024 8:47:00 AM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	4.95
Top of Screen (ft-BTOC):	10.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	20.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
8:20 AM	0.05	0.00	0.00	4.95								Clear	None
8:40 AM	0.05	1.00	1.00	4.96	7.07	1533.3	0.10	17.21	26.05	-152.3	0.78	Clear	None
8:42 AM	0.05	0.10	1.10	4.96	7.06	1533.3	0.11	15.32	26.02	-153.1	0.78	Clear	None
8:44 AM	0.05	0.10	1.20	4.96	7.07	1531.1	0.12	15.34	26.05	-153.4	0.78	Clear	None
8:46 AM	0.05	0.10	1.30	4.96	7.07	1520.1	0.12	12.75	26.06	-153.3	0.77	Clear	None

Start Purge:	6/11/2024 8:20:00 AM	End Purge:	6/11/2024 8:46:00 AM	Total Volume (gal):	4.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0078-012.0-20240610
Well ID: GSRY-MW0078
Location Type: Monitoring Well
Comments: FD01 Collected

Sample Date: 6/10/2024 2:27:00 PM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	4.81
Top of Screen (ft-BTOC):	7.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	17.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
1:50 PM	0.05	0.00	0.00	4.81								Clear	None
2:20 PM	0.05	1.50	1.50	4.87	6.98	916.8	0.04	28.78	28.37	-148.9	0.46	Clear	None
2:22 PM	0.05	0.10	1.60	4.87	6.97	922.1	0.04	28.65	28.27	-149.3	0.46	Clear	None
2:24 PM	0.05	0.10	1.70	4.87	7.01	909.0	0.04	28.55	28.37	-152.9	0.45	Clear	None
2:26 PM	0.05	0.10	1.80	4.87	7.00	871.1	0.04	28.42	28.31	-156.9	0.43	Clear	None

Start Purge:	6/10/2024 1:48:00 PM	End Purge:	6/10/2024 2:26:00 PM	Total Volume (gal):	6.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0079-007.0-20240611
Well ID: GSRY-MW0079
Location Type: Monitoring Well
Comments:

Sample Date: 6/11/2024 11:56:00 AM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	4.44
Top of Screen (ft-BTOC):	2.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	12.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
11:50 AM	0.08	1.21	1.21	4.54	6.68	897.0	0.07	12.80	22.40	-96.1		Clear	None
11:52 AM	0.08	0.15	1.36	4.54	6.72	901.0	0.07	10.30	22.40	-97.0		Clear	None
11:54 AM	0.08	0.16	1.52	4.55	6.70	914.0	0.07	10.30	22.50	-97.2		Clear	None
11:56 AM	0.08	0.16	1.68	4.55	6.71	938.0	0.07	9.74	22.40	-96.4		Clear	None

Start Purge:	6/11/2024 11:35:00 AM	End Purge:	6/11/2024 11:56:00 AM	Total Volume (gal):	1.68

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0080-007.0-20240611
Sample Date: 6/11/2024 12:54:00 PM
Well ID: GSRY-MW0080
Sampler: Patrick Bendl
Location Type: Monitoring Well
Comments:

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	5.30
Top of Screen (ft-BTOC):	2.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	12.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
12:48 PM	0.08	1.21	1.21	5.31	6.55	413.0	0.03	13.60	23.10	-67.0		Clear	None
12:50 PM	0.08	0.16	1.37	5.31	6.55	414.0	0.06	11.80	23.10	-67.5		Clear	None
12:52 PM	0.08	0.15	1.52	5.31	6.54	414.0	0.06	10.20	23.10	-71.5		Clear	None
12:54 PM	0.08	0.16	1.68	5.32	6.54	413.0	0.06	8.49	23.10	-70.5		Clear	None

Start Purge:	6/11/2024 12:34:00 PM	End Purge:	6/11/2024 12:54:00 PM	Total Volume (gal):	1.68

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0081-007.0-20240613
Well ID: GSRY-MW0081
Location Type: Monitoring Well
Comments:

Sample Date: 6/13/2024 9:39:00 AM
Sampler: Patrick Bendl

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	6.07
Top of Screen (ft-BTOC):	2.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	12.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
9:33 AM	0.08	1.00	1.00	6.20	6.34	281.0	0.51	6.65	22.20	-17.9		Clear	None
9:35 AM	0.08	0.16	1.16	6.21	6.35	284.0	0.52	4.53	22.20	-16.8		Clear	None
9:37 AM	0.08	0.16	1.32	6.21	6.35	284.0	0.52	7.49	22.20	-15.7		Clear	None
9:39 AM	0.08	0.16	1.48	6.22	6.36	285.0	0.51	5.82	22.20	-15.0		Clear	None

Start Purge:	6/13/2024 9:21:00 AM	End Purge:	6/13/2024 9:39:00 AM	Total Volume (gal):	1.48

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0082-007.0-20240613
Sample Date: 6/13/2024 9:13:00 AM
Well ID: GSRY-MW0082
Sampler: Patrick Bendl
Location Type: Monitoring Well
Comments:

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	5.27
Top of Screen (ft-BTOC):	2.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	12.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
9:07 AM	0.08	1.10	1.10	5.50	6.50	346.0	0.34	8.34	22.20	-76.1		Clear	None
9:09 AM	0.08	0.16	1.26	5.51	6.49	344.0	0.32	6.41	22.20	-75.5		Clear	None
9:11 AM	0.08	0.16	1.42	5.52	6.49	342.0	0.32	5.59	22.20	-76.0		Clear	None
9:13 AM	0.08	0.16	1.58	5.53	6.49	341.0	0.32	3.48	22.20	-76.8		Clear	None

Start Purge:	6/13/2024 8:52:00 AM	End Purge:	6/13/2024 9:13:00 AM	Total Volume (gal):	1.58

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0083-007.0-20240613
Well ID: GSRY-MW0083
Location Type: Monitoring Well
Comments: Collect FD-02@09:00

Sample Date: 6/13/2024 9:22:00 AM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	4.82
Top of Screen (ft-BTOC):	2.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	12.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
8:45 AM	0.05	0.00	0.00	4.82								Clear	None
9:15 AM	0.05	1.50	1.50	4.86	6.81	634.5	0.04	25.86	28.85	-186.6	0.31	Clear	None
9:17 AM	0.05	0.10	1.60	4.86	6.80	623.1	0.04	25.76	28.93	-187.2	0.31	Clear	None
9:19 AM	0.05	0.10	1.70	4.86	6.79	627.6	0.04	25.52	28.89	-187.5	0.31	Clear	None
9:21 AM	0.05	0.10	1.80	4.86	6.81	629.5	0.03	25.44	28.75	-187.8	0.31	Clear	None

Start Purge:	6/13/2024 8:45:00 AM	End Purge:	6/13/2024 9:21:00 AM	Total Volume (gal):	6.6

GROUNDWATER SAMPLING LOG

AECOM

Event: GSRY GW Sampling June 2024
Site Name: GSA RECLAMATION YARD
Project #: 60614327

Sample ID: GSRY-MW0084-025.0-20240613
Well ID: GSRY-MW0084
Location Type: Monitoring Well
Comments: Collect MS@10:15 / Collect MSD @10:18

Sample Date: 6/13/2024 10:12:00 AM
Sampler: Madan Parsotan

Well Information			
Well Diameter (in):	1	Static Water Level (ft-BTOC):	5.15
Top of Screen (ft-BTOC):	20.00	H/S PID Monitor Reading: (ppm)	0
Bottom of Screen (ft-BTOC):	30.00	Purge/Sample Method:	Low Flow
Measured Well Depth (ft-BTOC):	NM	Sample Analysis:	Select PFAS

Purge Information

Time	Purge Rate (gal/min)	Vol Purged (gal)	Cumul. Vol Purged (gal)	Depth to Water (FT)	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	Salinity (PSU)	Color (NA)	Odor (NA)
9:35 AM	0.05	0.00	0.00	5.15								Clear	None
10:05 AM	0.05	1.50	1.50	5.19	7.07	913.7	0.05	8.47	27.75	-199.0	0.45	Clear	None
10:07 AM	0.05	0.10	1.60	5.19	7.08	889.4	0.05	8.36	27.78	-198.5	0.44	Clear	None
10:09 AM	0.05	0.10	1.70	5.19	7.08	870.0	0.04	8.26	27.73	-197.6	0.43	Clear	None
10:11 AM	0.05	0.10	1.80	5.19	7.08	865.8	0.05	8.18	27.79	-197.1	0.43	Clear	None

Start Purge:	6/13/2024 9:35:00 AM	End Purge:	6/13/2024 10:11:00 AM	Total Volume (gal):	6.6

SURFACE WATER SAMPLING LOG

AECOM

Event: GSRY Surface Water Sampling June 2024
Site Name: GSA Reclamation Yard
Project #: 60614327

Sample ID: GSRY-SW0010-001.0-20240614
Location ID: GSRY-SW0010
Location Type: Surface Water
Comments: MS/MSD Collected

Sample Date: 6/14/2024 9:55:00 AM
Sampler: Patrick Bendl
Sample Analysis: Select PFAS

Field Measurements

Time	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	TDS (G/L)	Salinity (PSU)
9:55 AM	7.77	692	5.97	1.58	28.24	65.12	0.450	0.34

SURFACE WATER SAMPLING LOG

AECOM

Event: GSRY Surface Water Sampling June 2024
Site Name: GSA Reclamation Yard
Project #: 60614327

Sample ID: GSRY-SW0011-001.0-20240614
Location ID: GSRY-SW0011
Location Type: Surface Water
Comments:

Sample Date: 6/14/2024 10:20:00 AM
Sampler: Patrick Bendl
Sample Analysis: Select PFAS

Field Measurements

Time	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	TDS (G/L)	Salinity (PSU)
10:18 AM	7.53	0	8.41	1.27	28.20	39.71	0.000	0.00

SURFACE WATER SAMPLING LOG

AECOM

Event: GSRY Surface Water Sampling June 2024
Site Name: GSA Reclamation Yard
Project #: 60614327

Sample ID: GSRY-SW0012-001.0-20240614
Location ID: GSRY-SW0012
Location Type: Surface Water
Comments: FD01 Collected

Sample Date: 6/14/2024 10:50:00 AM
Sampler: Patrick Bendl
Sample Analysis: Select PFAS

Field Measurements

Time	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	TDS (G/L)	Salinity (PSU)
10:49 AM	8.30	398	7.80	5.69	30.26	40.96	0.258	0.19

SURFACE WATER SAMPLING LOG

AECOM

Event: GSRY Surface Water Sampling June 2024
Site Name: GSA Reclamation Yard
Project #: 60614327

Sample ID: GSRY-SW0013-001.0-20240614
Location ID: GSRY-SW0013
Location Type: Surface Water
Comments:

Sample Date: 6/14/2024 10:40:00 AM
Sampler: Patrick Bendl
Sample Analysis: Select PFAS

Field Measurements

Time	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	TDS (G/L)	Salinity (PSU)
10:37 AM	7.68	493	2.73	133.41	28.50	-12.18	0.320	0.24

SURFACE WATER SAMPLING LOG

AECOM

Event: GSRY Surface Water Sampling June 2024
Site Name: GSA Reclamation Yard
Project #: 60614327

Sample ID: GSRY-SW0014-001.0-20240614
Location ID: GSRY-SW0014
Location Type: Surface Water
Comments:

Sample Date: 6/14/2024 9:32:00 AM
Sampler: Patrick Bendl
Sample Analysis: Select PFAS

Field Measurements

Time	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	TDS (G/L)	Salinity (PSU)
9:32 AM	7.43	749	4.50	82.65	26.84	36.51	0.487	0.37

SURFACE WATER SAMPLING LOG

AECOM

Event: GSRY Surface Water Sampling June 2024
Site Name: GSA Reclamation Yard
Project #: 60614327

Sample ID: GSRY-SW0015-001.0-20240614
Location ID: GSRY-SW0015
Location Type: Surface Water
Comments:

Sample Date: 6/14/2024 10:45:00 AM
Sampler: Patrick Bendl
Sample Analysis: Select PFAS

Field Measurements

Time	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	TDS (G/L)	Salinity (PSU)
10:45 AM	8.27	398	8.09	7.25	30.16	10.72	0.258	0.19

SURFACE WATER SAMPLING LOG

AECOM

Event: GSRY Surface Water Sampling June 2024
Site Name: GSA Reclamation Yard
Project #: 60614327

Sample ID: GSRY-SW0016-001.0-20240614
Location ID: GSRY-SW0016
Location Type: Surface Water
Comments:

Sample Date: 6/14/2024 9:25:00 AM
Sampler: Patrick Bendl
Sample Analysis: Select PFAS

Field Measurements

Time	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	TDS (G/L)	Salinity (PSU)
9:24 AM	6.89	1112	2.52	38.51	30.76	61.38	0.723	0.56

SURFACE WATER SAMPLING LOG

AECOM

Event: GSRY Surface Water Sampling June 2024
Site Name: GSA Reclamation Yard
Project #: 60614327

Sample ID: GSRY-SW0017-001.0-20240614
Location ID: GSRY-SW0017
Location Type: Surface Water
Comments:

Sample Date: 6/14/2024 9:15:00 AM
Sampler: Patrick Bendl
Sample Analysis: Select PFAS

Field Measurements

Time	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	TDS (G/L)	Salinity (PSU)
9:15 AM	7.37	718	4.27	7.66	29.40	113.62	0.467	0.35

SURFACE WATER SAMPLING LOG

AECOM

Event: GSRY Surface Water Sampling June 2024
Site Name: GSA Reclamation Yard
Project #: 60614327

Sample ID: GSRY-SW0018-001.0-20240614
Location ID: GSRY-SW0018
Location Type: Surface Water
Comments:

Sample Date: 6/14/2024 10:25:00 AM
Sampler: Patrick Bendl
Sample Analysis: Select PFAS

Field Measurements

Time	pH (S.U.)	COND (US/CM)	DO (MG/L)	Turb (NTU)	Temp (C)	ORP (MV)	TDS (G/L)	Salinity (PSU)
10:25 AM	8.38	625	12.59	11.45	32.16	15.37	0.406	0.31

FIELD INSTRUMENT CALIBRATION RECORDS - CALIBRATION LOG - PRP

Project Site/FacID: GSR

Calibrated by (Print)/Affiliation: Patrick Bendl AECOM

Boldly "X" this box if there is qualified data on this page.

Temperature (Quarterly) Date of Last Temp Verification: See log book:

DISSOLVED OXYGEN (DO) (REFERENCE: DEP SOP FT 1500) **Acceptance Criteria +/-0.3 mg DO/L**

Meter/Instrument Name and Unique ID: YSI Pro Quatro 21L102052

CAL	ICV	CCV	Initials	Date	Time	Standard (DO %)	Temp °C	DO Saturation mg/L (100%)**	Response DO (%)	Response mg DO/L	Deviation mg DO/L	Pass or Fail
CAL	(ICV)	CCV	PB	6/10	1320	100%	24.7	7.598	100.2	7.601		(P) F
CAL	ICV	(CCV)		6/11	807	100%	24.3	8.371	100.3	8.387		(P) F
CAL	ICV	(CCV)		6/12	747	100%	24.6	8.325	100.1	8.328		(P) F
CAL	ICV	(CCV)	↓	6/13	800	100%	24.7	8.309	100.2	8.314		(P) F
CAL	ICV	CCV				100%						P F
CAL	ICV	CCV				100%						P F

** See Table FS 2200-2 and/or Table FT 1500-1 for Dissolved Oxygen 100% Saturation (mg/L) corresponding to Temperature.

SPECIFIC CONDUCTANCE (REFERENCE: DEP SOP FT 1200) **Acceptance Criteria +/-5% the standard**

Meter/Instrument Name and Unique ID: YSI Pro Quatro 21L102052

CAL	ICV	CCV	Initials	Date	Time	Standard (µmho/cm)	Exp. Date	Lot #	Response (µmho/cm)	Deviation (%)	Pass or Fail
CAL	(ICV)	CCV	PB	6/10	1314	1413	8/24	230725C	1407		(P) F
CAL	(ICV)	CCV		6/10	1316	100	12/24	231213A	99.3		(P) F
CAL	ICV	(CCV)		6/11	809	1413	8/24	230725C	1409		(P) F
CAL	ICV	(CCV)		6/11	811	100	12/24	231213A	99.2		(P) F
CAL	ICV	(CCV)		6/12	749	1413	8/24	230725C	1414		(P) F
CAL	ICV	(CCV)		6/12	750	100	12/24	231213A	99.6		(P) F
CAL	ICV	(CCV)		6/13	801	1413	8/24	230725C	1410		(P) F
CAL	ICV	(CCV)		6/13	802	100	12/24	231213A	99.5		(P) F
CAL	ICV	CCV									P F

OXIDATION-REDUCTION POTENTIAL (ORP) **Acceptance Criteria +/-10 mV**

REFERENCE: ***EPA Region 4, Operating Procedure, Field Measurement of Oxidation-Reduction Potential (ORP)***

Meter/Instrument Name and Unique ID: YSI Pro Quatro 21L102052

CAL	ICV	CCV	Initials	Date	Time	Standard (mV)	Exp. Date	Lot #	Response (mV)	Deviation (mV)	Pass or Fail
CAL	(ICV)	CCV	PB	6/10	1317	238	3/26	21C100633	235.2		(P) F
CAL	ICV	(CCV)		6/11	812	238	3/26	21C100633	236.1		(P) F
CAL	ICV	(CCV)		6/12	751	238	3/26	21C100633	235.8		(P) F
CAL	ICV	(CCV)	↓	6/13	805	238	3/26	21C100633	235.7		(P) F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F

Perform ICVs and CCVs only in "READ/RUN" mode.

CAL - Calibration; ICV - Initial Calibration Verification; and, CCV - Continuing Calibration Verification.

Deviation (%) = 100-{(Response/Standard)*100}

FIELD INSTRUMENT CALIBRATION RECORDS - CALIBRATION LOG - PRP

Project Site/FacID: GSRX

Calibrated by (Print)/Affiliation: Patrick Bendl AECOM

Boldly "X" this box if there is qualified data on this page.

TURBIDITY (REFERENCE: DEP SOP FT 1600) Meter/Instrument Name and Unique ID: OakTon 12053007

Std=0.1-10 NTU +/-10% | Std=11-40 NTU +/-8% | Std=41-100 NTU +/-6.5% | Std>100 NTU +/-5%

CAL	ICV	CCV	Initials	Date	Time	Standard (NTU)	Exp. Date	Lot #	Response (NTU)	Deviation (%)	Pass or Fail
CAL	(ICV)	CCV	PB	6/10	1305	800	5/24	22440180	800	0	P F
CAL	(ICV)	CCV			1305	400	PB 6/25/24	22440170	400	0	P F
CAL	(ICV)	CCV			1306	100	PB 6/25/24	24007248	100	0	P F
CAL	(ICV)	CCV			1306	20	PB 6/25/24	24007247	20	0	P F
CAL	(ICV)	CCV			1307	0	0	0	0	0	P F
CAL	ICV	(CCV)	PB	6/11	803	800	5/24	22440180	801		P F
CAL	ICV	(CCV)			803	400		22440170	403		P F
CAL	ICV	(CCV)			804	100		24007247	99.8		P F
CAL	ICV	(CCV)			804	20		24007247	19.7		P F
CAL	ICV	(CCV)			804	0		0	0		P F
CAL	ICV	(CCV)	PB	6/12	740	800		22440180	804		P F
CAL	ICV	(CCV)			740	400		22440170	397		P F
CAL	ICV	(CCV)			740	100		24007247	99.2		P F
CAL	ICV	(CCV)			741	20		24007247	20.3		P F
CAL	ICV	(CCV)			741	0		0	0		P F

pH (REFERENCE: DEP SOP FT 1100) Acceptance Criteria +/-0.2 SU

Meter/Instrument Name and Unique ID: YSI Pro Quatro 21L102052

CAL	ICV	CCV	Initials	Date	Time	Standard (SU)	Exp. Date	Lot #	Response (SU)	Deviation (SU)	Pass or Fail
CAL	(ICV)	CCV	PB	6/10	1305	4.00	12/24	230605A	4.0	0	(P) F
CAL	(ICV)	CCV			1308	7.00	3/26	XC062413	7.01		(P) F
CAL	(ICV)	CCV			1311	10.00	6/24	221215B	10.03		(P) F
CAL	(ICV)	(CCV)	6/11	PB	1314 801	4	12/24	230605A	4.01		(P) F
CAL	(ICV)	(CCV)	6/12	PB	1317 803	7	3/26	C062413	7.03		(P) F
CAL	(ICV)	(CCV)	6/11	PB	1320 805	10	6/24	221215B	10.0	0	(P) F
CAL	ICV	(CCV)		6/12	740	4	12/24	230605A	4.04		(P) F
CAL	ICV	(CCV)		6/12	742	7	3/26	C062413	7.01		(P) F
CAL	ICV	(CCV)		6/12	745	10	6/24	221215B	9.98		(P) F
CAL	ICV	(CCV)		6/13	756	4	12/24	230605A	4.02		(P) F
CAL	ICV	(CCV)		6/13	758	7	3/26	C062413	7.07		(P) F
CAL	ICV	(CCV)		6/13	759	10	6/24	221215B	10.06		(P) F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F

Perform ICVs and CCVs only in "READ/RUN" mode.

CAL - Calibration; ICV - Initial Calibration Verification; and, CCV - Continuing Calibration Verification.

Deviation (%) = 100-{(Response/Standard)*100}

FIELD INSTRUMENT CALIBRATION RECORDS - CALIBRATION LOG - PRP

Project Site/FacID: GSLY

Calibrated by (Print)/Affiliation: Patrick Bendl

Boldly "X" this box if there is qualified data on this page.

TURBIDITY (REFERENCE: DEP SOP FT 1600) Meter/Instrument Name and Unique ID: Oakton 11205310007

Std=0.1-10 NTU +/-10% **Std=11-40 NTU +/-8%** **Std=41-100 NTU +/-6.5%** **Std>100 NTU +/-5%**

CAL	ICV	CCV	Initials	Date	Time	Standard (NTU)	Exp. Date	Lot #	Response (NTU)	Deviation (%)	Pass or Fail
CAL	ICV	(CCV)	PB	6/13	800	800	5/24	22440180	808		(P) F
CAL	ICV	(CCV)			800	400	5/24	22440170	402		(P) F
CAL	ICV	(CCV)			801	100	5/24	24002248	101.3		(P) F
CAL	ICV	(CCV)			801	20	5/24	24002247	20.4		(P) F
CAL	ICV	(CCV)			801	0	~~0~~	~~0~~	0		(P) F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F

pH (REFERENCE: DEP SOP FT 1100) **Acceptance Criteria +/-0.2 SU**

Meter/Instrument Name and Unique ID:

CAL	ICV	CCV	Initials	Date	Time	Standard (SU)	Exp. Date	Lot #	Response (SU)	Deviation (SU)	Pass or Fail
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F
CAL	ICV	CCV									P F

Perform ICVs and CCVs only in "READ/RUN" mode.

CAL - Calibration; ICV - Initial Calibration Verification; and, CCV - Continuing Calibration Verification.

Deviation (%) = 100-{(Response/Standard)*100}

Calibration Report

Instrument	Aqua TROLL 600
Serial Number	663675
Created	6/10/2024

Sensor **Conductivity**

Serial Number	920186
Last Calibrated	6/10/2024

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.019
Reference Temperature	25.00 °C

Pre Measurement

Actual Conductivity	9,392.6 µS/cm
Specific Conductivity	8,431.4 µS/cm

Post Measurement

Actual Conductivity	8,912.1 µS/cm
Specific Conductivity	8,000.0 µS/cm

Sensor **Turbidity**

Serial Number	1030174
Last Calibrated	6/10/2024

Calibration Details

Slope	1
Offset	2.44 NTU

Calibration Point 1

Pre Measurement	0.27 NTU
Post Measurement	2.00 NTU

Sensor	**pH/ORP**
Serial Number	1007445
Last Calibrated	6/10/2024

Calibration Details

Calibration Point 1

pH of Buffer	6.97 pH
pH mV	-3.9 mV
Temperature	30.97 °C

Pre Measurement

pH	6.96 pH
pH mV	-3.8 mV

Post Measurement

pH	6.97 pH
pH mV	-4.0 mV

Slope and Offset 1

Slope	-60.34 mV/pH
Offset	-5.7 mV

ORP

ORP Solution	Quick Cal
Offset	-46.6 mV
Temperature	30.97 °C
Pre Measurement	221.5 mV
Post Measurement	214.5 mV

Sensor	**RDO**
Serial Number	1022921
Last Calibrated	6/10/2024

Calibration Details

Slope	1.220988
Offset	0.00 mg/L

Calibration point 100%

Concentration	5.97 mg/L
Pre Measurement	90.48 %Sat
Post Measurement	100.00 %Sat
Temperature	33.80 °C
Barometric Pressure	1,040.5 mbar

Sensor	**Barometric Pressure**
Serial Number	663675
Last Calibrated	5/2/2024

Calibration Details

Offset	0.26 mm Hg
Pre Measurement	14.69 psi
Post Measurement	14.70 psi

Calibration Report

Instrument	Aqua TROLL 600
Serial Number	663675
Created	6/11/2024

Sensor **Conductivity**

Serial Number	920186
Last Calibrated	6/11/2024

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.006
Reference Temperature	25.00 °C

Pre Measurement

Actual Conductivity	8,427.1 µS/cm
Specific Conductivity	8,100.3 µS/cm

Post Measurement

Actual Conductivity	8,322.8 µS/cm
Specific Conductivity	8,000.0 µS/cm

Sensor **Turbidity**

Serial Number	1030174
Last Calibrated	6/11/2024

Calibration Details

Slope	1
Offset	2.28 NTU

Calibration Point 1

Pre Measurement	2.05 NTU
Post Measurement	2.00 NTU

Sensor	**pH/ORP**
Serial Number	1007445
Last Calibrated	6/11/2024

Calibration Details

Calibration Point 1

pH of Buffer	6.98 pH
pH mV	-5.3 mV
Temperature	27.11 °C

Pre Measurement

pH	6.99 pH
pH mV	-5.3 mV

Post Measurement

pH	6.98 pH
pH mV	-5.4 mV

Slope and Offset 1

Slope	-59.58 mV/pH
Offset	-6.5 mV

ORP

ORP Solution	Quick Cal
Offset	-67.1 mV
Temperature	27.11 °C
Pre Measurement	243.2 mV
Post Measurement	220.3 mV

Sensor	**RDO**
Serial Number	1022921
Last Calibrated	6/11/2024

Calibration Details

Slope	1.124054
Offset	0.00 mg/L

Calibration point 100%

Concentration	7.43 mg/L
Pre Measurement	108.64 %Sat
Post Measurement	100.00 %Sat
Temperature	25.65 °C
Barometric Pressure	1,035.7 mbar

Sensor	**Barometric Pressure**
Serial Number	663675
Last Calibrated	5/2/2024

Calibration Details

Offset	0.26 mm Hg
Pre Measurement	14.69 psi
Post Measurement	14.70 psi

Calibration Report

Instrument	Aqua TROLL 600
Serial Number	663675
Created	6/12/2024

Sensor **Conductivity**

Serial Number	920186
Last Calibrated	6/12/2024

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.056
Reference Temperature	25.00 °C

Pre Measurement

Actual Conductivity	7,703.2 µS/cm
Specific Conductivity	7,609.8 µS/cm

Post Measurement

Actual Conductivity	8,098.2 µS/cm
Specific Conductivity	8,000.0 µS/cm

Sensor **Turbidity**

Serial Number	1030174
Last Calibrated	6/12/2024

Calibration Details

Slope	1
Offset	0.81 NTU

Calibration Point 1

Pre Measurement	3.63 NTU
Post Measurement	2.00 NTU

Sensor	**pH/ORP**
Serial Number	1007445
Last Calibrated	6/12/2024

Calibration Details

Calibration Point 1

pH of Buffer	6.98 pH
pH mV	-3.9 mV
Temperature	25.64 °C

Pre Measurement

pH	6.96 pH
pH mV	-3.9 mV

Post Measurement

pH	6.98 pH
pH mV	-3.9 mV

Slope and Offset 1

Slope	-59.29 mV/pH
Offset	-5.1 mV

ORP

ORP Solution	Quick Cal
Offset	-75.5 mV
Temperature	25.64 °C
Pre Measurement	232.7 mV
Post Measurement	222.6 mV

Sensor	**RDO**
Serial Number	1022921
Last Calibrated	6/12/2024

Calibration Details

Slope	1.126883
Offset	0.00 mg/L

Calibration point 100%

Concentration	7.02 mg/L
Pre Measurement	99.77 %Sat
Post Measurement	100.00 %Sat
Temperature	28.69 °C
Barometric Pressure	1,035.7 mbar

Sensor	**Barometric Pressure**
Serial Number	663675
Last Calibrated	5/2/2024

Calibration Details

Offset	0.26 mm Hg
Pre Measurement	14.69 psi
Post Measurement	14.70 psi

Calibration Report

Instrument	Aqua TROLL 600
Serial Number	663675
Created	6/13/2024

Sensor **Conductivity**

Serial Number	920186
Last Calibrated	6/13/2024

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	1.058
Reference Temperature	25.00 °C

Pre Measurement

Actual Conductivity	8,309.4 µS/cm
Specific Conductivity	7,984.0 µS/cm

Post Measurement

Actual Conductivity	8,326.1 µS/cm
Specific Conductivity	8,000.0 µS/cm

Sensor **Turbidity**

Serial Number	1030174
Last Calibrated	6/13/2024

Calibration Details

Slope	1
Offset	1.02 NTU

Calibration Point 1

Pre Measurement	1.25 NTU
Post Measurement	2.00 NTU

Sensor	**pH/ORP**
Serial Number	1007445
Last Calibrated	6/13/2024

Calibration Details

Calibration Point 1

pH of Buffer	6.98 pH
pH mV	-9.0 mV
Temperature	27.13 °C

Pre Measurement

pH	7.07 pH
pH mV	-9.1 mV

Post Measurement

pH	6.98 pH
pH mV	-9.1 mV

Slope and Offset 1

Slope	-59.58 mV/pH
Offset	-10.2 mV

ORP

ORP Solution	Quick Cal
Offset	-49.8 mV
Temperature	27.13 °C
Pre Measurement	195.2 mV
Post Measurement	220.3 mV

Sensor	**RDO**
Serial Number	1022921
Last Calibrated	6/13/2024

Calibration Details

Slope	1.103881
Offset	0.00 mg/L

Calibration point 100%

Concentration	7.40 mg/L
Pre Measurement	102.20 %Sat
Post Measurement	100.00 %Sat
Temperature	25.69 °C
Barometric Pressure	1,013.8 mbar

Sensor	**Barometric Pressure**
Serial Number	663675
Last Calibrated	5/2/2024

Calibration Details

Offset	0.26 mm Hg
Pre Measurement	14.69 psi
Post Measurement	14.70 psi

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APPENDIX C

LABORATORY ANALYTICAL REPORTS

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Signature

10.14.2022

Date

Eurofins Environment Testing Southeast, LLC
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ANALYTICAL REPORT

Eurofins Orlando
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Altamonte Springs, FL 32701
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Laboratory Job ID: 670-6496-1
Laboratory Sample Delivery Group: GSRY PFAS Soil
Client Project/Site: NASA KSC GSRY PFAS
Revision: 1

For:
AECOM Technical Services Inc.
150 North Orange Avenue
Suite 200
Orlando, Florida 32801

Attn: Teresa Amentt Jennings

Authorized for release by:
10/19/2022 6:57:29 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 5
Client Sample Results 7
Isotope Dilution Summary 23
QC Sample Results 26
QC Association Summary 35
Lab Chronicle 38
Certification Summary 43
Method Summary 45
Sample Summary 46
Chain of Custody 47
Receipt Checklists 51

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6496-1
SDG: GSRY PFAS Soil

Qualifiers

LCMS

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

Glossary

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

Job ID: 670-6496-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-6496-1

REVISION

The report being provided is a revision of the original report sent on 10/18/2022. The report (revision 1) is being revised to update the units reported for PFAS.

Report revision history

Receipt
The samples were received on 9/30/2022 11:10 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 time was 2.2°C

PFAS
Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS, M2-4:2 FTS, d9-N-EtFOSE-M, 13C8 PFOA, 13C9 PFNA, d3-NMePFOSA, d7-N-MeFOSE-M, 13C3 HFPO-DA, M2-8:2 FTS and d5-NEtPFOSA in the following sample: GSRY-FB-20220927 (670-6496-12) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-4:2 FTS d3-NMePFOSA was again outside of the QC acceptance limits. The recovery for labeled isotope d5-NEtPFOSA M2-8:2 FTS d7-N-MeFOSE-M d9-N-EtFOSE-M 13C8 PFOA 13C9 PFNA M2-6:2 FTS 13C3 HFPO-DA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) d9-N-EtFOSE-M, 13C2 PFTeDA, d3-NMePFOSA, d7-N-MeFOSE-M, 13C3 HFPO-DA and d5-NEtPFOSA in the following sample: GSRY-EB-20220927 (670-6496-13) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) d5-NEtPFOSA d3-NMePFOSA was again outside of the QC acceptance limits. The recovery for labeled isotope 13C2 PFTeDA d7-N-MeFOSE-M d9-N-EtFOSE-M 13C3 HFPO-DA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C5 PFHxA, d3-NMePFOSA, 13C3 HFPO-DA and M2-8:2 FTSin the method blank associated with the following samples:: GSRY-FB-20220927 (670-6496-12) and GSRY-EB-20220927 (670-6496-13) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) d3-NMePFOSA was again outside of the QC acceptance limits. The recovery for labeled isotope M2-8:2 FTS 13C5 PFHxA 13C3 HFPO-DA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) d3-NMePFOSA and 13C3 HFPO-DAin the laboratory control spike samples associated with the following samples:: GSRY-FB-20220927 (670-6496-12) and GSRY-EB-20220927 (670-6496-13) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) d3-NMePFOSA was again outside of the QC acceptance limits. The recovery for labeled isotope 13C3 HFPO-DA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) d3-NMeFOSAA in the following sample: GSRY-SB4180-000.5-20220927 (670-6496-5) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted within the required holding time and the recovery for the labeled isotope(s) is again outside the QC acceptance limits.

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

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

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6496-1
SDG: GSRY PFAS Soil

Client Sample ID: GSRY-SB4178-000.5-20220927 — Lab Sample ID: 670-6496-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	0.00050	I	0.00082	0.00027	mg/Kg	1	☼	QSM B15	Total/NA
Total PFOA and PFOS	0.00050	I	0.00082	0.00027	mg/Kg	1	☼	QSM B15	Total/NA

Client Sample ID: GSRY-SB4178-002.0-20220927 — Lab Sample ID: 670-6496-2

No Detections.

Client Sample ID: GSRY-SB4179-000.5-20220927 — Lab Sample ID: 670-6496-3

No Detections.

Client Sample ID: GSRY-SB4179-002.0-20220927 — Lab Sample ID: 670-6496-4

No Detections.

Client Sample ID: GSRY-SB4180-000.5-20220927 — Lab Sample ID: 670-6496-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	0.00033	I	0.00063	0.00021	mg/Kg	1	☼	QSM B15	Total/NA
Perfluorooctanoic acid	0.00059	I	0.00063	0.00021	mg/Kg	1	☼	QSM B15	Total/NA
Total PFOA and PFOS	0.00092		0.00063	0.00021	mg/Kg	1	☼	QSM B15	Total/NA

Client Sample ID: GSRY-SB4180-002.0-20220927 — Lab Sample ID: 670-6496-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	0.00027	I	0.00076	0.00025	mg/Kg	1	☼	QSM B15	Total/NA
Perfluorooctanoic acid	0.00028	I	0.00076	0.00025	mg/Kg	1	☼	QSM B15	Total/NA
Total PFOA and PFOS	0.00055	I	0.00076	0.00025	mg/Kg	1	☼	QSM B15	Total/NA

Client Sample ID: GSRY-SB4181-000.5-20220927 — Lab Sample ID: 670-6496-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	0.00026	I	0.00064	0.00021	mg/Kg	1	☼	QSM B15	Total/NA
Total PFOA and PFOS	0.00026	I	0.00064	0.00021	mg/Kg	1	☼	QSM B15	Total/NA

Client Sample ID: GSRY-SB4181-002.0-20220927 — Lab Sample ID: 670-6496-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonamide	0.00068	I	0.00075	0.00025	mg/Kg	1	☼	QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0030		0.00075	0.00025	mg/Kg	1	☼	QSM B15	Total/NA
Perfluorooctanoic acid	0.00051	I	0.00075	0.00025	mg/Kg	1	☼	QSM B15	Total/NA
NEtFOSAA	0.00073	I	0.0025	0.00025	mg/Kg	1	☼	QSM B15	Total/NA
NMeFOSAA	0.0011	I	0.0025	0.00025	mg/Kg	1	☼	QSM B15	Total/NA
Total PFOA and PFOS	0.0035		0.00075	0.00025	mg/Kg	1	☼	QSM B15	Total/NA

Client Sample ID: GSRY-SB4182-000.5-20220927 — Lab Sample ID: 670-6496-9

No Detections.

Client Sample ID: GSRY-SB4182-002.0-20220927 — Lab Sample ID: 670-6496-10

No Detections.

Client Sample ID: GSRY-FD-20220927 — Lab Sample ID: 670-6496-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonamide	0.00062		0.00062	0.00021	mg/Kg	1	☼	QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Client Sample ID: GSRY-FD-20220927 (Continued) — Lab Sample ID: 670-6496-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	0.0037		0.00062	0.00021	mg/Kg	1	☼	QSM B15	Total/NA
Perfluorooctanoic acid	0.00060	I	0.00062	0.00021	mg/Kg	1	☼	QSM B15	Total/NA
NEtFOSAA	0.00044	I	0.0021	0.00021	mg/Kg	1	☼	QSM B15	Total/NA
NMeFOSAA	0.0012	I	0.0021	0.00021	mg/Kg	1	☼	QSM B15	Total/NA
Total PFOA and PFOS	0.0043		0.00062	0.00021	mg/Kg	1	☼	QSM B15	Total/NA

Client Sample ID: GSRY-FB-20220927 — Lab Sample ID: 670-6496-12

No Detections.

Client Sample ID: GSRY-EB-20220927 — Lab Sample ID: 670-6496-13

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: GSRY-SB4178-000.5-20220927

Date Collected: 09/27/22 10:13
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-1

Matrix: Solid
Percent Solids: 71.9

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00055	U	0.0027	0.00055	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorobutanoic acid	0.00082	U	0.0027	0.00082	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorodecanesulfonic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorodecanoic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorododecanoic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluoroheptanesulfonic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluoroheptanoic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorohexanesulfonic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorohexanoic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorononanesulfonic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorononanoic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorooctanesulfonamide	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorooctanesulfonic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorooctanoic acid	**0.00050**	**I**	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluoropentanesulfonic acid	0.00027	U	0.0041	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluoropentanoic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorotetradecanoic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluorotridecanoic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Perfluoroundecanoic acid	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
9Cl-PF3ONS	0.00027	U	0.0027	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
11Cl-PF3OUdS	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
8:2 Fluorotelomer sulfonic acid	0.00082	U	0.0041	0.00082	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
4:2 Fluorotelomer sulfonic acid	0.00082	U	0.0027	0.00082	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
6:2 Fluorotelomer sulfonic acid	0.00082	U	0.0027	0.00082	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
DONA	0.00027	U	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
NEtFOSAA	0.00027	U	0.0027	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
NMeFOSAA	0.00027	U	0.0027	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
HFPODA	0.00055	U	0.0041	0.00055	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
NMeFOSA	0.00068	U	0.0027	0.00068	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1
Total PFOA and PFOS	**0.00050**	**I**	0.00082	0.00027	mg/Kg	☼	10/06/22 16:59	10/09/22 04:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*113*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C5 PFHxA	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C3 PFBS	*103*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C8 FOSA	*116*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
M2-6:2 FTS	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
M2-4:2 FTS	*131*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C5 PFPeA	*105*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C2 PFTeDA	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
d3-NMeFOSAA	*97*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C8 PFOA	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C9 PFNA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C4 PFHpA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C3 HFPO-DA	*98*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
M2-8:2 FTS	*126*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C3 PFHxS	*113*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C8 PFOS	*118*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C4 PFBA	*100*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
13C6 PFDA	*120*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*

Client Sample ID: GSRY-SB4178-000.5-20220927

Lab Sample ID: 670-6496-1
Date Collected: 09/27/22 10:13
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 71.9

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C7 PFUnA	*114*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
d3-NMePFOSA	*79*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*
d5-NEtFOSAA	*99*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:03*	*1*

Client Sample ID: GSRY-SB4178-002.0-20220927

Lab Sample ID: 670-6496-2
Date Collected: 09/27/22 10:20
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 74.8

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00049	U	0.0025	0.00049	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorobutanoic acid	0.00074	U	0.0025	0.00074	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorodecanesulfonic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorodecanoic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorododecanoic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluoroheptanesulfonic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluoroheptanoic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorohexanesulfonic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorohexanoic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorononanesulfonic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorononanoic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorooctanesulfonamide	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorooctanesulfonic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorooctanoic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluoropentanesulfonic acid	0.00025	U	0.0037	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluoropentanoic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorotetradecanoic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluorotridecanoic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Perfluoroundecanoic acid	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
9Cl-PF3ONS	0.00025	U	0.0025	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
11Cl-PF3OUdS	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
8:2 Fluorotelomer sulfonic acid	0.00074	U	0.0037	0.00074	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
4:2 Fluorotelomer sulfonic acid	0.00074	U	0.0025	0.00074	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
6:2 Fluorotelomer sulfonic acid	0.00074	U	0.0025	0.00074	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
DONA	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
NEtFOSAA	0.00025	U	0.0025	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
NMeFOSAA	0.00025	U	0.0025	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
HFPODA	0.00049	U	0.0037	0.00049	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
NMeFOSA	0.00061	U	0.0025	0.00061	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1
Total PFOA and PFOS	0.00025	U	0.00074	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 04:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*115*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C5 PFHxA	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C3 PFBS	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C8 FOSA	*114*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
M2-6:2 FTS	*103*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
M2-4:2 FTS	*121*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C5 PFPeA	*103*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C2 PFTeDA	*110*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
d3-NMeFOSAA	*113*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*

Client Sample ID: GSRY-SB4178-002.0-20220927

Lab Sample ID: 670-6496-2
Date Collected: 09/27/22 10:20
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 74.8

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOA	*107*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C9 PFNA	*109*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C4 PFHpA	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C3 HFPO-DA	*99*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
M2-8:2 FTS	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C3 PFHxS	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C8 PFOS	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C4 PFBA	*101*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C6 PFDA	*115*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
13C7 PFUnA	*118*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
d3-NMePFOSA	*80*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*
d5-NEtFOSAA	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:13*	*1*

Client Sample ID: GSRY-SB4179-000.5-20220927

Lab Sample ID: 670-6496-3
Date Collected: 09/27/22 10:32
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 74.5

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00052	U	0.0026	0.00052	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorobutanoic acid	0.00077	U	0.0026	0.00077	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorodecanesulfonic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorodecanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorododecanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluoroheptanesulfonic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluoroheptanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorohexanesulfonic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorohexanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorononanesulfonic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorononanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorooctanesulfonamide	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorooctanesulfonic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorooctanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluoropentanesulfonic acid	0.00026	U	0.0039	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluoropentanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorotetradecanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluorotridecanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Perfluoroundecanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
9Cl-PF3ONS	0.00026	U	0.0026	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
11Cl-PF3OUdS	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
8:2 Fluorotelomer sulfonic acid	0.00077	U	0.0039	0.00077	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
4:2 Fluorotelomer sulfonic acid	0.00077	U	0.0026	0.00077	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
6:2 Fluorotelomer sulfonic acid	0.00077	U	0.0026	0.00077	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
DONA	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
NEtFOSAA	0.00026	U	0.0026	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
NMeFOSAA	0.00026	U	0.0026	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
HFPODA	0.00052	U	0.0039	0.00052	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
NMeFOSA	0.00064	U	0.0026	0.00064	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1
Total PFOA and PFOS	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 04:24	1

Client Sample ID: GSRY-SB4179-000.5-20220927

Lab Sample ID: 670-6496-3

Date Collected: 09/27/22 10:32
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 74.5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*109*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C5 PFHxA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C3 PFBS	*100*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C8 FOSA	*109*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
M2-6:2 FTS	*100*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
M2-4:2 FTS	*121*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C5 PFPeA	*99*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C2 PFTeDA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
d3-NMeFOSAA	*105*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C8 PFOA	*100*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C9 PFNA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C4 PFHpA	*102*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C3 HFPO-DA	*93*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
M2-8:2 FTS	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C3 PFHxS	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C8 PFOS	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C4 PFBA	*96*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C6 PFDA	*107*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
13C7 PFUnA	*114*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
d3-NMePFOSA	*75*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*
d5-NEtFOSAA	*106*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:24*	*1*

Client Sample ID: GSRY-SB4179-002.0-20220927

Lab Sample ID: 670-6496-4

Date Collected: 09/27/22 10:42
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 82.5

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00048	U	0.0024	0.00048	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorobutanoic acid	0.00073	U	0.0024	0.00073	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorodecanesulfonic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorodecanoic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorododecanoic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluoroheptanesulfonic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluoroheptanoic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorohexanesulfonic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorohexanoic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorononanesulfonic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorononanoic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorooctanesulfonamide	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorooctanesulfonic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorooctanoic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluoropentanesulfonic acid	0.00024	U	0.0036	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluoropentanoic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorotetradecanoic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluorotridecanoic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Perfluoroundecanoic acid	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
9Cl-PF3ONS	0.00024	U	0.0024	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
11Cl-PF3OUdS	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
8:2 Fluorotelomer sulfonic acid	0.00073	U	0.0036	0.00073	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
4:2 Fluorotelomer sulfonic acid	0.00073	U	0.0024	0.00073	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1

Client Sample ID: GSRY-SB4179-002.0-20220927

Lab Sample ID: 670-6496-4
Date Collected: 09/27/22 10:42
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 82.5

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
6:2 Fluorotelomer sulfonic acid	0.00073	U	0.0024	0.00073	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
DONA	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
NEtFOSAA	0.00024	U	0.0024	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
NMeFOSAA	0.00024	U	0.0024	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
HFPODA	0.00048	U	0.0036	0.00048	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
NMeFOSA	0.00061	U	0.0024	0.00061	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1
Total PFOA and PFOS	0.00024	U	0.00073	0.00024	mg/Kg	☼	10/06/22 16:59	10/09/22 04:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C5 PFHxA	*103*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C3 PFBS	*101*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C8 FOSA	*113*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
M2-6:2 FTS	*105*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
M2-4:2 FTS	*121*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C5 PFPeA	*98*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C2 PFTeDA	*107*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
d3-NMeFOSAA	*91*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C8 PFOA	*102*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C9 PFNA	*109*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C4 PFHpA	*99*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C3 HFPO-DA	*96*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
M2-8:2 FTS	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C3 PFHxS	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C8 PFOS	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C4 PFBA	*96*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C6 PFDA	*110*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
13C7 PFUnA	*117*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
d3-NMePFOSA	*71*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*
d5-NEtFOSAA	*95*		*50 - 150*	*10/06/22 16:59*	*10/09/22 04:34*	*1*

Client Sample ID: GSRY-SB4180-000.5-20220927

Lab Sample ID: 670-6496-5
Date Collected: 09/27/22 10:55
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 90.7

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00042	U	0.0021	0.00042	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorobutanoic acid	0.00063	U	0.0021	0.00063	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorodecanesulfonic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorodecanoic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorododecanoic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluoroheptanesulfonic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluoroheptanoic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorohexanesulfonic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorohexanoic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorononanesulfonic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorononanoic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorooctanesulfonamide	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorooctanesulfonic acid	**0.00033**	**I**	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorooctanoic acid	**0.00059**	**I**	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1

Client Sample ID: GSRY-SB4180-000.5-20220927

Lab Sample ID: 670-6496-5

Date Collected: 09/27/22 10:55
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 90.7

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid	0.00021	U	0.0032	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluoropentanoic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorotetradecanoic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluorotridecanoic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Perfluoroundecanoic acid	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
9Cl-PF3ONS	0.00021	U	0.0021	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
11Cl-PF3OUdS	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
8:2 Fluorotelomer sulfonic acid	0.00063	U	0.0032	0.00063	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
4:2 Fluorotelomer sulfonic acid	0.00063	U	0.0021	0.00063	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
6:2 Fluorotelomer sulfonic acid	0.00063	U	0.0021	0.00063	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
DONA	0.00021	U	0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
NEtFOSAA	0.00021	U	0.0021	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
NMeFOSAA	0.00021	U	0.0021	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
HFPODA	0.00042	U	0.0032	0.00042	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
NMeFOSA	0.00053	U	0.0021	0.00053	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1
Total PFOA and PFOS	**0.00092**		0.00063	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C5 PFHxA	*100*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C3 PFBS	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C8 FOSA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
M2-6:2 FTS	*106*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
M2-4:2 FTS	*122*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C5 PFPeA	*94*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C2 PFTeDA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
d3-NMeFOSAA	*53*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C8 PFOA	*100*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C9 PFNA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C4 PFHpA	*95*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C3 HFPO-DA	*92*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
M2-8:2 FTS	*115*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C3 PFHxS	*113*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C8 PFOS	*115*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C4 PFBA	*91*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C6 PFDA	*113*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
13C7 PFUnA	*115*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
d3-NMePFOSA	*73*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*
d5-NEtFOSAA	*62*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:06*	*1*

Client Sample ID: GSRY-SB4180-002.0-20220927

Lab Sample ID: 670-6496-6

Date Collected: 09/27/22 11:10
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 74.0

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00051	U	0.0025	0.00051	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorobutanoic acid	0.00076	U	0.0025	0.00076	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorodecanesulfonic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorodecanoic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorododecanoic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1

Client Sample ID: GSRY-SB4180-002.0-20220927

Date Collected: 09/27/22 11:10
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-6

Matrix: Solid
Percent Solids: 74.0

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanesulfonic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluoroheptanoic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorohexanesulfonic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorohexanoic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorononanesulfonic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorononanoic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorooctanesulfonamide	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorooctanesulfonic acid	**0.00027**	**I**	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorooctanoic acid	**0.00028**	**I**	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluoropentanesulfonic acid	0.00025	U	0.0038	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluoropentanoic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorotetradecanoic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluorotridecanoic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Perfluoroundecanoic acid	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
9Cl-PF3ONS	0.00025	U	0.0025	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
11Cl-PF3OUdS	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
8:2 Fluorotelomer sulfonic acid	0.00076	U	0.0038	0.00076	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
4:2 Fluorotelomer sulfonic acid	0.00076	U	0.0025	0.00076	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
6:2 Fluorotelomer sulfonic acid	0.00076	U	0.0025	0.00076	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
DONA	0.00025	U	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
NEtFOSAA	0.00025	U	0.0025	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
NMeFOSAA	0.00025	U	0.0025	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
HFPODA	0.00051	U	0.0038	0.00051	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
NMeFOSA	0.00064	U	0.0025	0.00064	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1
Total PFOA and PFOS	**0.00055**	**I**	0.00076	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C5 PFHxA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C3 PFBS	*98*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C8 FOSA	*106*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
M2-6:2 FTS	*98*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
M2-4:2 FTS	*114*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C5 PFPeA	*98*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C2 PFTeDA	*100*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
d3-NMeFOSAA	*107*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C8 PFOA	*102*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C9 PFNA	*103*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C4 PFHpA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C3 HFPO-DA	*99*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
M2-8:2 FTS	*116*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C3 PFHxS	*110*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C8 PFOS	*106*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C4 PFBA	*96*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C6 PFDA	*110*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
13C7 PFUnA	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
d3-NMePFOSA	*74*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*
d5-NEtFOSAA	*103*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:27*	*1*

Client Sample ID: GSRY-SB4181-000.5-20220927

Date Collected: 09/27/22 11:30
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-7

Matrix: Solid
Percent Solids: 93.9

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00043	U	0.0021	0.00043	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorobutanoic acid	0.00064	U	0.0021	0.00064	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorodecanesulfonic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorodecanoic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorododecanoic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluoroheptanesulfonic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluoroheptanoic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorohexanesulfonic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorohexanoic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorononanesulfonic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorononanoic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorooctanesulfonamide	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorooctanesulfonic acid	**0.00026**	**I**	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorooctanoic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluoropentanesulfonic acid	0.00021	U	0.0032	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluoropentanoic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorotetradecanoic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluorotridecanoic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Perfluoroundecanoic acid	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
9Cl-PF3ONS	0.00021	U	0.0021	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
11Cl-PF3OUdS	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
8:2 Fluorotelomer sulfonic acid	0.00064	U	0.0032	0.00064	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
4:2 Fluorotelomer sulfonic acid	0.00064	U	0.0021	0.00064	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
6:2 Fluorotelomer sulfonic acid	0.00064	U	0.0021	0.00064	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
DONA	0.00021	U	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
NEtFOSAA	0.00021	U	0.0021	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
NMeFOSAA	0.00021	U	0.0021	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
HFPODA	0.00043	U	0.0032	0.00043	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
NMeFOSA	0.00053	U	0.0021	0.00053	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1
Total PFOA and PFOS	**0.00026**	**I**	0.00064	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 05:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*103*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C5 PFHxA	*87*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C3 PFBS	*91*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C8 FOSA	*93*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
M2-6:2 FTS	*89*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
M2-4:2 FTS	*113*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C5 PFPeA	*83*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C2 PFTeDA	*98*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
d3-NMeFOSAA	*76*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C8 PFOA	*85*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C9 PFNA	*92*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C4 PFHpA	*84*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C3 HFPO-DA	*80*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
M2-8:2 FTS	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C3 PFHxS	*101*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C8 PFOS	*103*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C4 PFBA	*78*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
13C6 PFDA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*

Client Sample ID: GSRY-SB4181-000.5-20220927

Lab Sample ID: 670-6496-7
Date Collected: 09/27/22 11:30
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 93.9

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C7 PFUnA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
d3-NMePFOSA	*60*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*
d5-NEtFOSAA	*87*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:38*	*1*

Client Sample ID: GSRY-SB4181-002.0-20220927

Lab Sample ID: 670-6496-8
Date Collected: 09/27/22 11:35
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 78.0

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00050	U	0.0025	0.00050	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorobutanoic acid	0.00075	U	0.0025	0.00075	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorodecanesulfonic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorodecanoic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorododecanoic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluoroheptanesulfonic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluoroheptanoic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorohexanesulfonic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorohexanoic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorononanesulfonic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorononanoic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorooctanesulfonamide	**0.00068**	**I**	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorooctanesulfonic acid	**0.0030**		0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorooctanoic acid	**0.00051**	**I**	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluoropentanesulfonic acid	0.00025	U	0.0038	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluoropentanoic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorotetradecanoic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluorotridecanoic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Perfluoroundecanoic acid	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
9Cl-PF3ONS	0.00025	U	0.0025	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
11Cl-PF3OUdS	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
8:2 Fluorotelomer sulfonic acid	0.00075	U	0.0038	0.00075	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
4:2 Fluorotelomer sulfonic acid	0.00075	U	0.0025	0.00075	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
6:2 Fluorotelomer sulfonic acid	0.00075	U	0.0025	0.00075	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
DONA	0.00025	U	0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
NEtFOSAA	**0.00073**	**I**	0.0025	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
NMeFOSAA	**0.0011**	**I**	0.0025	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
HFPODA	0.00050	U	0.0038	0.00050	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
NMeFOSA	0.00063	U	0.0025	0.00063	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1
Total PFOA and PFOS	**0.0035**		0.00075	0.00025	mg/Kg	☼	10/06/22 16:59	10/09/22 05:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*114*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C5 PFHxA	*105*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C3 PFBS	*98*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C8 FOSA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
M2-6:2 FTS	*101*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
M2-4:2 FTS	*115*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C5 PFPeA	*98*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C2 PFTeDA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
d3-NMeFOSAA	*98*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*

Client Sample ID: GSRY-SB4181-002.0-20220927

Lab Sample ID: 670-6496-8
Date Collected: 09/27/22 11:35
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 78.0

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOA	*100*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C9 PFNA	*107*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C4 PFHpA	*101*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C3 HFPO-DA	*102*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
M2-8:2 FTS	*113*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C3 PFHxS	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C8 PFOS	*110*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C4 PFBA	*97*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C6 PFDA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
13C7 PFUnA	*113*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
d3-NMePFOSA	*75*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*
d5-NEtFOSAA	*105*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:49*	*1*

Client Sample ID: GSRY-SB4182-000.5-20220927

Lab Sample ID: 670-6496-9
Date Collected: 09/27/22 12:55
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 72.4

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00052	U	0.0026	0.00052	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorobutanoic acid	0.00077	U	0.0026	0.00077	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorodecanesulfonic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorodecanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorododecanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluoroheptanesulfonic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluoroheptanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorohexanesulfonic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorohexanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorononanesulfonic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorononanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorooctanesulfonamide	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorooctanesulfonic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorooctanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluoropentanesulfonic acid	0.00026	U	0.0039	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluoropentanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorotetradecanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluorotridecanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Perfluoroundecanoic acid	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
9Cl-PF3ONS	0.00026	U	0.0026	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
11Cl-PF3OUdS	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
8:2 Fluorotelomer sulfonic acid	0.00077	U	0.0039	0.00077	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
4:2 Fluorotelomer sulfonic acid	0.00077	U	0.0026	0.00077	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
6:2 Fluorotelomer sulfonic acid	0.00077	U	0.0026	0.00077	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
DONA	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
NEtFOSAA	0.00026	U	0.0026	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
NMeFOSAA	0.00026	U	0.0026	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
HFPODA	0.00052	U	0.0039	0.00052	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
NMeFOSA	0.00065	U	0.0026	0.00065	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1
Total PFOA and PFOS	0.00026	U	0.00077	0.00026	mg/Kg	☼	10/06/22 16:59	10/09/22 05:59	1

Client Sample ID: GSRY-SB4182-000.5-20220927

Lab Sample ID: 670-6496-9

Date Collected: 09/27/22 12:55
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 72.4

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*105*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C5 PFHxA	*99*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C3 PFBS	*93*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C8 FOSA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
M2-6:2 FTS	*90*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
M2-4:2 FTS	*115*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C5 PFPeA	*93*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C2 PFTeDA	*99*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
d3-NMeFOSAA	*93*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C8 PFOA	*95*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C9 PFNA	*99*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C4 PFHpA	*96*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C3 HFPO-DA	*96*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
M2-8:2 FTS	*107*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C3 PFHxS	*102*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C8 PFOS	*103*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C4 PFBA	*89*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C6 PFDA	*101*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
13C7 PFUnA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
d3-NMePFOSA	*70*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*
d5-NEtFOSAA	*95*		*50 - 150*	*10/06/22 16:59*	*10/09/22 05:59*	*1*

Client Sample ID: GSRY-SB4182-002.0-20220927

Lab Sample ID: 670-6496-10

Date Collected: 09/27/22 13:00
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 83.7

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00046	U	0.0023	0.00046	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorobutanoic acid	0.00070	U	0.0023	0.00070	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorodecanesulfonic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorodecanoic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorododecanoic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluoroheptanesulfonic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluoroheptanoic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorohexanesulfonic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorohexanoic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorononanesulfonic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorononanoic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorooctanesulfonamide	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorooctanesulfonic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorooctanoic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluoropentanesulfonic acid	0.00023	U	0.0035	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluoropentanoic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorotetradecanoic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluorotridecanoic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Perfluoroundecanoic acid	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
9Cl-PF3ONS	0.00023	U	0.0023	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
11Cl-PF3OUdS	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
8:2 Fluorotelomer sulfonic acid	0.00070	U	0.0035	0.00070	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
4:2 Fluorotelomer sulfonic acid	0.00070	U	0.0023	0.00070	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1

Client Sample ID: GSRY-SB4182-002.0-20220927

Lab Sample ID: 670-6496-10
Date Collected: 09/27/22 13:00
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 83.7

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
6:2 Fluorotelomer sulfonic acid	0.00070	U	0.0023	0.00070	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
DONA	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
NEtFOSAA	0.00023	U	0.0023	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
NMeFOSAA	0.00023	U	0.0023	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
HFPODA	0.00046	U	0.0035	0.00046	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
NMeFOSA	0.00058	U	0.0023	0.00058	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1
Total PFOA and PFOS	0.00023	U	0.00070	0.00023	mg/Kg	☼	10/06/22 16:59	10/09/22 06:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C5 PFHxA	*106*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C3 PFBS	*103*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C8 FOSA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
M2-6:2 FTS	*98*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
M2-4:2 FTS	*116*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C5 PFPeA	*99*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C2 PFTeDA	*105*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
d3-NMeFOSAA	*84*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C8 PFOA	*98*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C9 PFNA	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C4 PFHpA	*97*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C3 HFPO-DA	*93*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
M2-8:2 FTS	*114*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C3 PFHxS	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C8 PFOS	*107*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C4 PFBA	*95*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C6 PFDA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
13C7 PFUnA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
d3-NMePFOSA	*74*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*
d5-NEtFOSAA	*87*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:10*	*1*

Client Sample ID: GSRY-FD-20220927

Lab Sample ID: 670-6496-11
Date Collected: 09/27/22 11:38
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 89.4

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00041	U	0.0021	0.00041	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorobutanoic acid	0.00062	U	0.0021	0.00062	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorodecanesulfonic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorodecanoic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorododecanoic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluoroheptanesulfonic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluoroheptanoic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorohexanesulfonic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorohexanoic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorononanesulfonic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorononanoic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorooctanesulfonamide	**0.00062**		0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorooctanesulfonic acid	**0.0037**		0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorooctanoic acid	**0.00060**	**I**	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1

Client Sample ID: GSRY-FD-20220927

Date Collected: 09/27/22 11:38
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-11

Matrix: Solid
Percent Solids: 89.4

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanesulfonic acid	0.00021	U	0.0031	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluoropentanoic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorotetradecanoic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluorotridecanoic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Perfluoroundecanoic acid	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
9Cl-PF3ONS	0.00021	U	0.0021	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
11Cl-PF3OUdS	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
8:2 Fluorotelomer sulfonic acid	0.00062	U	0.0031	0.00062	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
4:2 Fluorotelomer sulfonic acid	0.00062	U	0.0021	0.00062	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
6:2 Fluorotelomer sulfonic acid	0.00062	U	0.0021	0.00062	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
DONA	0.00021	U	0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
NEtFOSAA	**0.00044**	**I**	0.0021	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
NMeFOSAA	**0.0012**	**I**	0.0021	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
HFPODA	0.00041	U	0.0031	0.00041	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
NMeFOSA	0.00051	U	0.0021	0.00051	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1
Total PFOA and PFOS	**0.0043**		0.00062	0.00021	mg/Kg	☼	10/06/22 16:59	10/09/22 06:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*116*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C5 PFHxA	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C3 PFBS	*108*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C8 FOSA	*119*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
M2-6:2 FTS	*107*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
M2-4:2 FTS	*122*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C5 PFPeA	*105*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C2 PFTeDA	*116*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
d3-NMeFOSAA	*74*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C8 PFOA	*107*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C9 PFNA	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C4 PFHpA	*106*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C3 HFPO-DA	*100*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
M2-8:2 FTS	*122*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C3 PFHxS	*114*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C8 PFOS	*116*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C4 PFBA	*102*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C6 PFDA	*120*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
13C7 PFUnA	*126*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
d3-NMePFOSA	*80*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*
d5-NEtFOSAA	*90*		*50 - 150*	*10/06/22 16:59*	*10/09/22 06:20*	*1*

Client Sample ID: GSRY-FB-20220927

Date Collected: 09/27/22 13:10
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-12

Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
6:2 Fluorotelomer sulfonic acid	0.0035	U	0.0071	0.0035	ug/L		10/05/22 08:24	10/06/22 12:14	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		10/05/22 08:24	10/06/22 12:14	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1

Client Sample ID: GSRY-FB-20220927

Date Collected: 09/27/22 13:10
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-12

Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DONA	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
HFPODA	0.00044	U	0.0026	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		10/05/22 08:24	10/06/22 12:14	1
NMeFOSA	0.00088	U	0.0026	0.00088	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorobutanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorobutanoic acid	0.0018	U	0.0044	0.0018	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluoroheptanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorohexanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorohexanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorononanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorooctanesulfonamide	0.00061	U	0.0018	0.00061	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorooctanesulfonic acid	0.00088	U	0.0018	0.00088	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorooctanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluoropentanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluoropentanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1
Total PFOA and PFOS	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:24	10/06/22 12:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*139*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C2-PFDoDA	*127*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C5 PFHxA	*140*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C3 PFBS	*140*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C8 FOSA	*75*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
M2-6:2 FTS	*160*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
M2-4:2 FTS	*168*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
d9-N-EtFOSE-M	*44*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
d5-NEtFOSAA	*110*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C5 PFPeA	*144*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C2 PFTeDA	*104*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C7 PFUnA	*130*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
d3-NMeFOSAA	*128*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C8 PFOA	*152*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C9 PFNA	*151*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
d3-NMePFOSA	*16*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C4 PFHpA	*137*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
d7-N-MeFOSE-M	*47*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C3 HFPO-DA	*156*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
M2-8:2 FTS	*155*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C3 PFHxS	*139*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
13C8 PFOS	*148*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*
d5-NEtPFOSA	*25*		*50 - 150*	*10/05/22 08:24*	*10/06/22 12:14*	*1*

Client Sample ID: GSRY-FB-20220927

Lab Sample ID: 670-6496-12

Date Collected: 09/27/22 13:10
Matrix: Water
Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	146		50 - 150	10/05/22 08:24	10/06/22 12:14	1

Client Sample ID: GSRY-EB-20220927

Lab Sample ID: 670-6496-13

Date Collected: 09/27/22 13:05
Matrix: Water
Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
6:2 Fluorotelomer sulfonic acid	0.0034	U	0.0069	0.0034	ug/L		10/05/22 08:24	10/06/22 12:25	1
8:2 Fluorotelomer sulfonic acid	0.00085	U	0.0026	0.00085	ug/L		10/05/22 08:24	10/06/22 12:25	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
DONA	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
HFPODA	0.00043	U	0.0026	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
NMeFOSAA	0.00051	U	0.0017	0.00051	ug/L		10/05/22 08:24	10/06/22 12:25	1
NMeFOSA	0.00085	U	0.0026	0.00085	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorobutanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorobutanoic acid	0.0017	U	0.0043	0.0017	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluoroheptanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluoroheptanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorohexanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorohexanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorononanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorooctanesulfonamide	0.00060	U	0.0017	0.00060	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorooctanesulfonic acid	0.00085	U	0.0018	0.00085	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorooctanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluoropentanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluoropentanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1
Total PFOA and PFOS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:24	10/06/22 12:25	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	98		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C2-PFDoDA	59		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C5 PFHxA	135		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C3 PFBS	134		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C8 FOSA	66		50 - 150	10/05/22 08:24	10/06/22 12:25	1
M2-6:2 FTS	141		50 - 150	10/05/22 08:24	10/06/22 12:25	1
M2-4:2 FTS	146		50 - 150	10/05/22 08:24	10/06/22 12:25	1
d9-N-EtFOSE-M	27		50 - 150	10/05/22 08:24	10/06/22 12:25	1
d5-NEtFOSAA	69		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C5 PFPeA	134		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C2 PFTeDA	24		50 - 150	10/05/22 08:24	10/06/22 12:25	1

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6496-1
SDG: GSRY PFAS Soil

Client Sample ID: GSRY-EB-20220927
Date Collected: 09/27/22 13:05
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-13
Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C7 PFUnA	83		50 - 150	10/05/22 08:24	10/06/22 12:25	1
d3-NMeFOSAA	82		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C8 PFOA	135		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C9 PFNA	125		50 - 150	10/05/22 08:24	10/06/22 12:25	1
d3-NMePFOSA	9		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C4 PFHpA	128		50 - 150	10/05/22 08:24	10/06/22 12:25	1
d7-N-MeFOSE-M	34		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C3 HFPO-DA	153		50 - 150	10/05/22 08:24	10/06/22 12:25	1
M2-8:2 FTS	113		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C3 PFHxS	126		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C8 PFOS	106		50 - 150	10/05/22 08:24	10/06/22 12:25	1
d5-NEtPFOSA	9		50 - 150	10/05/22 08:24	10/06/22 12:25	1
13C4 PFBA	140		50 - 150	10/05/22 08:24	10/06/22 12:25	1

Isotope Dilution Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6496-1
SDG: GSRY PFAS Soil

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoDA (50-150)	13C5PHA (50-150)	C3PFBS (50-150)	PFOSA (50-150)	M262FTS (50-150)	M242FTS (50-150)	PFPeA (50-150)	PFTDA (50-150)
670-6496-1	GSRY-SB4178-000.5-20220927	113	112	103	116	112	131	105	108
670-6496-2	GSRY-SB4178-002.0-20220927	115	112	104	114	103	121	103	110
670-6496-3	GSRY-SB4179-000.5-20220927	109	104	100	109	100	121	99	104
670-6496-4	GSRY-SB4179-002.0-20220927	111	103	101	113	105	121	98	107
670-6496-4 MS	GSRY-SB4179-002.0-20220927	110	96	100	102	94	121	89	107
670-6496-4 MSD	GSRY-SB4179-002.0-20220927	110	108	106	115	102	125	102	107
670-6496-5	GSRY-SB4180-000.5-20220927	111	100	108	111	106	122	94	111
670-6496-6	GSRY-SB4180-002.0-20220927	104	104	98	106	98	114	98	100
670-6496-7	GSRY-SB4181-000.5-20220927	103	87	91	93	89	113	83	98
670-6496-8	GSRY-SB4181-002.0-20220927	114	105	98	111	101	115	98	104
670-6496-9	GSRY-SB4182-000.5-20220927	105	99	93	104	90	115	93	99
670-6496-10	GSRY-SB4182-002.0-20220927	111	106	103	111	98	116	99	105
670-6496-11	GSRY-FD-20220927	116	112	108	119	107	122	105	116
LCS 410-304059/2-B	Lab Control Sample	114	105	103	109	103	117	100	113
MB 410-304059/1-B	Method Blank	123	116	112	114	117	134	104	119

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	d3NMFOS (50-150)	C8PFOA (50-150)	C9PFNA (50-150)	C4PFHA (50-150)	HFPODA (50-150)	M282FTS (50-150)	C3PFHS (50-150)	C8PFOS (50-150)
670-6496-1	GSRY-SB4178-000.5-20220927	97	108	111	111	98	126	113	118
670-6496-2	GSRY-SB4178-002.0-20220927	113	107	109	108	99	112	111	112
670-6496-3	GSRY-SB4179-000.5-20220927	105	100	104	102	93	112	108	108
670-6496-4	GSRY-SB4179-002.0-20220927	91	102	109	99	96	108	112	112
670-6496-4 MS	GSRY-SB4179-002.0-20220927	91	94	102	92	92	106	109	107
670-6496-4 MSD	GSRY-SB4179-002.0-20220927	93	108	113	103	108	107	112	112
670-6496-5	GSRY-SB4180-000.5-20220927	53	100	104	95	92	115	113	115
670-6496-6	GSRY-SB4180-002.0-20220927	107	102	103	104	99	116	110	106
670-6496-7	GSRY-SB4181-000.5-20220927	76	85	92	84	80	108	101	103
670-6496-8	GSRY-SB4181-002.0-20220927	98	100	107	101	102	113	108	110
670-6496-9	GSRY-SB4182-000.5-20220927	93	95	99	96	96	107	102	103
670-6496-10	GSRY-SB4182-002.0-20220927	84	98	108	97	93	114	104	107
670-6496-11	GSRY-FD-20220927	74	107	112	106	100	122	114	116
LCS 410-304059/2-B	Lab Control Sample	108	103	107	102	98	109	113	112
MB 410-304059/1-B	Method Blank	114	109	116	111	107	123	118	124

Isotope Dilution Summary

Client: AECOM Technical Services Inc. Job ID: 670-6496-1
Project/Site: NASA KSC GSRY PFAS SDG: GSRY PFAS Soil

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (50-150)	C6PFDA (50-150)	13C7PUA (50-150)	d3NMFSA (50-150)	d5NEFOS (50-150)			
670-6496-1	GSRY-SB4178-000.5-20220927	100	120	114	79	99			
670-6496-2	GSRY-SB4178-002.0-20220927	101	115	118	80	112			
670-6496-3	GSRY-SB4179-000.5-20220927	96	107	114	75	106			
670-6496-4	GSRY-SB4179-002.0-20220927	96	110	117	71	95			
670-6496-4 MS	GSRY-SB4179-002.0-20220927	88	110	110	68	88			
670-6496-4 MSD	GSRY-SB4179-002.0-20220927	100	114	114	80	92			
670-6496-5	GSRY-SB4180-000.5-20220927	91	113	115	73	62			
670-6496-6	GSRY-SB4180-002.0-20220927	96	110	108	74	103			
670-6496-7	GSRY-SB4181-000.5-20220927	78	104	104	60	87			
670-6496-8	GSRY-SB4181-002.0-20220927	97	111	113	75	105			
670-6496-9	GSRY-SB4182-000.5-20220927	89	101	104	70	95			
670-6496-10	GSRY-SB4182-002.0-20220927	95	111	111	74	87			
670-6496-11	GSRY-FD-20220927	102	120	126	80	90			
LCS 410-304059/2-B	Lab Control Sample	99	115	114	66	103			
MB 410-304059/1-B	Method Blank	102	120	123	70	110			

Surrogate Legend

PFDoDA = 13C2-PFDoDA
13C5PHA = 13C5 PFHxA
C3PFBS = 13C3 PFBS
PFOSA = 13C8 FOSA
M262FTS = M2-6:2 FTS
M242FTS = M2-4:2 FTS
PFPeA = 13C5 PFPeA
PFTDA = 13C2 PFTeDA
d3NMFOS = d3-NMeFOSAA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C4PFHA = 13C4 PFHpA
HFPODA = 13C3 HFPO-DA
M282FTS = M2-8:2 FTS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFBA = 13C4 PFBA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
d3NMFSA = d3-NMePFOSA
d5NEFOS = d5-NEtFOSAA

Isotope Dilution Summary

Client: AECOM Technical Services Inc. Job ID: 670-6496-1
Project/Site: NASA KSC GSRY PFAS SDG: GSRY PFAS Soil

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C6PFDA (50-150)	PFDoDA (50-150)	13C5PHA (50-150)	C3PFBS (50-150)	PFOSA (50-150)	M262FTS (50-150)	M242FTS (50-150)	NEFM (50-150)
670-6496-12	GSRY-FB-20220927	139	127	140	140	75	160	168	44
670-6496-13	GSRY-EB-20220927	98	59	135	134	66	141	146	27
LCS 410-303253/3-A	Lab Control Sample	135	123	142	127	103	137	146	93
LCSD 410-303253/4-A	Lab Control Sample Dup	106	112	118	108	82	112	116	81
MB 410-303253/1-A	Method Blank	136	128	151	133	99	143	150	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	d5NEFOS (50-150)	PFPeA (50-150)	PFTDA (50-150)	13C7PUA (50-150)	d3NMFOS (50-150)	C8PFOA (50-150)	C9PFNA (50-150)	d3NMFSA (50-150)
670-6496-12	GSRY-FB-20220927	110	144	104	130	128	152	151	16
670-6496-13	GSRY-EB-20220927	69	134	24	83	82	135	125	9
LCS 410-303253/3-A	Lab Control Sample	120	139	118	127	124	141	141	36
LCSD 410-303253/4-A	Lab Control Sample Dup	101	108	100	105	98	116	110	44
MB 410-303253/1-A	Method Blank	122	143	126	126	134	142	148	51

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C4PFHA (50-150)	NMFM (50-150)	HFPODA (50-150)	M282FTS (50-150)	C3PFHS (50-150)	C8PFOS (50-150)	d5NPFSA (50-150)	PFBA (50-150)
670-6496-12	GSRY-FB-20220927	137	47	156	155	139	148	25	146
670-6496-13	GSRY-EB-20220927	128	34	153	113	126	106	9	140
LCS 410-303253/3-A	Lab Control Sample	132	97	154	132	133	137	57	141
LCSD 410-303253/4-A	Lab Control Sample Dup	108	83	115	109	108	113	65	109
MB 410-303253/1-A	Method Blank	139	98	152	152	142	147	76	146

Surrogate Legend

C6PFDA = 13C6 PFDA
PFDoDA = 13C2-PFDoDA
13C5PHA = 13C5 PFHxA
C3PFBS = 13C3 PFBS
PFOSA = 13C8 FOSA
M262FTS = M2-6:2 FTS
M242FTS = M2-4:2 FTS
NEFM = d9-N-EtFOSE-M
d5NEFOS = d5-NEtFOSAA
PFPeA = 13C5 PFPeA
PFTDA = 13C2 PFTeDA
13C7PUA = 13C7 PFUnA
d3NMFOS = d3-NMeFOSAA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
d3NMFSA = d3-NMePFOSA
C4PFHA = 13C4 PFHpA
NMFM = d7-N-MeFOSE-M
HFPODA = 13C3 HFPO-DA
M282FTS = M2-8:2 FTS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
d5NPFSA = d5-NEtPFOSA
PFBA = 13C4 PFBA

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Lab Sample ID: MB 410-303253/1-A
Matrix: Water
Analysis Batch: 303512

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 303253

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorohexanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		10/05/22 08:24	10/06/22 07:48	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		10/05/22 08:24	10/06/22 07:48	1
6:2 Fluorotelomer sulfonic acid	0.0040	U	0.0081	0.0040	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
DONA	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
HFPODA	0.00050	U	0.0030	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		10/05/22 08:24	10/06/22 07:48	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1
Total PFOA and PFOS	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:24	10/06/22 07:48	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*128*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
13C5 PFHxA	*151*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
13C3 PFBS	*133*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
13C8 FOSA	*99*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
M2-6:2 FTS	*143*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
M2-4:2 FTS	*150*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
d9-N-EtFOSE-M	*101*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
13C5 PFPeA	*143*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
13C2 PFTeDA	*126*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
d3-NMeFOSAA	*134*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
13C8 PFOA	*142*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
13C9 PFNA	*148*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
13C4 PFHpA	*139*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
d7-N-MeFOSE-M	*98*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
13C3 HFPO-DA	*152*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*
M2-8:2 FTS	*152*		*50 - 150*	*10/05/22 08:24*	*10/06/22 07:48*	*1*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-303253/1-A
Matrix: Water
Analysis Batch: 303512

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 303253

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	142		50 - 150	10/05/22 08:24	10/06/22 07:48	1
13C8 PFOS	147		50 - 150	10/05/22 08:24	10/06/22 07:48	1
d5-NEtPFOSA	76		50 - 150	10/05/22 08:24	10/06/22 07:48	1
13C4 PFBA	146		50 - 150	10/05/22 08:24	10/06/22 07:48	1
13C6 PFDA	136		50 - 150	10/05/22 08:24	10/06/22 07:48	1
13C7 PFUnA	126		50 - 150	10/05/22 08:24	10/06/22 07:48	1
d3-NMePFOSA	51		50 - 150	10/05/22 08:24	10/06/22 07:48	1
d5-NEtFOSAA	122		50 - 150	10/05/22 08:24	10/06/22 07:48	1

Lab Sample ID: LCS 410-303253/3-A
Matrix: Water
Analysis Batch: 303512

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 303253

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanesulfonic acid	0.0227	0.0198		ug/L		87	72 - 130
Perfluorobutanoic acid	0.0256	0.0212		ug/L		83	73 - 129
Perfluorodecanesulfonic acid	0.0247	0.0198		ug/L		80	53 - 142
Perfluorodecanoic acid	0.0256	0.0208		ug/L		81	71 - 129
Perfluorododecanoic acid	0.0256	0.0217		ug/L		85	72 - 134
Perfluoroheptanesulfonic acid	0.0244	0.0211		ug/L		87	69 - 134
Perfluoroheptanoic acid	0.0256	0.0212		ug/L		83	72 - 130
Perfluorohexanesulfonic acid	0.0233	0.0193		ug/L		83	68 - 131
Perfluorohexanoic acid	0.0256	0.0219		ug/L		85	72 - 129
9Cl-PF3ONS	0.0238	0.0204		ug/L		86	70 - 130
Perfluorononanesulfonic acid	0.0246	0.0190		ug/L		77	69 - 127
11Cl-PF3OUdS	0.0238	0.0192		ug/L		81	70 - 130
Perfluorononanoic acid	0.0256	0.0221		ug/L		86	69 - 130
8:2 Fluorotelomer sulfonic acid	0.0245	0.0218		ug/L		89	67 - 138
Perfluorooctanesulfonamide	0.0256	0.0240		ug/L		94	67 - 137
4:2 Fluorotelomer sulfonic acid	0.0239	0.0202		ug/L		85	63 - 143
Perfluorooctanesulfonic acid	0.0237	0.0201		ug/L		85	65 - 140
6:2 Fluorotelomer sulfonic acid	0.0243	0.0210		ug/L		87	64 - 140
Perfluorooctanoic acid	0.0256	0.0220		ug/L		86	71 - 133
DONA	0.0242	0.0208		ug/L		86	70 - 130
Perfluoropentanesulfonic acid	0.0240	0.0222		ug/L		93	71 - 127
NEtFOSAA	0.0256	0.0228		ug/L		89	61 - 135
Perfluoropentanoic acid	0.0256	0.0212		ug/L		83	72 - 129
NMeFOSAA	0.0256	0.0237		ug/L		93	65 - 136
Perfluorotetradecanoic acid	0.0256	0.0223		ug/L		87	71 - 132
HFPODA	0.0256	0.0201		ug/L		79	70 - 130
Perfluorotridecanoic acid	0.0256	0.0237		ug/L		93	65 - 144
NMeFOSA	0.0256	0.0347		ug/L		136	68 - 141
Perfluoroundecanoic acid	0.0256	0.0229		ug/L		89	69 - 133
Total PFOA and PFOS	0.0493	0.0421		ug/L		85	65 - 140

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C2-PFDoDA	123		50 - 150
13C5 PFHxA	142		50 - 150
13C3 PFBS	127		50 - 150

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-303253/3-A
Matrix: Water
Analysis Batch: 303512

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 303253

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C8 FOSA	103		50 - 150
M2-6:2 FTS	137		50 - 150
M2-4:2 FTS	146		50 - 150
d9-N-EtFOSE-M	93		50 - 150
13C5 PFPeA	139		50 - 150
13C2 PFTeDA	118		50 - 150
d3-NMeFOSAA	124		50 - 150
13C8 PFOA	141		50 - 150
13C9 PFNA	141		50 - 150
13C4 PFHpA	132		50 - 150
d7-N-MeFOSE-M	97		50 - 150
13C3 HFPO-DA	154		50 - 150
M2-8:2 FTS	132		50 - 150
13C3 PFHxS	133		50 - 150
13C8 PFOS	137		50 - 150
d5-NEtPFOSA	57		50 - 150
13C4 PFBA	141		50 - 150
13C6 PFDA	135		50 - 150
13C7 PFUnA	127		50 - 150
d3-NMePFOSA	36		50 - 150
d5-NEtFOSAA	120		50 - 150

Lab Sample ID: LCSD 410-303253/4-A
Matrix: Water
Analysis Batch: 303512

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 303253

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanesulfonic acid	0.0227	0.0193		ug/L		85	72 - 130	2	30
Perfluorobutanoic acid	0.0256	0.0224		ug/L		88	73 - 129	6	30
Perfluorodecanesulfonic acid	0.0247	0.0202		ug/L		82	53 - 142	2	30
Perfluorodecanoic acid	0.0256	0.0234		ug/L		91	71 - 129	12	30
Perfluorododecanoic acid	0.0256	0.0206		ug/L		81	72 - 134	5	30
Perfluoroheptanesulfonic acid	0.0244	0.0215		ug/L		88	69 - 134	2	30
Perfluoroheptanoic acid	0.0256	0.0209		ug/L		82	72 - 130	1	30
Perfluorohexanesulfonic acid	0.0233	0.0195		ug/L		84	68 - 131	1	30
Perfluorohexanoic acid	0.0256	0.0203		ug/L		79	72 - 129	8	30
9Cl-PF3ONS	0.0238	0.0193		ug/L		81	70 - 130	5	30
Perfluorononanesulfonic acid	0.0246	0.0195		ug/L		79	69 - 127	2	30
11Cl-PF3OUdS	0.0238	0.0197		ug/L		83	70 - 130	3	30
Perfluorononanoic acid	0.0256	0.0230		ug/L		90	69 - 130	4	30
8:2 Fluorotelomer sulfonic acid	0.0245	0.0251		ug/L		102	67 - 138	14	30
Perfluorooctanesulfonamide	0.0256	0.0247		ug/L		97	67 - 137	3	30
4:2 Fluorotelomer sulfonic acid	0.0239	0.0212		ug/L		89	63 - 143	5	30
Perfluorooctanesulfonic acid	0.0237	0.0210		ug/L		89	65 - 140	4	30
6:2 Fluorotelomer sulfonic acid	0.0243	0.0202		ug/L		83	64 - 140	4	30
Perfluorooctanoic acid	0.0256	0.0213		ug/L		83	71 - 133	4	30
DONA	0.0242	0.0204		ug/L		84	70 - 130	2	30
Perfluoropentanesulfonic acid	0.0240	0.0213		ug/L		89	71 - 127	4	30
NEtFOSAA	0.0256	0.0220		ug/L		86	61 - 135	3	30

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCSD 410-303253/4-A
Matrix: Water
Analysis Batch: 303512

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 303253

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid			0.0256	0.0220		ug/L		86	72 - 129	3	30
NMeFOSAA			0.0256	0.0249		ug/L		97	65 - 136	5	30
Perfluorotetradecanoic acid			0.0256	0.0228		ug/L		89	71 - 132	2	30
HFPODA			0.0256	0.0207		ug/L		81	70 - 130	3	30
Perfluorotridecanoic acid			0.0256	0.0197		ug/L		77	65 - 144	18	30
NMeFOSA			0.0256	0.0352		ug/L		137	68 - 141	1	30
Perfluoroundecanoic acid			0.0256	0.0218		ug/L		85	69 - 133	5	30
Total PFOA and PFOS			0.0493	0.0423		ug/L		86	65 - 140	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2-PFDoDA	*112*		*50 - 150*
13C5 PFHxA	*118*		*50 - 150*
13C3 PFBS	*108*		*50 - 150*
13C8 FOSA	*82*		*50 - 150*
M2-6:2 FTS	*112*		*50 - 150*
M2-4:2 FTS	*116*		*50 - 150*
d9-N-EtFOSE-M	*81*		*50 - 150*
13C5 PFPeA	*108*		*50 - 150*
13C2 PFTeDA	*100*		*50 - 150*
d3-NMeFOSAA	*98*		*50 - 150*
13C8 PFOA	*116*		*50 - 150*
13C9 PFNA	*110*		*50 - 150*
13C4 PFHpA	*108*		*50 - 150*
d7-N-MeFOSE-M	*83*		*50 - 150*
13C3 HFPO-DA	*115*		*50 - 150*
M2-8:2 FTS	*109*		*50 - 150*
13C3 PFHxS	*108*		*50 - 150*
13C8 PFOS	*113*		*50 - 150*
d5-NEtPFOSA	*65*		*50 - 150*
13C4 PFBA	*109*		*50 - 150*
13C6 PFDA	*106*		*50 - 150*
13C7 PFUnA	*105*		*50 - 150*
d3-NMePFOSA	*44*		*50 - 150*
d5-NEtFOSAA	*101*		*50 - 150*

Lab Sample ID: MB 410-304059/1-B
Matrix: Solid
Analysis Batch: 304485

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 304059

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00040	U	0.0020	0.00040	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorobutanoic acid	0.00060	U	0.0020	0.00060	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorodecanesulfonic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorodecanoic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorododecanoic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluoroheptanesulfonic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluoroheptanoic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorohexanesulfonic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorohexanoic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-304059/1-B
Matrix: Solid
Analysis Batch: 304485

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 304059

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00020	U	0.0020	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorononanesulfonic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
11Cl-PF3OUdS	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorononanoic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
8:2 Fluorotelomer sulfonic acid	0.00060	U	0.0030	0.00060	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorooctanesulfonamide	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
4:2 Fluorotelomer sulfonic acid	0.00060	U	0.0020	0.00060	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorooctanesulfonic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
6:2 Fluorotelomer sulfonic acid	0.00060	U	0.0020	0.00060	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorooctanoic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
DONA	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluoropentanesulfonic acid	0.00020	U	0.0030	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
NEtFOSAA	0.00020	U	0.0020	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluoropentanoic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
NMeFOSAA	0.00020	U	0.0020	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorotetradecanoic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
HFPODA	0.00040	U	0.0030	0.00040	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluorotridecanoic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
NMeFOSA	0.00050	U	0.0020	0.00050	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Perfluoroundecanoic acid	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1
Total PFOA and PFOS	0.00020	U	0.00060	0.00020	mg/Kg		10/06/22 16:59	10/09/22 03:41	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*123*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C5 PFHxA	*116*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C3 PFBS	*112*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C8 FOSA	*114*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
M2-6:2 FTS	*117*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
M2-4:2 FTS	*134*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C5 PFPeA	*104*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C2 PFTeDA	*119*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
d3-NMeFOSAA	*114*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C8 PFOA	*109*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C9 PFNA	*116*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C4 PFHpA	*111*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C3 HFPO-DA	*107*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
M2-8:2 FTS	*123*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C3 PFHxS	*118*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C8 PFOS	*124*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C4 PFBA	*102*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C6 PFDA	*120*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
13C7 PFUnA	*123*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
d3-NMePFOSA	*70*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*
d5-NEtFOSAA	*110*		*50 - 150*	*10/06/22 16:59*	*10/09/22 03:41*	*1*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-304059/2-B
Matrix: Solid
Analysis Batch: 304485

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 304059

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanesulfonic acid	0.0221	0.0202		mg/Kg		91	72 - 128
Perfluorobutanoic acid	0.0250	0.0218		mg/Kg		87	71 - 135
Perfluorodecanesulfonic acid	0.0241	0.0206		mg/Kg		85	59 - 134
Perfluorodecanoic acid	0.0250	0.0215		mg/Kg		86	69 - 133
Perfluorododecanoic acid	0.0250	0.0220		mg/Kg		88	69 - 135
Perfluoroheptanesulfonic acid	0.0238	0.0211		mg/Kg		89	70 - 132
Perfluoroheptanoic acid	0.0250	0.0223		mg/Kg		89	71 - 131
Perfluorohexanesulfonic acid	0.0228	0.0184		mg/Kg		81	67 - 130
Perfluorohexanoic acid	0.0250	0.0221		mg/Kg		88	70 - 132
9Cl-PF3ONS	0.0233	0.0221		mg/Kg		95	70 - 130
Perfluorononanesulfonic acid	0.0240	0.0204		mg/Kg		85	69 - 125
11Cl-PF3OUdS	0.0233	0.0214		mg/Kg		92	70 - 130
Perfluorononanoic acid	0.0250	0.0216		mg/Kg		86	72 - 129
8:2 Fluorotelomer sulfonic acid	0.0240	0.0229		mg/Kg		96	65 - 137
Perfluorooctanesulfonamide	0.0250	0.0256		mg/Kg		102	67 - 137
4:2 Fluorotelomer sulfonic acid	0.0234	0.0205		mg/Kg		88	62 - 145
Perfluorooctanesulfonic acid	0.0231	0.0195		mg/Kg		84	68 - 136
6:2 Fluorotelomer sulfonic acid	0.0237	0.0208		mg/Kg		88	64 - 140
Perfluorooctanoic acid	0.0250	0.0211		mg/Kg		85	69 - 133
DONA	0.0236	0.0220		mg/Kg		93	70 - 130
Perfluoropentanesulfonic acid	0.0235	0.0214		mg/Kg		91	73 - 123
NEtFOSAA	0.0250	0.0229		mg/Kg		92	61 - 139
Perfluoropentanoic acid	0.0250	0.0231		mg/Kg		92	69 - 132
NMeFOSAA	0.0250	0.0221		mg/Kg		88	63 - 144
Perfluorotetradecanoic acid	0.0250	0.0221		mg/Kg		89	69 - 133
HFPODA	0.0250	0.0214		mg/Kg		86	70 - 130
Perfluorotridecanoic acid	0.0250	0.0216		mg/Kg		86	66 - 139
NMeFOSA	0.0250	0.0313		mg/Kg		125	70 - 130
Perfluoroundecanoic acid	0.0250	0.0217		mg/Kg		87	64 - 136
Total PFOA and PFOS	0.0481	0.0406		mg/Kg		84	68 - 136

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2-PFDoDA	*114*		*50 - 150*
13C5 PFHxA	*105*		*50 - 150*
13C3 PFBS	*103*		*50 - 150*
13C8 FOSA	*109*		*50 - 150*
M2-6:2 FTS	*103*		*50 - 150*
M2-4:2 FTS	*117*		*50 - 150*
13C5 PFPeA	*100*		*50 - 150*
13C2 PFTeDA	*113*		*50 - 150*
d3-NMeFOSAA	*108*		*50 - 150*
13C8 PFOA	*103*		*50 - 150*
13C9 PFNA	*107*		*50 - 150*
13C4 PFHpA	*102*		*50 - 150*
13C3 HFPO-DA	*98*		*50 - 150*
M2-8:2 FTS	*109*		*50 - 150*
13C3 PFHxS	*113*		*50 - 150*
13C8 PFOS	*112*		*50 - 150*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-304059/2-B
Matrix: Solid
Analysis Batch: 304485

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 304059

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	99		50 - 150
13C6 PFDA	115		50 - 150
13C7 PFUnA	114		50 - 150
d3-NMePFOSA	66		50 - 150
d5-NEtFOSAA	103		50 - 150

Lab Sample ID: 670-6496-4 MS
Matrix: Solid
Analysis Batch: 304485

Client Sample ID: GSRY-SB4179-002.0-20220927
Prep Type: Total/NA
Prep Batch: 304059

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanesulfonic acid	0.00048	U	0.0268	0.0252		mg/Kg	☼	94	72 - 128
Perfluorobutanoic acid	0.00073	U	0.0303	0.0265		mg/Kg	☼	87	71 - 135
Perfluorodecanesulfonic acid	0.00024	U	0.0292	0.0247		mg/Kg	☼	84	59 - 134
Perfluorodecanoic acid	0.00024	U	0.0303	0.0251		mg/Kg	☼	83	69 - 133
Perfluorododecanoic acid	0.00024	U	0.0303	0.0264		mg/Kg	☼	87	69 - 135
Perfluoroheptanesulfonic acid	0.00024	U	0.0288	0.0245		mg/Kg	☼	85	70 - 132
Perfluoroheptanoic acid	0.00024	U	0.0303	0.0266		mg/Kg	☼	88	71 - 131
Perfluorohexanesulfonic acid	0.00024	U	0.0276	0.0221		mg/Kg	☼	80	67 - 130
Perfluorohexanoic acid	0.00024	U	0.0303	0.0261		mg/Kg	☼	86	70 - 132
9Cl-PF3ONS	0.00024	U	0.0282	0.0262		mg/Kg	☼	93	70 - 130
Perfluorononanesulfonic acid	0.00024	U	0.0291	0.0239		mg/Kg	☼	82	69 - 125
11Cl-PF3OUdS	0.00024	U	0.0282	0.0256		mg/Kg	☼	91	70 - 130
Perfluorononanoic acid	0.00024	U	0.0303	0.0258		mg/Kg	☼	85	72 - 129
8:2 Fluorotelomer sulfonic acid	0.00073	U	0.0290	0.0275		mg/Kg	☼	95	65 - 137
Perfluorooctanesulfonamide	0.00024	U	0.0303	0.0289		mg/Kg	☼	95	67 - 137
4:2 Fluorotelomer sulfonic acid	0.00073	U	0.0283	0.0227		mg/Kg	☼	80	62 - 145
Perfluorooctanesulfonic acid	0.00024	U	0.0280	0.0227		mg/Kg	☼	81	68 - 136
6:2 Fluorotelomer sulfonic acid	0.00073	U	0.0287	0.0265		mg/Kg	☼	92	64 - 140
Perfluorooctanoic acid	0.00024	U	0.0303	0.0249		mg/Kg	☼	82	69 - 133
DONA	0.00024	U	0.0286	0.0264		mg/Kg	☼	92	70 - 130
Perfluoropentanesulfonic acid	0.00024	U	0.0284	0.0259		mg/Kg	☼	91	73 - 123
NEtFOSAA	0.00024	U	0.0303	0.0273		mg/Kg	☼	90	61 - 139
Perfluoropentanoic acid	0.00024	U	0.0303	0.0259		mg/Kg	☼	85	69 - 132
NMeFOSAA	0.00024	U	0.0303	0.0271		mg/Kg	☼	89	63 - 144
Perfluorotetradecanoic acid	0.00024	U	0.0303	0.0268		mg/Kg	☼	89	69 - 133
HFPODA	0.00048	U	0.0303	0.0250		mg/Kg	☼	82	70 - 130
Perfluorotridecanoic acid	0.00024	U	0.0303	0.0264		mg/Kg	☼	87	66 - 139
NMeFOSA	0.00061	U	0.0303	0.0369		mg/Kg	☼	122	70 - 130
Perfluoroundecanoic acid	0.00024	U	0.0303	0.0254		mg/Kg	☼	84	64 - 136
Total PFOA and PFOS	0.00024	U	0.0583	0.0476		mg/Kg	☼	82	68 - 136

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C2-PFDoDA	110		50 - 150
13C5 PFHxA	96		50 - 150
13C3 PFBS	100		50 - 150
13C8 FOSA	102		50 - 150
M2-6:2 FTS	94		50 - 150
M2-4:2 FTS	121		50 - 150

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: 670-6496-4 MS
Matrix: Solid
Analysis Batch: 304485

Client Sample ID: GSRY-SB4179-002.0-20220927
Prep Type: Total/NA
Prep Batch: 304059

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C5 PFPeA	89		50 - 150
13C2 PFTeDA	107		50 - 150
d3-NMeFOSAA	91		50 - 150
13C8 PFOA	94		50 - 150
13C9 PFNA	102		50 - 150
13C4 PFHpA	92		50 - 150
13C3 HFPO-DA	92		50 - 150
M2-8:2 FTS	106		50 - 150
13C3 PFHxS	109		50 - 150
13C8 PFOS	107		50 - 150
13C4 PFBA	88		50 - 150
13C6 PFDA	110		50 - 150
13C7 PFUnA	110		50 - 150
d3-NMePFOSA	68		50 - 150
d5-NEtFOSAA	88		50 - 150

Lab Sample ID: 670-6496-4 MSD
Matrix: Solid
Analysis Batch: 304485

Client Sample ID: GSRY-SB4179-002.0-20220927
Prep Type: Total/NA
Prep Batch: 304059

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanesulfonic acid	0.00048	U	0.0258	0.0241		mg/Kg	☼	93	72 - 128	5	30
Perfluorobutanoic acid	0.00073	U	0.0291	0.0250		mg/Kg	☼	86	71 - 135	6	30
Perfluorodecanesulfonic acid	0.00024	U	0.0281	0.0240		mg/Kg	☼	85	59 - 134	3	30
Perfluorodecanoic acid	0.00024	U	0.0291	0.0247		mg/Kg	☼	85	69 - 133	2	30
Perfluorododecanoic acid	0.00024	U	0.0291	0.0256		mg/Kg	☼	88	69 - 135	3	30
Perfluoroheptanesulfonic acid	0.00024	U	0.0277	0.0247		mg/Kg	☼	89	70 - 132	1	30
Perfluoroheptanoic acid	0.00024	U	0.0291	0.0243		mg/Kg	☼	83	71 - 131	9	30
Perfluorohexanesulfonic acid	0.00024	U	0.0266	0.0213		mg/Kg	☼	80	67 - 130	4	30
Perfluorohexanoic acid	0.00024	U	0.0291	0.0258		mg/Kg	☼	88	70 - 132	1	30
9Cl-PF3ONS	0.00024	U	0.0271	0.0249		mg/Kg	☼	92	70 - 130	5	30
Perfluorononanesulfonic acid	0.00024	U	0.0280	0.0231		mg/Kg	☼	83	69 - 125	3	30
11Cl-PF3OUdS	0.00024	U	0.0271	0.0237		mg/Kg	☼	88	70 - 130	8	30
Perfluorononanoic acid	0.00024	U	0.0291	0.0247		mg/Kg	☼	85	72 - 129	4	30
8:2 Fluorotelomer sulfonic acid	0.00073	U	0.0279	0.0268		mg/Kg	☼	96	65 - 137	2	30
Perfluorooctanesulfonamide	0.00024	U	0.0291	0.0278		mg/Kg	☼	96	67 - 137	4	30
4:2 Fluorotelomer sulfonic acid	0.00073	U	0.0272	0.0213		mg/Kg	☼	78	62 - 145	7	30
Perfluorooctanesulfonic acid	0.00024	U	0.0270	0.0227		mg/Kg	☼	84	68 - 136	0	30
6:2 Fluorotelomer sulfonic acid	0.00073	U	0.0276	0.0248		mg/Kg	☼	90	64 - 140	6	30
Perfluorooctanoic acid	0.00024	U	0.0291	0.0232		mg/Kg	☼	80	69 - 133	7	30
DONA	0.00024	U	0.0275	0.0251		mg/Kg	☼	91	70 - 130	5	30
Perfluoropentanesulfonic acid	0.00024	U	0.0273	0.0243		mg/Kg	☼	89	73 - 123	6	30
NEtFOSAA	0.00024	U	0.0291	0.0251		mg/Kg	☼	86	61 - 139	8	30
Perfluoropentanoic acid	0.00024	U	0.0291	0.0255		mg/Kg	☼	88	69 - 132	1	30
NMeFOSAA	0.00024	U	0.0291	0.0262		mg/Kg	☼	90	63 - 144	3	30
Perfluorotetradecanoic acid	0.00024	U	0.0291	0.0267		mg/Kg	☼	92	69 - 133	0	30
HFPODA	0.00048	U	0.0291	0.0241		mg/Kg	☼	83	70 - 130	4	30
Perfluorotridecanoic acid	0.00024	U	0.0291	0.0263		mg/Kg	☼	90	66 - 139	0	30
NMeFOSA	0.00061	U	0.0291	0.0325		mg/Kg	☼	112	70 - 130	13	30

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: 670-6496-4 MSD
Matrix: Solid
Analysis Batch: 304485

Client Sample ID: GSRY-SB4179-002.0-20220927
Prep Type: Total/NA
Prep Batch: 304059

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroundecanoic acid	0.00024	U	0.0291	0.0249		mg/Kg	☼	85	64 - 136	2	30
Total PFOA and PFOS	0.00024	U	0.0561	0.0459		mg/Kg	☼	82	68 - 136	4	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2-PFDoDA	*110*		*50 - 150*
13C5 PFHxA	*108*		*50 - 150*
13C3 PFBS	*106*		*50 - 150*
13C8 FOSA	*115*		*50 - 150*
M2-6:2 FTS	*102*		*50 - 150*
M2-4:2 FTS	*125*		*50 - 150*
13C5 PFPeA	*102*		*50 - 150*
13C2 PFTeDA	*107*		*50 - 150*
d3-NMeFOSAA	*93*		*50 - 150*
13C8 PFOA	*108*		*50 - 150*
13C9 PFNA	*113*		*50 - 150*
13C4 PFHpA	*103*		*50 - 150*
13C3 HFPO-DA	*108*		*50 - 150*
M2-8:2 FTS	*107*		*50 - 150*
13C3 PFHxS	*112*		*50 - 150*
13C8 PFOS	*112*		*50 - 150*
13C4 PFBA	*100*		*50 - 150*
13C6 PFDA	*114*		*50 - 150*
13C7 PFUnA	*114*		*50 - 150*
d3-NMePFOSA	*80*		*50 - 150*
d5-NEtFOSAA	*92*		*50 - 150*

LCMS

Prep Batch: 303253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6496-12	GSRY-FB-20220927	Total/NA	Water	537 IDA	
670-6496-13	GSRY-EB-20220927	Total/NA	Water	537 IDA	
MB 410-303253/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-303253/3-A	Lab Control Sample	Total/NA	Water	537 IDA	
LCSD 410-303253/4-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	

Analysis Batch: 303512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6496-12	GSRY-FB-20220927	Total/NA	Water	QSM B15	303253
670-6496-13	GSRY-EB-20220927	Total/NA	Water	QSM B15	303253
MB 410-303253/1-A	Method Blank	Total/NA	Water	QSM B15	303253
LCS 410-303253/3-A	Lab Control Sample	Total/NA	Water	QSM B15	303253
LCSD 410-303253/4-A	Lab Control Sample Dup	Total/NA	Water	QSM B15	303253

Prep Batch: 304059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6496-1	GSRY-SB4178-000.5-20220927	Total/NA	Solid	537 (mod)	
670-6496-2	GSRY-SB4178-002.0-20220927	Total/NA	Solid	537 (mod)	
670-6496-3	GSRY-SB4179-000.5-20220927	Total/NA	Solid	537 (mod)	
670-6496-4	GSRY-SB4179-002.0-20220927	Total/NA	Solid	537 (mod)	
670-6496-5	GSRY-SB4180-000.5-20220927	Total/NA	Solid	537 (mod)	
670-6496-6	GSRY-SB4180-002.0-20220927	Total/NA	Solid	537 (mod)	
670-6496-7	GSRY-SB4181-000.5-20220927	Total/NA	Solid	537 (mod)	
670-6496-8	GSRY-SB4181-002.0-20220927	Total/NA	Solid	537 (mod)	
670-6496-9	GSRY-SB4182-000.5-20220927	Total/NA	Solid	537 (mod)	
670-6496-10	GSRY-SB4182-002.0-20220927	Total/NA	Solid	537 (mod)	
670-6496-11	GSRY-FD-20220927	Total/NA	Solid	537 (mod)	
MB 410-304059/1-B	Method Blank	Total/NA	Solid	537 (mod)	
LCS 410-304059/2-B	Lab Control Sample	Total/NA	Solid	537 (mod)	
670-6496-4 MS	GSRY-SB4179-002.0-20220927	Total/NA	Solid	537 (mod)	
670-6496-4 MSD	GSRY-SB4179-002.0-20220927	Total/NA	Solid	537 (mod)	

Cleanup Batch: 304063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6496-1	GSRY-SB4178-000.5-20220927	Total/NA	Solid	Extract Aliquot	304059
670-6496-2	GSRY-SB4178-002.0-20220927	Total/NA	Solid	Extract Aliquot	304059
670-6496-3	GSRY-SB4179-000.5-20220927	Total/NA	Solid	Extract Aliquot	304059
670-6496-4	GSRY-SB4179-002.0-20220927	Total/NA	Solid	Extract Aliquot	304059
670-6496-5	GSRY-SB4180-000.5-20220927	Total/NA	Solid	Extract Aliquot	304059
670-6496-6	GSRY-SB4180-002.0-20220927	Total/NA	Solid	Extract Aliquot	304059
670-6496-7	GSRY-SB4181-000.5-20220927	Total/NA	Solid	Extract Aliquot	304059
670-6496-8	GSRY-SB4181-002.0-20220927	Total/NA	Solid	Extract Aliquot	304059
670-6496-9	GSRY-SB4182-000.5-20220927	Total/NA	Solid	Extract Aliquot	304059
670-6496-10	GSRY-SB4182-002.0-20220927	Total/NA	Solid	Extract Aliquot	304059
670-6496-11	GSRY-FD-20220927	Total/NA	Solid	Extract Aliquot	304059
MB 410-304059/1-B	Method Blank	Total/NA	Solid	Extract Aliquot	304059
LCS 410-304059/2-B	Lab Control Sample	Total/NA	Solid	Extract Aliquot	304059
670-6496-4 MS	GSRY-SB4179-002.0-20220927	Total/NA	Solid	Extract Aliquot	304059
670-6496-4 MSD	GSRY-SB4179-002.0-20220927	Total/NA	Solid	Extract Aliquot	304059

LCMS

Analysis Batch: 304485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6496-1	GSRY-SB4178-000.5-20220927	Total/NA	Solid	QSM B15	304063
670-6496-2	GSRY-SB4178-002.0-20220927	Total/NA	Solid	QSM B15	304063
670-6496-3	GSRY-SB4179-000.5-20220927	Total/NA	Solid	QSM B15	304063
670-6496-4	GSRY-SB4179-002.0-20220927	Total/NA	Solid	QSM B15	304063
670-6496-5	GSRY-SB4180-000.5-20220927	Total/NA	Solid	QSM B15	304063
670-6496-6	GSRY-SB4180-002.0-20220927	Total/NA	Solid	QSM B15	304063
670-6496-7	GSRY-SB4181-000.5-20220927	Total/NA	Solid	QSM B15	304063
670-6496-8	GSRY-SB4181-002.0-20220927	Total/NA	Solid	QSM B15	304063
670-6496-9	GSRY-SB4182-000.5-20220927	Total/NA	Solid	QSM B15	304063
670-6496-10	GSRY-SB4182-002.0-20220927	Total/NA	Solid	QSM B15	304063
670-6496-11	GSRY-FD-20220927	Total/NA	Solid	QSM B15	304063
MB 410-304059/1-B	Method Blank	Total/NA	Solid	QSM B15	304063
LCS 410-304059/2-B	Lab Control Sample	Total/NA	Solid	QSM B15	304063
670-6496-4 MS	GSRY-SB4179-002.0-20220927	Total/NA	Solid	QSM B15	304063
670-6496-4 MSD	GSRY-SB4179-002.0-20220927	Total/NA	Solid	QSM B15	304063

Prep Batch: 306237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6496-5 - RE	GSRY-SB4180-000.5-20220927	Total/NA	Solid	537 (mod)	
MB 410-306237/1-B	Method Blank	Total/NA	Solid	537 (mod)	
LCS 410-306237/2-B	Lab Control Sample	Total/NA	Solid	537 (mod)	

Cleanup Batch: 306249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6496-5 - RE	GSRY-SB4180-000.5-20220927	Total/NA	Solid	Extract Aliquot	306237
MB 410-306237/1-B	Method Blank	Total/NA	Solid	Extract Aliquot	306237
LCS 410-306237/2-B	Lab Control Sample	Total/NA	Solid	Extract Aliquot	306237

Analysis Batch: 306838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6496-5 - RE	GSRY-SB4180-000.5-20220927	Total/NA	Solid	QSM B15	306249
MB 410-306237/1-B	Method Blank	Total/NA	Solid	QSM B15	306249
LCS 410-306237/2-B	Lab Control Sample	Total/NA	Solid	QSM B15	306249

Prep Batch: 306941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6496-12 - RE	GSRY-FB-20220927	Total/NA	Water	537 IDA	
670-6496-13 - RE	GSRY-EB-20220927	Total/NA	Water	537 IDA	
MB 410-306941/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-306941/2-A	Lab Control Sample	Total/NA	Water	537 IDA	
LCSD 410-306941/3-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	

Analysis Batch: 307097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6496-12 - RE	GSRY-FB-20220927	Total/NA	Water	QSM B15	306941
670-6496-13 - RE	GSRY-EB-20220927	Total/NA	Water	QSM B15	306941
MB 410-306941/1-A	Method Blank	Total/NA	Water	QSM B15	306941
LCS 410-306941/2-A	Lab Control Sample	Total/NA	Water	QSM B15	306941
LCSD 410-306941/3-A	Lab Control Sample Dup	Total/NA	Water	QSM B15	306941

General Chemistry

Analysis Batch: 302301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6496-1	GSRY-SB4178-000.5-20220927	Total/NA	Solid	Moisture	
670-6496-2	GSRY-SB4178-002.0-20220927	Total/NA	Solid	Moisture	
670-6496-3	GSRY-SB4179-000.5-20220927	Total/NA	Solid	Moisture	
670-6496-4	GSRY-SB4179-002.0-20220927	Total/NA	Solid	Moisture	
670-6496-5	GSRY-SB4180-000.5-20220927	Total/NA	Solid	Moisture	
670-6496-6	GSRY-SB4180-002.0-20220927	Total/NA	Solid	Moisture	
670-6496-7	GSRY-SB4181-000.5-20220927	Total/NA	Solid	Moisture	
670-6496-8	GSRY-SB4181-002.0-20220927	Total/NA	Solid	Moisture	
670-6496-9	GSRY-SB4182-000.5-20220927	Total/NA	Solid	Moisture	
670-6496-10	GSRY-SB4182-002.0-20220927	Total/NA	Solid	Moisture	
670-6496-11	GSRY-FD-20220927	Total/NA	Solid	Moisture	

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6496-1
SDG: GSRY PFAS Soil

Client Sample ID: GSRY-SB4178-000.5-20220927
Date Collected: 09/27/22 10:13
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	302301	UWC1	ELLE	10/03/22 07:13

Client Sample ID: GSRY-SB4178-000.5-20220927
Date Collected: 09/27/22 10:13
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-1
Matrix: Solid
Percent Solids: 71.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 (mod)			304059	X5YV	ELLE	10/06/22 16:59
Total/NA	Cleanup	Extract Aliquot			304063	X5YV	ELLE	10/06/22 22:31
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 04:03

Client Sample ID: GSRY-SB4178-002.0-20220927
Date Collected: 09/27/22 10:20
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	302301	UWC1	ELLE	10/03/22 07:13

Client Sample ID: GSRY-SB4178-002.0-20220927
Date Collected: 09/27/22 10:20
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-2
Matrix: Solid
Percent Solids: 74.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 (mod)			304059	X5YV	ELLE	10/06/22 16:59
Total/NA	Cleanup	Extract Aliquot			304063	X5YV	ELLE	10/06/22 22:31
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 04:13

Client Sample ID: GSRY-SB4179-000.5-20220927
Date Collected: 09/27/22 10:32
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	302301	UWC1	ELLE	10/03/22 07:13

Client Sample ID: GSRY-SB4179-000.5-20220927
Date Collected: 09/27/22 10:32
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-3
Matrix: Solid
Percent Solids: 74.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 (mod)			304059	X5YV	ELLE	10/06/22 16:59
Total/NA	Cleanup	Extract Aliquot			304063	X5YV	ELLE	10/06/22 22:31
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 04:24

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6496-1
SDG: GSRY PFAS Soil

Client Sample ID: GSRY-SB4179-002.0-20220927
Date Collected: 09/27/22 10:42
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	302301	UWC1	ELLE	10/03/22 07:13

Client Sample ID: GSRY-SB4179-002.0-20220927
Date Collected: 09/27/22 10:42
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-4
Matrix: Solid
Percent Solids: 82.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 (mod)			304059	X5YV	ELLE	10/06/22 16:59
Total/NA	Cleanup	Extract Aliquot			304063	X5YV	ELLE	10/06/22 22:31
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 04:34

Client Sample ID: GSRY-SB4180-000.5-20220927
Date Collected: 09/27/22 10:55
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	302301	UWC1	ELLE	10/03/22 07:13

Client Sample ID: GSRY-SB4180-000.5-20220927
Date Collected: 09/27/22 10:55
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-5
Matrix: Solid
Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 (mod)			304059	X5YV	ELLE	10/06/22 16:59
Total/NA	Cleanup	Extract Aliquot			304063	X5YV	ELLE	10/06/22 22:31
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 05:06
Total/NA	Prep	537 (mod)	RE		306237	UBKG	ELLE	10/13/22 10:42
Total/NA	Cleanup	Extract Aliquot	RE		306249	S7AC	ELLE	10/13/22 11:08
Total/NA	Analysis	QSM B15	RE	1	306838	VK3G	ELLE	10/15/22 11:15

Client Sample ID: GSRY-SB4180-002.0-20220927
Date Collected: 09/27/22 11:10
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	302301	UWC1	ELLE	10/03/22 07:13

Client Sample ID: GSRY-SB4180-002.0-20220927
Date Collected: 09/27/22 11:10
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-6
Matrix: Solid
Percent Solids: 74.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 (mod)			304059	X5YV	ELLE	10/06/22 16:59
Total/NA	Cleanup	Extract Aliquot			304063	X5YV	ELLE	10/06/22 22:31
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 05:27

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6496-1
SDG: GSRY PFAS Soil

Client Sample ID: GSRY-SB4181-000.5-20220927
Date Collected: 09/27/22 11:30
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	302301	UWC1	ELLE	10/03/22 07:13

Client Sample ID: GSRY-SB4181-000.5-20220927
Date Collected: 09/27/22 11:30
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-7
Matrix: Solid
Percent Solids: 93.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 (mod)			304059	X5YV	ELLE	10/06/22 16:59
Total/NA	Cleanup	Extract Aliquot			304063	X5YV	ELLE	10/06/22 22:31
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 05:38

Client Sample ID: GSRY-SB4181-002.0-20220927
Date Collected: 09/27/22 11:35
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	302301	UWC1	ELLE	10/03/22 07:13

Client Sample ID: GSRY-SB4181-002.0-20220927
Date Collected: 09/27/22 11:35
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-8
Matrix: Solid
Percent Solids: 78.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 (mod)			304059	X5YV	ELLE	10/06/22 16:59
Total/NA	Cleanup	Extract Aliquot			304063	X5YV	ELLE	10/06/22 22:31
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 05:49

Client Sample ID: GSRY-SB4182-000.5-20220927
Date Collected: 09/27/22 12:55
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	302301	UWC1	ELLE	10/03/22 07:13

Client Sample ID: GSRY-SB4182-000.5-20220927
Date Collected: 09/27/22 12:55
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6496-9
Matrix: Solid
Percent Solids: 72.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 (mod)			304059	X5YV	ELLE	10/06/22 16:59
Total/NA	Cleanup	Extract Aliquot			304063	X5YV	ELLE	10/06/22 22:31
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 05:59

Client Sample ID: GSRY-SB4182-002.0-20220927
Lab Sample ID: 670-6496-10
Date Collected: 09/27/22 13:00
Matrix: Solid
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	302301	UWC1	ELLE	10/03/22 07:13

Client Sample ID: GSRY-SB4182-002.0-20220927
Lab Sample ID: 670-6496-10
Date Collected: 09/27/22 13:00
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 (mod)			304059	X5YV	ELLE	10/06/22 16:59
Total/NA	Cleanup	Extract Aliquot			304063	X5YV	ELLE	10/06/22 22:31
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 06:10

Client Sample ID: GSRY-FD-20220927
Lab Sample ID: 670-6496-11
Date Collected: 09/27/22 11:38
Matrix: Solid
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	302301	UWC1	ELLE	10/03/22 07:13

Client Sample ID: GSRY-FD-20220927
Lab Sample ID: 670-6496-11
Date Collected: 09/27/22 11:38
Matrix: Solid
Date Received: 09/30/22 11:10
Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 (mod)			304059	X5YV	ELLE	10/06/22 16:59
Total/NA	Cleanup	Extract Aliquot			304063	X5YV	ELLE	10/06/22 22:31
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 06:20

Client Sample ID: GSRY-FB-20220927
Lab Sample ID: 670-6496-12
Date Collected: 09/27/22 13:10
Matrix: Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 00:48
Total/NA	Prep	537 IDA			303253	RC3V	ELLE	10/05/22 08:24
Total/NA	Analysis	QSM B15		1	303512	VK3G	ELLE	10/06/22 12:14

Client Sample ID: GSRY-EB-20220927
Lab Sample ID: 670-6496-13
Date Collected: 09/27/22 13:05
Matrix: Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 00:59
Total/NA	Prep	537 IDA			303253	RC3V	ELLE	10/05/22 08:24
Total/NA	Analysis	QSM B15		1	303512	VK3G	ELLE	10/06/22 12:25

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6496-1
SDG: GSRY PFAS Soil

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6496-1
SDG: GSRY PFAS Soil

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-22
A2LA	ISO/IEC 17025	0001.01	11-30-22
Alaska	State	PA00009	07-01-23
Alaska (UST)	State	17-027	02-28-23
Arizona	State	AZ0780	03-12-23
Arkansas DEQ	State	88-00660	08-09-23
California	State	2792	11-30-22
Colorado	State	PA00009	06-30-23
Connecticut	State	PH-0746	06-30-23
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-23
Delaware (DW)	State	N/A	01-31-23
Florida	NELAP	E87997	06-30-23
Georgia (DW)	State	C048	01-31-23
Hawaii	State	N/A	01-31-23
Illinois	NELAP	200027	01-31-23
Iowa	State	361	03-01-24
Kansas	NELAP	E-10151	10-31-22
Kentucky (DW)	State	KY90088	12-31-22
Kentucky (UST)	State	1.01	11-30-22
Kentucky (WW)	State	KY90088	01-01-23
Louisiana	NELAP	02055	06-30-23
Maine	State	2019012	03-12-23
Maryland	State	100	06-30-23
Massachusetts	State	M-PA009	06-30-23
Michigan	State	9930	01-31-23
Minnesota	NELAP	042-999-487	12-31-22
Mississippi	State	022	01-31-23
Missouri	State	450	01-31-25
Montana (DW)	State	0098	01-01-23
Montana (UST)	State	<cert No.>	02-01-23
Nebraska	State	NE-OS-32-17	01-31-23
New Hampshire	NELAP	2730	01-10-23
New Jersey	NELAP	PA011	06-30-23
New York	NELAP	10670	04-01-23
North Carolina (DW)	State	42705	07-31-23
North Carolina (WW/SW)	State	521	12-31-22
North Dakota	State	R-205	01-31-23
Oklahoma	NELAP	R-205	08-31-23
Oregon	NELAP	PA200001	09-11-23
PALA	Canada	1978	09-16-24
Pennsylvania	NELAP	36-00037	01-31-23
Rhode Island	State	LAO00338	12-30-22
South Carolina	State	89002	01-31-23
Tennessee	State	02838	01-31-23
Texas	NELAP	T104704194-22-43	08-31-23
USDA	US Federal Programs	P330-19-00197	08-09-23
Vermont	State	VT - 36037	10-28-22
Virginia	NELAP	460182	06-15-23
Washington	State	C457	04-11-23
West Virginia (DW)	State	9906 C	12-31-22

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	055	10-31-22
Wyoming	State	8TMS-L	01-31-23
Wyoming (UST)	A2LA	1.01	11-30-22

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6496-1
SDG: GSRY PFAS Soil

Method	Method Description	Protocol	Laboratory
QSM B15	PFAS for QSM 5.4, Table B-15	DOD 5.4	ELLE
Moisture	Percent Moisture	EPA	ELLE
537 (mod)	EPA 537 Isotope Dilution	EPA	ELLE
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE
Extract Aliquot	Preparation, Extract Aliquot	None	ELLE

Protocol References:

DOD 5.4 = Department of Defense Quality Systems Manual V5.4

EPA = US Environmental Protection Agency

None = None

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6496-1
SDG: GSRY PFAS Soil

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-6496-1	GSRY-SB4178-000.5-20220927	Solid	09/27/22 10:13	09/30/22 11:10
670-6496-2	GSRY-SB4178-002.0-20220927	Solid	09/27/22 10:20	09/30/22 11:10
670-6496-3	GSRY-SB4179-000.5-20220927	Solid	09/27/22 10:32	09/30/22 11:10
670-6496-4	GSRY-SB4179-002.0-20220927	Solid	09/27/22 10:42	09/30/22 11:10
670-6496-5	GSRY-SB4180-000.5-20220927	Solid	09/27/22 10:55	09/30/22 11:10
670-6496-6	GSRY-SB4180-002.0-20220927	Solid	09/27/22 11:10	09/30/22 11:10
670-6496-7	GSRY-SB4181-000.5-20220927	Solid	09/27/22 11:30	09/30/22 11:10
670-6496-8	GSRY-SB4181-002.0-20220927	Solid	09/27/22 11:35	09/30/22 11:10
670-6496-9	GSRY-SB4182-000.5-20220927	Solid	09/27/22 12:55	09/30/22 11:10
670-6496-10	GSRY-SB4182-002.0-20220927	Solid	09/27/22 13:00	09/30/22 11:10
670-6496-11	GSRY-FD-20220927	Solid	09/27/22 11:38	09/30/22 11:10
670-6496-12	GSRY-FB-20220927	Water	09/27/22 13:10	09/30/22 11:10
670-6496-13	GSRY-EB-20220927	Water	09/27/22 13:05	09/30/22 11:10

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

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Project Name: NASA KSC - GSA Reclamation Yard		COC No.	Page: 1 of 2
Site Location: GSRY - PFAS Soil		PO No. TBD	Project No. 60614327.4 / Phase:
TO No.: 80KSC019F0078	AECOM Project Manager: Chad Lee cc: Jennifer Gootee	Send Invoice To: Instructions in MSA # 21S-27172-GV03 / PO# 138535	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone #	Greg Kusel / (772) 631-7426 Dustin Slater / (407) 766-0747	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to: Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name: Eurofins	Turnaround Time(specify): Standard	Deliver Samples To: Eurofins Orlando	Site-Spicific WS#15 from QAPP: 15-2

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Sample Depth (feet below land surface)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	Total No. of Containers (3)	Select PFAS by 537 4 DEG	Proposed Location ID	Comments
	GSRY-SB4178-000.5-20220927	GSRY-SB4178	000.5	20220927	1013	SO	N	G	2	2	E5	
	GSRY-SB4178-002.0-20220927	GSRY-SB4178	002.0	20220927	1020	SO	N	G	2	2	E5	
	GSRY-SB4179-000.5-20220927	GSRY-SB4179	000.5	20220927	1032	SO	N	G	2	2	F5	
	GSRY-SB4179-002.0-20220927	GSRY-SB4179	002.0	20220927	1042	SO	N	G	2	2	F5	
	GSRY-SB4180-000.5-20220927	GSRY-SB4180	000.5	20220927	1055	SO	N	G	2	2	G5	
	GSRY-SB4180-002.0-20220927	GSRY-SB4180	002.0	20220927	1110	SO	N	G	2	2	G5	
	GSRY-SB4181-000.5-20220927	GSRY-SB4181	000.5	20220927	1130	SO	N	G	2	2	H5	
	GSRY-SB4181-002.0-20220927	GSRY-SB4181	002.0	20220927	1135	SO	N	G	2	2	H5	
	GSRY-SB4182-000.5-20220927	GSRY-SB4182	000.5	20220927	1255	SO	N	G	2	2	I5	
	GSRY-SB4182-002.0-20220927	GSRY-SB4182	002.0	20220927	1300	SO	N	G	2	2	I5	
	GSRY-FD-20220927	GSRY-FD		20220927	1136	SO	FD	G	2	2	FD	

670-6496 Chain of Custody

***Field* Comments:**
Report only per QAPP WS #15-2. Report soils on a dry weight basis. ~~Additional sample volume~~ submitted for MS/MSD for sample SB4541 - 002.0 NO Additional Vol. Submitted

***Lab* Comments:**

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time	
1 M. Parsons	9/30/22	1110	1	9/30	1110	2.2
2			2			
3			3			

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: **4 DEG C**=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

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CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name: NASA KSC - GSA Reclamation Yard		COC No.	Page: 2 of 2
Site Location: GSRY Site Wide PCB Soil		PO No. TBD	Project No. 60614327.4 Phase:
TO No.: 80KSC019F0078	AECOM Project Manager: **Chad Lee cc: Jennifer Gootee**	Send Invoice To: Instructions in MSA # 21S-27172-GV03 / PO# 138535	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Greg Kusel / (772) 631-7426	Dustin Slater / (407) 766-0747	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to: Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name: Eurofins	Turnaround Time(specify): Standard	Deliver Samples To: Eurofins Orlando	Site-Spicific WS#15 from QAPP: 15-2

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Sample Depth (feet below land surface)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select PFAS by 537										Proposed Location ID	Comments
	GSRY-FB- 20220927	GSRY-FB		20220927	1310	WQ	FB	G	2	2										FB	
	GSRY-EB- 20220927	GSRY-EB		20220927	1305	WQ	EB	G	2	2										EB	

***Field* Comments:**
Report only per QAPP WS #15-2. Report soils on a dry weight basis. ~~Additional sample volume~~ submitted for MS/MSD for sample SB4841-0820

***Lab* Comments:**
No Additional Volume Submitted

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time	
1	M. Parsons	9/30/22	1110		9/30	1110	2.2
2							
3							

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-615.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-6496-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 10/13/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY PFAS	Project #: 67000872			
Site:	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=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA_D5.3/CIC_S_Prep NASA KCS WS#15-2 DOD	Moisture/ Percent Moisture	PFC_IDA_D5.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
GSRY-SB4178-000.5-20220927 (670-6496-1)	9/27/22	10:13 Eastern		Solid			X	X		2	
GSRY-SB4178-002.0-20220927 (670-6496-2)	9/27/22	10:20 Eastern		Solid			X	X		2	
GSRY-SB4179-000.5-20220927 (670-6496-3)	9/27/22	10:32 Eastern		Solid			X	X		2	
GSRY-SB4179-002.0-20220927 (670-6496-4)	9/27/22	10:42 Eastern		Solid			X	X		2	
GSRY-SB4180-000.5-20220927 (670-6496-5)	9/27/22	10:55 Eastern		Solid			X	X		2	
GSRY-SB4180-002.0-20220927 (670-6496-6)	9/27/22	11:10 Eastern		Solid			X	X		2	
GSRY-SB4181-000.5-20220927 (670-6496-7)	9/27/22	11:30 Eastern		Solid			X	X		2	
GSRY-SB4181-002.0-20220927 (670-6496-8)	9/27/22	11:35 Eastern		Solid			X	X		2	
GSRY-SB4182-000.5-20220927 (670-6496-9)	9/27/22	12:55 Eastern		Solid			X	X		2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon out 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southeast, 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
	9/30 1300				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10/1/22 10:00	Company ELLET

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.7

Ver: 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-615.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-6496-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 10/13/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY PFAS	Project #: 67000872			
Site:	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)	PFC_IDA_D5.3/CIC_S_Prep NASA KCS WS#15-2 DOD	Moisture/ Percent Moisture	PFC_IDA_D5.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
GSRY-SB4182-002.0-20220927 (670-6496-10)	9/27/22	13:00 Eastern		Solid			X	X		2	
GSRY-FD-20220927 (670-6496-11)	9/27/22	11:38 Eastern		Solid			X	X		2	
GSRY-FB-20220927 (670-6496-12)	9/27/22	13:10 Eastern		Water					X	2	
GSRY-EB-20220927 (670-6496-13)	9/27/22	13:05 Eastern		Water					X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon out 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southeast, 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
1		9/30 1300				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10/1/22 10:00	Company ELLET

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.7

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-6496-1
SDG Number: GSRY PFAS Soil

Login Number: 6496
List Number: 1
Creator: Hartley, Tyler

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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	
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-6496-1
SDG Number: GSRY PFAS Soil

Login Number: 6496
List Number: 2
Creator: McBeth, Jessica

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC
List Creation: 10/01/22 12:31 PM

Question	Answer	Comment
The cooler's custody seal is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	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	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Tel: (407)339-5984

Laboratory Job ID: 670-6498-1
Client Project/Site: NASA KSC GSRY PFAS SW
Revision: 1

For:
AECOM Technical Services Inc.
150 North Orange Avenue
Suite 200
Orlando, Florida 32801

Attn: Teresa Amentt Jennings

Authorized for release by:
10/25/2022 5:44:22 PM

Kaitlin Dylnicki, Project Manager
(407)339-5984
kaitlin.dylnicki@et.eurofinsus.com

LINKS
Review your project results through my EOL
Have a Question? Ask The Expert
Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 6
Client Sample Results 10
Isotope Dilution Summary 24
QC Sample Results 27
QC Association Summary 32
Lab Chronicle 34
Certification Summary 37
Method Summary 39
Sample Summary 40
Chain of Custody 41
Receipt Checklists 44

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 670-6498-1
Project/Site: NASA KSC GSRY PFAS SW

Qualifiers

LCMS

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J	Estimated value; value may not be accurate.
U	Indicates that the compound was analyzed for but not detected.

Glossary

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

Job ID: 670-6498-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-6498-1

REVISION

The report being provided is a revision of the original report sent on 10/18/2022. The report (revision 1) is being revised to update the units reported for PFAS.

Report revision history

Receipt
The samples were received on 9/30/2022 11:10 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 time was 2.2°C

PFAS
Method PFC_IDA_D5.3: The recoveries for the labeled isotope(s): 13C8 FOSA, M2-4:2 FTS, 13C2 PFTeDA, 13C4 PFBA, 13C2-PFDoDA and d3-NMePFOSA in background sample:GSRY-SW0012-001.0-20220926 (670-6498-2) and GSRY-SW0012-001.0-20220926MS (670-6498-2[MS]) are outside of QC limits. The recoveries for the labeled isotopes are also outside of the matrix spike samples, indicating a matrix effect.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS, M2-4:2 FTS, 13C2 PFTeDA, M2-8:2 FTS, 13C4 PFBA and d3-NMePFOSA in the following sample: GSRY-SW0011-001.0-20220926 (670-6498-1) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-6:2 FTS, M2-4:2 FTS, 13C2 PFTeDA, M2-8:2 FTS, 13C4 PFBA and d3-NMePFOSA was again outside of the QC acceptance limits

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-4:2 FTS, 13C2 PFTeDA, 13C2-PFDoDA and d3-NMePFOSA in the following sample: GSRY-SW0013-001.0-20220926 (670-6498-3) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA d3-NMePFOSA M2-4:2 FTS was again outside of the QC acceptance limits. The recovery for labeled isotope 13C2-PFDoDA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, M2-6:2 FTS, M2-4:2 FTS, 13C2 PFTeDA, 13C2-PFDoDA and d3-NMePFOSA in the following sample: GSRY-SW0014-001.0-20220926 (670-6498-4) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA d3-NMePFOSA M2-4:2 FTS M2-6:2 FTS was again outside of the QC acceptance limits. The recovery for labeled isotope 13C2-PFDoDA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, M2-6:2 FTS, M2-4:2 FTS, 13C2 PFTeDA, 13C4 PFBA, 13C2-PFDoDA and d3-NMePFOSA in the following sample: GSRY-SW0015-001.0-20220926 (670-6498-5) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-4:2 FTS M2-6:2 FTS was again outside of the QC acceptance limits. The recovery for labeled isotope 13C2 PFTeDA d3-NMePFOSA 13C4 PFBA 13C2-PFDoDA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C6 PFDA, 13C8 FOSA, M2-4:2 FTS, d5-NEtFOSAA, 13C2 PFTeDA, 13C7 PFUnA, 13C4 PFBA, 13C2-PFDoDA and d3-NMePFOSA in the following sample: GSRY-SW0016-001.0-20220926 (670-6498-6) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA d3-NMePFOSA 13C4 PFBA M2-4:2 FTS 13C2-PFDoDA was again outside of the QC acceptance limits. The recovery for labeled isotope d5-NEtFOSAA 13C6 PFDA 13C7 PFUnA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, M2-6:2 FTS, M2-4:2 FTS, 13C2 PFTeDA, M2-8:2 FTS, 13C4 PFBA and d3-NMePFOSA in the following sample: GSRY-SW0017-001.0-20220926 (670-6498-7) is outside the QC acceptance limits. The

Job ID: 670-6498-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA d3-NMePFOSA 13C4 PFBA M2-4:2 FTS M2-6:2 FTS was again outside of the QC acceptance limits.The recovery for labeled isotope M2-8:2 FTS 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, M2-6:2 FTS, M2-4:2 FTS, 13C2 PFTeDA, 13C4 PFBA, 13C2-PFDoDA and d3-NMePFOSA in the following sample: GSRY-SW0018-001.0-20220926 (670-6498-8) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA d3-NMePFOSA 13C4 PFBA M2-4:2 FTS M2-6:2 FTS was again outside of the QC acceptance limits. The recovery for labeled isotope 13C2-PFDoDA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, M2-4:2 FTS, 13C2 PFTeDA, 13C4 PFBA, 13C2-PFDoDA and d3-NMePFOSA in the following sample: GSRY-SW0010-001.0-20220926 (670-6498-9) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA d3-NMePFOSA 13C4 PFBA M2-4:2 FTS was again outside of the QC acceptance limits. The recovery for labeled isotope 13C2-PFDoDA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C6 PFDA, 13C8 FOSA, M2-4:2 FTS, d5-NEtFOSAA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, 13C2-PFDoDA and d3-NMePFOSA in the following sample: GSRY-FD-20220926 (670-6498-10) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA d3-NMePFOSA M2-4:2 FTS was again outside of the QC acceptance limits. The recovery for labeled isotope d3-NMeFOSAA d5-NEtFOSAA 13C6 PFDA 13C2-PFDoDA 13C7 PFUnA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) d3-NMePFOSA in the following sample: GSRY-EB-20220926 (670-6498-12) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) d3-NMePFOSA was again outside of the QC acceptance limits.

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

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS SW

Job ID: 670-6498-1

Client Sample ID: GSRY-SW0011-001.0-20220926 — Lab Sample ID: 670-6498-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
4:2 Fluorotelomer sulfonic acid	0.0013	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
6:2 Fluorotelomer sulfonic acid	0.26		0.0070	0.0034	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.017		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.018		0.0043	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.0015	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0099		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.078		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.034		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00088	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0027		0.0017	0.00060	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.072		0.0018	0.00086	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.012		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.017		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.023		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Total PFOA and PFOS	0.084		0.0017	0.00043	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0012-001.0-20220926 — Lab Sample ID: 670-6498-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.043		0.0069	0.0034	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0014	I J	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0068		0.0043	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.00080	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0022		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0017		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0060		0.0018	0.00085	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0017		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0013	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Total PFOA and PFOS	0.0077		0.0017	0.00043	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0013-001.0-20220926 — Lab Sample ID: 670-6498-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.028		0.0067	0.0033	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0036		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.012		0.0042	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00089	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0060		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.033		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.012		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0012	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0011	I	0.0017	0.00058	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.080		0.0017	0.00083	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0061		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0037		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0099		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Total PFOA and PFOS	0.086		0.0017	0.00042	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0014-001.0-20220926 — Lab Sample ID: 670-6498-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.011		0.0070	0.0035	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Client Sample ID: GSRY-SW0014-001.0-20220926 (Continued) — Lab Sample ID: 670-6498-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.0024		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.011		0.0043	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00054	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0040		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.018		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0079		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00091	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0016	I	0.0017	0.00060	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.046		0.0018	0.00086	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0052		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0019		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0070		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Total PFOA and PFOS	0.051		0.0017	0.00043	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0015-001.0-20220926 — Lab Sample ID: 670-6498-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.025		0.0072	0.0036	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0028		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.047		0.0044	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0039		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0067		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0055		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0011	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.026		0.0019	0.00089	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0059		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00065	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0050		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Total PFOA and PFOS	0.032		0.0018	0.00044	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0016-001.0-20220926 — Lab Sample ID: 670-6498-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.012		0.0071	0.0035	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0084		0.0044	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.00070	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0018		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.00096	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.014		0.0018	0.00088	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0018		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.00054	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Total PFOA and PFOS	0.016		0.0018	0.00044	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0017-001.0-20220926 — Lab Sample ID: 670-6498-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.012		0.0071	0.0035	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0011	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0099		0.0044	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0018		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0096		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0036		0.0018	0.00044	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: GSRY-SW0017-001.0-20220926 (Continued) — Lab Sample ID: 670-6498-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid	0.00051	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0031		0.0018	0.00061	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.047		0.0018	0.00088	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0062		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00063	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0023		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Total PFOA and PFOS	0.053		0.0018	0.00044	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0018-001.0-20220926 — Lab Sample ID: 670-6498-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.0084		0.0072	0.0036	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0011	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0096		0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0018		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0091		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0038		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00067	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0034		0.0018	0.00062	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.055		0.0019	0.00089	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0069		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00051	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0025		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Total PFOA and PFOS	0.062		0.0018	0.00045	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0010-001.0-20220926 — Lab Sample ID: 670-6498-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
4:2 Fluorotelomer sulfonic acid	0.0011	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
6:2 Fluorotelomer sulfonic acid	0.12		0.0071	0.0035	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.022		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.019		0.0044	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.0017	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0098		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.097		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.043		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00095	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0031		0.0018	0.00061	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.080		0.0018	0.00088	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.014		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.021		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.027		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Total PFOA and PFOS	0.094		0.0018	0.00044	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-FD-20220926 — Lab Sample ID: 670-6498-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.0013	I J	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0070		0.0046	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.00062	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0015	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0013	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: GSRY-FD-20220926 (Continued) — Lab Sample ID: 670-6498-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	0.0051		0.0019	0.00091	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0016	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0010	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Total PFOA and PFOS	0.0067		0.0018	0.00046	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-FB-20220926 — Lab Sample ID: 670-6498-11

No Detections.

Client Sample ID: GSRY-EB-20220926 — Lab Sample ID: 670-6498-12

No Detections.

This Detection Summary does not include radiochemical test results.

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS SW

Job ID: 670-6498-1

Client Sample ID: GSRY-SW0011-001.0-20220926
Date Collected: 09/26/22 13:20
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6498-1
Matrix: Surface Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
4:2 Fluorotelomer sulfonic acid	**0.0013**	**I**	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
6:2 Fluorotelomer sulfonic acid	**0.26**		0.0070	0.0034	ug/L		10/05/22 08:35	10/09/22 01:13	1
8:2 Fluorotelomer sulfonic acid	0.00086	U	0.0026	0.00086	ug/L		10/05/22 08:35	10/09/22 01:13	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
DONA	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
HFPODA	0.00043	U	0.0026	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		10/05/22 08:35	10/09/22 01:13	1
NMeFOSA	0.00086	U	0.0026	0.00086	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorobutanesulfonic acid	**0.017**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorobutanoic acid	**0.018**		0.0043	0.0017	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluoroheptanesulfonic acid	**0.0015**	**I**	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluoroheptanoic acid	**0.0099**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorohexanesulfonic acid	**0.078**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorohexanoic acid	**0.034**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorononanoic acid	**0.00088**	**I**	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorooctanesulfonamide	**0.0027**		0.0017	0.00060	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorooctanesulfonic acid	**0.072**		0.0018	0.00086	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorooctanoic acid	**0.012**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluoropentanesulfonic acid	**0.017**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluoropentanoic acid	**0.023**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1
Total PFOA and PFOS	**0.084**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*99*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C5 PFHxA	*86*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C3 PFBS	*95*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C8 FOSA	*72*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
M2-6:2 FTS	*190*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
M2-4:2 FTS	*259*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
d5-NEtFOSAA	*108*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C2 PFTeDA	*23*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C7 PFUnA	*92*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
d3-NMeFOSAA	*108*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C8 PFOA	*96*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C9 PFNA	*106*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C4 PFHpA	*90*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C3 HFPO-DA	*83*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
M2-8:2 FTS	*198*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C3 PFHxS	*106*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C8 PFOS	*104*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*
13C4 PFBA	*47*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:13*	*1*

Client Sample ID: GSRY-SW0011-001.0-20220926

Lab Sample ID: 670-6498-1
Matrix: Surface Water
Date Collected: 09/26/22 13:20
Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-PFDoDA	67		50 - 150	10/05/22 08:35	10/09/22 01:13	1
13C5 PFPeA	64		50 - 150	10/05/22 08:35	10/09/22 01:13	1
d3-NMePFOSA	9		50 - 150	10/05/22 08:35	10/09/22 01:13	1

Client Sample ID: GSRY-SW0012-001.0-20220926

Lab Sample ID: 670-6498-2
Matrix: Surface Water
Date Collected: 09/26/22 13:40
Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
6:2 Fluorotelomer sulfonic acid	**0.043**		0.0069	0.0034	ug/L		10/05/22 08:35	10/09/22 01:23	1
8:2 Fluorotelomer sulfonic acid	0.00085	U	0.0026	0.00085	ug/L		10/05/22 08:35	10/09/22 01:23	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
DONA	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
HFPODA	0.00043	U	0.0026	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
NMeFOSAA	0.00051	U	0.0017	0.00051	ug/L		10/05/22 08:35	10/09/22 01:23	1
NMeFOSA	0.00085	U	0.0026	0.00085	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorobutanesulfonic acid	**0.0014**	**I J**	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorobutanoic acid	**0.0068**		0.0043	0.0017	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluoroheptanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluoroheptanoic acid	**0.00080**	**I**	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorohexanesulfonic acid	**0.0022**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorohexanoic acid	**0.0017**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorononanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorooctanesulfonamide	0.00060	U	0.0017	0.00060	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorooctanesulfonic acid	**0.0060**		0.0018	0.00085	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorooctanoic acid	**0.0017**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluoropentanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluoropentanoic acid	**0.0013**	**I**	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1
Total PFOA and PFOS	**0.0077**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:23	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	70		50 - 150	10/05/22 08:35	10/09/22 01:23	1
13C5 PFHxA	70		50 - 150	10/05/22 08:35	10/09/22 01:23	1
13C3 PFBS	73		50 - 150	10/05/22 08:35	10/09/22 01:23	1
13C8 FOSA	29		50 - 150	10/05/22 08:35	10/09/22 01:23	1
M2-6:2 FTS	130		50 - 150	10/05/22 08:35	10/09/22 01:23	1
M2-4:2 FTS	200		50 - 150	10/05/22 08:35	10/09/22 01:23	1
d5-NEtFOSAA	76		50 - 150	10/05/22 08:35	10/09/22 01:23	1
13C2 PFTeDA	3		50 - 150	10/05/22 08:35	10/09/22 01:23	1
13C7 PFUnA	52		50 - 150	10/05/22 08:35	10/09/22 01:23	1

Client Sample ID: GSRY-SW0012-001.0-20220926

Lab Sample ID: 670-6498-2

Date Collected: 09/26/22 13:40

Matrix: Surface Water

Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d3-NMeFOSAA	*76*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*
13C8 PFOA	*75*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*
13C9 PFNA	*75*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*
13C4 PFHpA	*73*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*
13C3 HFPO-DA	*68*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*
M2-8:2 FTS	*102*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*
13C3 PFHxS	*83*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*
13C8 PFOS	*78*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*
13C4 PFBA	*49*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*
13C2-PFDoDA	*28*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*
13C5 PFPeA	*57*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*
d3-NMePFOSA	*2*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:23*	*1*

Client Sample ID: GSRY-SW0013-001.0-20220926

Lab Sample ID: 670-6498-3

Date Collected: 09/26/22 13:55

Matrix: Surface Water

Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00042	U	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
4:2 Fluorotelomer sulfonic acid	0.00042	U	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
6:2 Fluorotelomer sulfonic acid	**0.028**		0.0067	0.0033	ug/L		10/05/22 08:35	10/09/22 01:45	1
8:2 Fluorotelomer sulfonic acid	0.00083	U	0.0025	0.00083	ug/L		10/05/22 08:35	10/09/22 01:45	1
9Cl-PF3ONS	0.00042	U	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
DONA	0.00042	U	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
HFPODA	0.00042	U	0.0025	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
NEtFOSAA	0.00042	U	0.0025	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
NMeFOSAA	0.00050	U	0.0017	0.00050	ug/L		10/05/22 08:35	10/09/22 01:45	1
NMeFOSA	0.00083	U	0.0025	0.00083	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorobutanesulfonic acid	**0.0036**		0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorobutanoic acid	**0.012**		0.0042	0.0017	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorodecanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorodecanoic acid	0.00042	U	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorododecanoic acid	0.00042	U	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluoroheptanesulfonic acid	**0.00089**	**I**	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluoroheptanoic acid	**0.0060**		0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorohexanesulfonic acid	**0.033**		0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorohexanoic acid	**0.012**		0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorononanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorononanoic acid	**0.0012**	**I**	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorooctanesulfonamide	**0.0011**	**I**	0.0017	0.00058	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorooctanesulfonic acid	**0.080**		0.0017	0.00083	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorooctanoic acid	**0.0061**		0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluoropentanesulfonic acid	**0.0037**		0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluoropentanoic acid	**0.0099**		0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorotetradecanoic acid	0.00042	U	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluorotridecanoic acid	0.00042	U	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Perfluoroundecanoic acid	0.00042	U	0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1
Total PFOA and PFOS	**0.086**		0.0017	0.00042	ug/L		10/05/22 08:35	10/09/22 01:45	1

Client Sample ID: GSRY-SW0013-001.0-20220926

Lab Sample ID: 670-6498-3

Date Collected: 09/26/22 13:55

Matrix: Surface Water

Date Received: 09/30/22 11:10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*77*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C5 PFHxA	*77*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C3 PFBS	*80*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C8 FOSA	*54*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
M2-6:2 FTS	*136*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
M2-4:2 FTS	*206*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
d5-NEtFOSAA	*76*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C2 PFTeDA	*7*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C7 PFUnA	*63*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
d3-NMeFOSAA	*85*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C8 PFOA	*79*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C9 PFNA	*81*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C4 PFHpA	*75*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C3 HFPO-DA	*76*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
M2-8:2 FTS	*116*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C3 PFHxS	*86*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C8 PFOS	*83*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C4 PFBA	*53*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C2-PFDoDA	*40*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
13C5 PFPeA	*62*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*
d3-NMePFOSA	*9*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:45*	*1*

Client Sample ID: GSRY-SW0014-001.0-20220926

Lab Sample ID: 670-6498-4

Date Collected: 09/26/22 14:05

Matrix: Surface Water

Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
6:2 Fluorotelomer sulfonic acid	**0.011**		0.0070	0.0035	ug/L		10/05/22 08:35	10/09/22 01:55	1
8:2 Fluorotelomer sulfonic acid	0.00086	U	0.0026	0.00086	ug/L		10/05/22 08:35	10/09/22 01:55	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
DONA	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
HFPODA	0.00043	U	0.0026	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		10/05/22 08:35	10/09/22 01:55	1
NMeFOSA	0.00086	U	0.0026	0.00086	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorobutanesulfonic acid	**0.0024**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorobutanoic acid	**0.011**		0.0043	0.0017	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluoroheptanesulfonic acid	**0.00054**	**I**	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluoroheptanoic acid	**0.0040**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorohexanesulfonic acid	**0.018**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorohexanoic acid	**0.0079**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorononanoic acid	**0.00091**	**I**	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorooctanesulfonamide	**0.0016**	**I**	0.0017	0.00060	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorooctanesulfonic acid	**0.046**		0.0018	0.00086	ug/L		10/05/22 08:35	10/09/22 01:55	1

Client Sample ID: GSRY-SW0014-001.0-20220926 Lab Sample ID: 670-6498-4

Date Collected: 09/26/22 14:05 **Matrix: Surface Water**
Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	**0.0052**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluoropentanesulfonic acid	**0.0019**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluoropentanoic acid	**0.0070**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1
Total PFOA and PFOS	**0.051**		0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 01:55	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*86*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C5 PFHxA	*90*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C3 PFBS	*100*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C8 FOSA	*49*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
M2-6:2 FTS	*175*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
M2-4:2 FTS	*257*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
d5-NEtFOSAA	*92*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C2 PFTeDA	*2*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C7 PFUnA	*54*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
d3-NMeFOSAA	*99*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C8 PFOA	*97*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C9 PFNA	*96*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C4 PFHpA	*94*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C3 HFPO-DA	*88*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
M2-8:2 FTS	*126*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C3 PFHxS	*109*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C8 PFOS	*99*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C4 PFBA	*55*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C2-PFDoDA	*23*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
13C5 PFPeA	*70*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*
d3-NMePFOSA	*5*		*50 - 150*	*10/05/22 08:35*	*10/09/22 01:55*	*1*

Client Sample ID: GSRY-SW0015-001.0-20220926 Lab Sample ID: 670-6498-5

Date Collected: 09/26/22 14:18 **Matrix: Surface Water**
Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
6:2 Fluorotelomer sulfonic acid	**0.025**		0.0072	0.0036	ug/L		10/05/22 08:35	10/09/22 02:06	1
8:2 Fluorotelomer sulfonic acid	0.00089	U	0.0027	0.00089	ug/L		10/05/22 08:35	10/09/22 02:06	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
DONA	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
HFPODA	0.00044	U	0.0027	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
NEtFOSAA	0.00044	U	0.0027	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		10/05/22 08:35	10/09/22 02:06	1
NMeFOSA	0.00089	U	0.0027	0.00089	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorobutanesulfonic acid	**0.0028**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorobutanoic acid	**0.047**		0.0044	0.0018	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1

Client Sample ID: GSRY-SW0015-001.0-20220926

Lab Sample ID: 670-6498-5

Date Collected: 09/26/22 14:18

Matrix: Surface Water

Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluoroheptanoic acid	**0.0039**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorohexanesulfonic acid	**0.0067**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorohexanoic acid	**0.0055**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorononanoic acid	**0.0011**	**I**	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorooctanesulfonamide	0.00062	U	0.0018	0.00062	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorooctanesulfonic acid	**0.026**		0.0019	0.00089	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorooctanoic acid	**0.0059**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluoropentanesulfonic acid	**0.00065**	**I**	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluoropentanoic acid	**0.0050**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1
Total PFOA and PFOS	**0.032**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*75*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C5 PFHxA	*72*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C3 PFBS	*70*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C8 FOSA	*23*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
M2-6:2 FTS	*157*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
M2-4:2 FTS	*198*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
d5-NEtFOSAA	*74*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C2 PFTeDA	*18*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C7 PFUnA	*61*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
d3-NMeFOSAA	*77*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C8 PFOA	*77*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C9 PFNA	*81*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C4 PFHpA	*73*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C3 HFPO-DA	*70*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
M2-8:2 FTS	*123*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C3 PFHxS	*85*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C8 PFOS	*75*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C4 PFBA	*39*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C2-PFDoDA	*46*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
13C5 PFPeA	*53*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*
d3-NMePFOSA	*1*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:06*	*1*

Client Sample ID: GSRY-SW0016-001.0-20220926

Lab Sample ID: 670-6498-6

Date Collected: 09/26/22 14:27

Matrix: Surface Water

Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
6:2 Fluorotelomer sulfonic acid	**0.012**		0.0071	0.0035	ug/L		10/05/22 08:35	10/09/22 02:16	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		10/05/22 08:35	10/09/22 02:16	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1

Client Sample ID: GSRY-SW0016-001.0-20220926
Date Collected: 09/26/22 14:27
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6498-6
Matrix: Surface Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DONA	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
HFPODA	0.00044	U	0.0026	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		10/05/22 08:35	10/09/22 02:16	1
NMeFOSA	0.00088	U	0.0026	0.00088	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorobutanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorobutanoic acid	**0.0084**		0.0044	0.0018	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluoroheptanoic acid	**0.00070**	**I**	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorohexanesulfonic acid	**0.0018**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorohexanoic acid	**0.00096**	**I**	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorononanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorooctanesulfonamide	0.00061	U	0.0018	0.00061	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorooctanesulfonic acid	**0.014**		0.0018	0.00088	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorooctanoic acid	**0.0018**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluoropentanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluoropentanoic acid	**0.00054**	**I**	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1
Total PFOA and PFOS	**0.016**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*36*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C5 PFHxA	*65*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C3 PFBS	*70*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C8 FOSA	*25*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
M2-6:2 FTS	*114*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
M2-4:2 FTS	*181*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
d5-NEtFOSAA	*45*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C2 PFTeDA	*0.06*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C7 PFUnA	*15*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
d3-NMeFOSAA	*50*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C8 PFOA	*61*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C9 PFNA	*53*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C4 PFHpA	*64*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C3 HFPO-DA	*63*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
M2-8:2 FTS	*65*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C3 PFHxS	*74*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C8 PFOS	*55*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C4 PFBA	*47*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C2-PFDoDA	*4*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
13C5 PFPeA	*54*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*
d3-NMePFOSA	*2*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:16*	*1*

Client Sample ID: GSRY-SW0017-001.0-20220926

Date Collected: 09/26/22 14:37
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6498-7

Matrix: Surface Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
6:2 Fluorotelomer sulfonic acid	**0.012**		0.0071	0.0035	ug/L		10/05/22 08:35	10/09/22 02:27	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		10/05/22 08:35	10/09/22 02:27	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
DONA	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
HFPODA	0.00044	U	0.0026	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		10/05/22 08:35	10/09/22 02:27	1
NMeFOSA	0.00088	U	0.0026	0.00088	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorobutanesulfonic acid	**0.0011**	**I**	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorobutanoic acid	**0.0099**		0.0044	0.0018	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluoroheptanoic acid	**0.0018**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorohexanesulfonic acid	**0.0096**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorohexanoic acid	**0.0036**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorononanoic acid	**0.00051**	**I**	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorooctanesulfonamide	**0.0031**		0.0018	0.00061	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorooctanesulfonic acid	**0.047**		0.0018	0.00088	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorooctanoic acid	**0.0062**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluoropentanesulfonic acid	**0.00063**	**I**	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluoropentanoic acid	**0.0023**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1
Total PFOA and PFOS	**0.053**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*80*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C5 PFHxA	*74*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C3 PFBS	*80*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C8 FOSA	*30*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
M2-6:2 FTS	*173*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
M2-4:2 FTS	*232*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
d5-NEtFOSAA	*84*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C2 PFTeDA	*25*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C7 PFUnA	*75*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
d3-NMeFOSAA	*87*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C8 PFOA	*79*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C9 PFNA	*86*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C4 PFHpA	*78*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C3 HFPO-DA	*72*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
M2-8:2 FTS	*169*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C3 PFHxS	*92*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C8 PFOS	*88*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C4 PFBA	*43*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*

Client Sample ID: GSRY-SW0017-001.0-20220926

Lab Sample ID: 670-6498-7
Matrix: Surface Water
Date Collected: 09/26/22 14:37
Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-PFDoDA	*58*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
13C5 PFPeA	*59*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*
d3-NMePFOSA	*2*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:27*	*1*

Client Sample ID: GSRY-SW0018-001.0-20220926

Lab Sample ID: 670-6498-8
Matrix: Surface Water
Date Collected: 09/26/22 14:50
Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
6:2 Fluorotelomer sulfonic acid	**0.0084**		0.0072	0.0036	ug/L		10/05/22 08:35	10/09/22 02:38	1
8:2 Fluorotelomer sulfonic acid	0.00089	U	0.0027	0.00089	ug/L		10/05/22 08:35	10/09/22 02:38	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
DONA	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
HFPODA	0.00045	U	0.0027	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		10/05/22 08:35	10/09/22 02:38	1
NMeFOSA	0.00089	U	0.0027	0.00089	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorobutanesulfonic acid	**0.0011**	**I**	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorobutanoic acid	**0.0096**		0.0045	0.0018	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluoroheptanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluoroheptanoic acid	**0.0018**		0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorohexanesulfonic acid	**0.0091**		0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorohexanoic acid	**0.0038**		0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorononanoic acid	**0.00067**	**I**	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorooctanesulfonamide	**0.0034**		0.0018	0.00062	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorooctanesulfonic acid	**0.055**		0.0019	0.00089	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorooctanoic acid	**0.0069**		0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluoropentanesulfonic acid	**0.00051**	**I**	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluoropentanoic acid	**0.0025**		0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1
Total PFOA and PFOS	**0.062**		0.0018	0.00045	ug/L		10/05/22 08:35	10/09/22 02:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	*81*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C5 PFHxA	*86*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C3 PFBS	*90*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C8 FOSA	*30*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
M2-6:2 FTS	*177*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
M2-4:2 FTS	*245*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
d5-NEtFOSAA	*88*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C2 PFTeDA	*4*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C7 PFUnA	*57*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*

Client Sample ID: GSRY-SW0018-001.0-20220926

Lab Sample ID: 670-6498-8

Date Collected: 09/26/22 14:50
Matrix: Surface Water
Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d3-NMeFOSAA	*93*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C8 PFOA	*90*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C9 PFNA	*91*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C4 PFHpA	*89*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C3 HFPO-DA	*82*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
M2-8:2 FTS	*123*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C3 PFHxS	*104*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C8 PFOS	*94*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C4 PFBA	*47*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C2-PFDoDA	*28*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
13C5 PFPeA	*66*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*
d3-NMePFOSA	*2*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:38*	*1*

Client Sample ID: GSRY-SW0010-001.0-20220926

Lab Sample ID: 670-6498-9

Date Collected: 09/26/22 13:00
Matrix: Surface Water
Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
4:2 Fluorotelomer sulfonic acid	**0.0011**	**I**	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
6:2 Fluorotelomer sulfonic acid	**0.12**		0.0071	0.0035	ug/L		10/05/22 08:35	10/09/22 02:48	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		10/05/22 08:35	10/09/22 02:48	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
DONA	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
HFPODA	0.00044	U	0.0026	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		10/05/22 08:35	10/09/22 02:48	1
NMeFOSA	0.00088	U	0.0026	0.00088	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorobutanesulfonic acid	**0.022**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorobutanoic acid	**0.019**		0.0044	0.0018	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluoroheptanesulfonic acid	**0.0017**	**I**	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluoroheptanoic acid	**0.0098**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorohexanesulfonic acid	**0.097**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorohexanoic acid	**0.043**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorononanoic acid	**0.00095**	**I**	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorooctanesulfonamide	**0.0031**		0.0018	0.00061	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorooctanesulfonic acid	**0.080**		0.0018	0.00088	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorooctanoic acid	**0.014**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluoropentanesulfonic acid	**0.021**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluoropentanoic acid	**0.027**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1
Total PFOA and PFOS	**0.094**		0.0018	0.00044	ug/L		10/05/22 08:35	10/09/22 02:48	1

Client Sample ID: GSRY-SW0010-001.0-20220926

Lab Sample ID: 670-6498-9

Date Collected: 09/26/22 13:00

Matrix: Surface Water

Date Received: 09/30/22 11:10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*74*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C5 PFHxA	*69*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C3 PFBS	*74*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C8 FOSA	*48*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
M2-6:2 FTS	*133*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
M2-4:2 FTS	*190*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
d5-NEtFOSAA	*78*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C2 PFTeDA	*7*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C7 PFUnA	*58*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
d3-NMeFOSAA	*83*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C8 PFOA	*74*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C9 PFNA	*75*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C4 PFHpA	*72*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C3 HFPO-DA	*68*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
M2-8:2 FTS	*106*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C3 PFHxS	*81*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C8 PFOS	*76*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C4 PFBA	*42*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C2-PFDoDA	*35*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
13C5 PFPeA	*54*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*
d3-NMePFOSA	*7*		*50 - 150*	*10/05/22 08:35*	*10/09/22 02:48*	*1*

Client Sample ID: GSRY-FD-20220926

Lab Sample ID: 670-6498-10

Date Collected: 09/26/22 13:45

Matrix: Surface Water

Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
4:2 Fluorotelomer sulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
6:2 Fluorotelomer sulfonic acid	0.0036	U	0.0074	0.0036	ug/L		10/05/22 08:35	10/09/22 03:09	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		10/05/22 08:35	10/09/22 03:09	1
9Cl-PF3ONS	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
DONA	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
HFPODA	0.00046	U	0.0027	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
NEtFOSAA	0.00046	U	0.0027	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
NMeFOSAA	0.00055	U	0.0018	0.00055	ug/L		10/05/22 08:35	10/09/22 03:09	1
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorobutanesulfonic acid	**0.0013**	**I J**	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorobutanoic acid	**0.0070**		0.0046	0.0018	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorodecanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorodecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorododecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluoroheptanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluoroheptanoic acid	**0.00062**	**I**	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorohexanesulfonic acid	**0.0015**	**I**	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorohexanoic acid	**0.0013**	**I**	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorononanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorononanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorooctanesulfonamide	0.00064	U	0.0018	0.00064	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorooctanesulfonic acid	**0.0051**		0.0019	0.00091	ug/L		10/05/22 08:35	10/09/22 03:09	1

Client Sample ID: GSRY-FD-20220926

Date Collected: 09/26/22 13:45
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6498-10

Matrix: Surface Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	**0.0016**	**I**	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluoropentanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluoropentanoic acid	**0.0010**	**I**	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorotetradecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluorotridecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Perfluoroundecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1
Total PFOA and PFOS	**0.0067**		0.0018	0.00046	ug/L		10/05/22 08:35	10/09/22 03:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*36*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C5 PFHxA	*75*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C3 PFBS	*76*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C8 FOSA	*17*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
M2-6:2 FTS	*104*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
M2-4:2 FTS	*188*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
d5-NEtFOSAA	*36*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C2 PFTeDA	*0*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C7 PFUnA	*14*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
d3-NMeFOSAA	*44*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C8 PFOA	*70*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C9 PFNA	*52*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C4 PFHpA	*73*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C3 HFPO-DA	*74*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
M2-8:2 FTS	*53*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C3 PFHxS	*80*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C8 PFOS	*58*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C4 PFBA	*51*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C2-PFDoDA	*3*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
13C5 PFPeA	*60*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*
d3-NMePFOSA	*0.4*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:09*	*1*

Client Sample ID: GSRY-FB-20220926

Date Collected: 09/26/22 14:52
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6498-11

Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
6:2 Fluorotelomer sulfonic acid	0.0035	U	0.0071	0.0035	ug/L		10/05/22 08:35	10/09/22 03:20	1
8:2 Fluorotelomer sulfonic acid	0.00087	U	0.0026	0.00087	ug/L		10/05/22 08:35	10/09/22 03:20	1
9Cl-PF3ONS	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
DONA	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
HFPODA	0.00044	U	0.0026	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		10/05/22 08:35	10/09/22 03:20	1
NMeFOSA	0.00087	U	0.0026	0.00087	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorobutanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorobutanoic acid	0.0017	U	0.0044	0.0017	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorodecanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorodecanoic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1

Client Sample ID: GSRY-FB-20220926

Lab Sample ID: 670-6498-11

Date Collected: 09/26/22 14:52

Matrix: Water

Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanoic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluoroheptanoic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorohexanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorohexanoic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorononanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorononanoic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorooctanesulfonamide	0.00061	U	0.0017	0.00061	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorooctanesulfonic acid	0.00087	U	0.0018	0.00087	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorooctanoic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluoropentanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluoropentanoic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorotetradecanoic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluorotridecanoic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Perfluoroundecanoic acid	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1
Total PFOA and PFOS	0.00044	U	0.0017	0.00044	ug/L		10/05/22 08:35	10/09/22 03:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*116*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C5 PFHxA	*118*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C3 PFBS	*111*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C8 FOSA	*100*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
M2-6:2 FTS	*121*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
M2-4:2 FTS	*138*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
d5-NEtFOSAA	*114*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C2 PFTeDA	*107*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C7 PFUnA	*115*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
d3-NMeFOSAA	*125*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C8 PFOA	*112*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C9 PFNA	*121*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C4 PFHpA	*108*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C3 HFPO-DA	*113*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
M2-8:2 FTS	*117*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C3 PFHxS	*114*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C8 PFOS	*119*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C4 PFBA	*107*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C2-PFDoDA	*112*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
13C5 PFPeA	*106*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*
d3-NMePFOSA	*52*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:20*	*1*

Client Sample ID: GSRY-EB-20220926

Lab Sample ID: 670-6498-12

Date Collected: 09/26/22 14:54

Matrix: Water

Date Received: 09/30/22 11:10

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
6:2 Fluorotelomer sulfonic acid	0.0034	U	0.0069	0.0034	ug/L		10/05/22 08:35	10/09/22 03:31	1
8:2 Fluorotelomer sulfonic acid	0.00085	U	0.0026	0.00085	ug/L		10/05/22 08:35	10/09/22 03:31	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS SW

Job ID: 670-6498-1

Client Sample ID: GSRY-EB-20220926
Date Collected: 09/26/22 14:54
Date Received: 09/30/22 11:10

Lab Sample ID: 670-6498-12
Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DONA	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
HFPODA	0.00043	U	0.0026	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
NMeFOSAA	0.00051	U	0.0017	0.00051	ug/L		10/05/22 08:35	10/09/22 03:31	1
NMeFOSA	0.00085	U	0.0026	0.00085	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorobutanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorobutanoic acid	0.0017	U	0.0043	0.0017	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluoroheptanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluoroheptanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorohexanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorohexanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorononanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorooctanesulfonamide	0.00060	U	0.0017	0.00060	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorooctanesulfonic acid	0.00085	U	0.0018	0.00085	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorooctanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluoropentanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluoropentanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1
Total PFOA and PFOS	0.00043	U	0.0017	0.00043	ug/L		10/05/22 08:35	10/09/22 03:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*115*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C5 PFHxA	*112*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C3 PFBS	*108*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C8 FOSA	*99*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
M2-6:2 FTS	*112*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
M2-4:2 FTS	*138*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
d5-NEtFOSAA	*122*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C2 PFTeDA	*104*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C7 PFUnA	*117*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
d3-NMeFOSAA	*124*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C8 PFOA	*110*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C9 PFNA	*116*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C4 PFHpA	*114*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C3 HFPO-DA	*110*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
M2-8:2 FTS	*124*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C3 PFHxS	*116*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C8 PFOS	*115*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C4 PFBA	*105*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C2-PFDoDA	*114*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
13C5 PFPeA	*104*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*
d3-NMePFOSA	*49*		*50 - 150*	*10/05/22 08:35*	*10/09/22 03:31*	*1*

Isotope Dilution Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS SW

Job ID: 670-6498-1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Matrix: Surface Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C6PFDA (50-150)	13C5PHA (50-150)	C3PFBS (50-150)	PFOSA (50-150)	M262FTS (50-150)	M242FTS (50-150)	d5NEFOS (50-150)	PFTDA (50-150)
670-6498-1	GSRY-SW0011-001.0-20220926	99	86	95	72	190	259	108	23
670-6498-2	GSRY-SW0012-001.0-20220926	70	70	73	29	130	200	76	3
670-6498-2 MS	GSRY-SW0012-001.0-20220926MS	75	76	80	28	133	208	80	12
670-6498-3	GSRY-SW0013-001.0-20220926	77	77	80	54	136	206	76	7
670-6498-4	GSRY-SW0014-001.0-20220926	86	90	100	49	175	257	92	2
670-6498-5	GSRY-SW0015-001.0-20220926	75	72	70	23	157	198	74	18
670-6498-6	GSRY-SW0016-001.0-20220926	36	65	70	25	114	181	45	0.06
670-6498-7	GSRY-SW0017-001.0-20220926	80	74	80	30	173	232	84	25
670-6498-8	GSRY-SW0018-001.0-20220926	81	86	90	30	177	245	88	4
670-6498-9	GSRY-SW0010-001.0-20220926	74	69	74	48	133	190	78	7
670-6498-10	GSRY-FD-20220926	36	75	76	17	104	188	36	0

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	13C7PUA (50-150)	d3NMFOS (50-150)	C8PFOA (50-150)	C9PFNA (50-150)	C4PFHA (50-150)	HFPODA (50-150)	M282FTS (50-150)	C3PFHS (50-150)
670-6498-1	GSRY-SW0011-001.0-20220926	92	108	96	106	90	83	198	106
670-6498-2	GSRY-SW0012-001.0-20220926	52	76	75	75	73	68	102	83
670-6498-2 MS	GSRY-SW0012-001.0-20220926MS	63	87	77	79	74	69	105	85
670-6498-3	GSRY-SW0013-001.0-20220926	63	85	79	81	75	76	116	86
670-6498-4	GSRY-SW0014-001.0-20220926	54	99	97	96	94	88	126	109
670-6498-5	GSRY-SW0015-001.0-20220926	61	77	77	81	73	70	123	85
670-6498-6	GSRY-SW0016-001.0-20220926	15	50	61	53	64	63	65	74
670-6498-7	GSRY-SW0017-001.0-20220926	75	87	79	86	78	72	169	92
670-6498-8	GSRY-SW0018-001.0-20220926	57	93	90	91	89	82	123	104
670-6498-9	GSRY-SW0010-001.0-20220926	58	83	74	75	72	68	106	81
670-6498-10	GSRY-FD-20220926	14	44	70	52	73	74	53	80

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C8PFOS (50-150)	PFBA (50-150)	PFDoDA (50-150)	PFPeA (50-150)	d3NMFSA (50-150)			
670-6498-1	GSRY-SW0011-001.0-20220926	104	47	67	64	9			
670-6498-2	GSRY-SW0012-001.0-20220926	78	49	28	57	2			
670-6498-2 MS	GSRY-SW0012-001.0-20220926MS	79	49	44	59	2			
670-6498-3	GSRY-SW0013-001.0-20220926	83	53	40	62	9			

Isotope Dilution Summary

Client: AECOM Technical Services Inc. Job ID: 670-6498-1
Project/Site: NASA KSC GSRY PFAS SW

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C8PFOS (50-150)	PFBA (50-150)	PFDoDA (50-150)	PFPeA (50-150)	d3NMFSA (50-150)			
670-6498-4	GSRY-SW0014-001.0-20220926	99	55	23	70	5			
670-6498-5	GSRY-SW0015-001.0-20220926	75	39	46	53	1			
670-6498-6	GSRY-SW0016-001.0-20220926	55	47	4	54	2			
670-6498-7	GSRY-SW0017-001.0-20220926	88	43	58	59	2			
670-6498-8	GSRY-SW0018-001.0-20220926	94	47	28	66	2			
670-6498-9	GSRY-SW0010-001.0-20220926	76	42	35	54	7			
670-6498-10	GSRY-FD-20220926	58	51	3	60	0.4			

Surrogate Legend

C6PFDA = 13C6 PFDA
13C5PHA = 13C5 PFHxA
C3PFBS = 13C3 PFBS
PFOSA = 13C8 FOSA
M262FTS = M2-6:2 FTS
M242FTS = M2-4:2 FTS
d5NEFOS = d5-NEtFOSAA
PFTDA = 13C2 PFTeDA
13C7PUA = 13C7 PFUnA
d3NMFOS = d3-NMeFOSAA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C4PFHA = 13C4 PFHpA
HFPODA = 13C3 HFPO-DA
M282FTS = M2-8:2 FTS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFBA = 13C4 PFBA
PFDoDA = 13C2-PFDoDA
PFPeA = 13C5 PFPeA
d3NMFSA = d3-NMePFOSA

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C6PFDA (50-150)	13C5PHA (50-150)	C3PFBS (50-150)	PFOSA (50-150)	M262FTS (50-150)	M242FTS (50-150)	d5NEFOS (50-150)	PFTDA (50-150)
670-6498-11	GSRY-FB-20220926	116	118	111	100	121	138	114	107
670-6498-12	GSRY-EB-20220926	115	112	108	99	112	138	122	104
LCS 410-303258/3-A	Lab Control Sample	119	113	110	97	117	129	120	109
LCSD 410-303258/4-A	Lab Control Sample Dup	108	107	103	89	96	123	110	99
MB 410-303258/1-A	Method Blank	117	115	109	94	106	133	118	108

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	13C7PUA (50-150)	d3NMFOS (50-150)	C8PFOA (50-150)	C9PFNA (50-150)	C4PFHA (50-150)	HFPODA (50-150)	M282FTS (50-150)	C3PFHS (50-150)
670-6498-11	GSRY-FB-20220926	115	125	112	121	108	113	117	114
670-6498-12	GSRY-EB-20220926	117	124	110	116	114	110	124	116

Isotope Dilution Summary

Client: AECOM Technical Services Inc. Job ID: 670-6498-1
Project/Site: NASA KSC GSRY PFAS SW

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	13C7PUA (50-150)	d3NMFOS (50-150)	C8PFOA (50-150)	C9PFNA (50-150)	C4PFHA (50-150)	HFPODA (50-150)	M282FTS (50-150)	C3PFHS (50-150)
LCS 410-303258/3-A	Lab Control Sample	123	130	114	114	112	106	122	116
LCSD 410-303258/4-A	Lab Control Sample Dup	110	114	102	104	101	96	110	109
MB 410-303258/1-A	Method Blank	113	122	109	111	107	101	127	116

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C8PFOS (50-150)	PFBA (50-150)	PFDoDA (50-150)	PFPeA (50-150)	d3NMFSA (50-150)			
670-6498-11	GSRY-FB-20220926	119	107	112	106	52			
670-6498-12	GSRY-EB-20220926	115	105	114	104	49			
LCS 410-303258/3-A	Lab Control Sample	117	106	117	109	51			
LCSD 410-303258/4-A	Lab Control Sample Dup	107	98	105	99	54			
MB 410-303258/1-A	Method Blank	117	104	113	107	53			

Surrogate Legend

C6PFDA = 13C6 PFDA
13C5PHA = 13C5 PFHxA
C3PFBS = 13C3 PFBS
PFOSA = 13C8 FOSA
M262FTS = M2-6:2 FTS
M242FTS = M2-4:2 FTS
d5NEFOS = d5-NEtFOSAA
PFTDA = 13C2 PFTeDA
13C7PUA = 13C7 PFUnA
d3NMFOS = d3-NMeFOSAA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C4PFHA = 13C4 PFHpA
HFPODA = 13C3 HFPO-DA
M282FTS = M2-8:2 FTS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFBA = 13C4 PFBA
PFDoDA = 13C2-PFDoDA
PFPeA = 13C5 PFPeA
d3NMFSA = d3-NMePFOSA

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Lab Sample ID: MB 410-303258/1-A
Matrix: Water
Analysis Batch: 304485

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 303258

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
6:2 Fluorotelomer sulfonic acid	0.0040	U	0.0081	0.0040	ug/L		10/05/22 08:35	10/08/22 22:55	1
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		10/05/22 08:35	10/08/22 22:55	1
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
DONA	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
HFPODA	0.00050	U	0.0030	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		10/05/22 08:35	10/08/22 22:55	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorobutanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorohexanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1
Total PFOA and PFOS	0.00050	U	0.0020	0.00050	ug/L		10/05/22 08:35	10/08/22 22:55	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*117*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
13C5 PFHxA	*115*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
13C3 PFBS	*109*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
13C8 FOSA	*94*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
M2-6:2 FTS	*106*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
M2-4:2 FTS	*133*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
d5-NEtFOSAA	*118*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
13C2 PFTeDA	*108*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
13C7 PFUnA	*113*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
d3-NMeFOSAA	*122*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
13C8 PFOA	*109*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
13C9 PFNA	*111*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
13C4 PFHpA	*107*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
13C3 HFPO-DA	*101*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
M2-8:2 FTS	*127*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*
13C3 PFHxS	*116*		*50 - 150*	*10/05/22 08:35*	*10/08/22 22:55*	*1*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-303258/1-A
Matrix: Water
Analysis Batch: 304485

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 303258

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	117		50 - 150	10/05/22 08:35	10/08/22 22:55	1
13C4 PFBA	104		50 - 150	10/05/22 08:35	10/08/22 22:55	1
13C2-PFDoDA	113		50 - 150	10/05/22 08:35	10/08/22 22:55	1
13C5 PFPeA	107		50 - 150	10/05/22 08:35	10/08/22 22:55	1
d3-NMePFOSA	53		50 - 150	10/05/22 08:35	10/08/22 22:55	1

Lab Sample ID: LCS 410-303258/3-A
Matrix: Water
Analysis Batch: 304485

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 303258

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.0238	0.0210		ug/L		88	70 - 130
4:2 Fluorotelomer sulfonic acid	0.0239	0.0213		ug/L		89	63 - 143
6:2 Fluorotelomer sulfonic acid	0.0243	0.0205		ug/L		85	64 - 140
8:2 Fluorotelomer sulfonic acid	0.0245	0.0225		ug/L		92	67 - 138
9Cl-PF3ONS	0.0238	0.0219		ug/L		92	70 - 130
DONA	0.0242	0.0211		ug/L		87	70 - 130
HFPODA	0.0256	0.0215		ug/L		84	70 - 130
NEtFOSAA	0.0256	0.0233		ug/L		91	61 - 135
NMeFOSAA	0.0256	0.0221		ug/L		86	65 - 136
NMeFOSA	0.0256	0.0325		ug/L		127	68 - 141
Perfluorobutanesulfonic acid	0.0227	0.0210		ug/L		93	72 - 130
Perfluorobutanoic acid	0.0256	0.0222		ug/L		87	73 - 129
Perfluorodecanesulfonic acid	0.0247	0.0211		ug/L		86	53 - 142
Perfluorodecanoic acid	0.0256	0.0223		ug/L		87	71 - 129
Perfluorododecanoic acid	0.0256	0.0226		ug/L		88	72 - 134
Perfluoroheptanesulfonic acid	0.0244	0.0220		ug/L		90	69 - 134
Perfluoroheptanoic acid	0.0256	0.0215		ug/L		84	72 - 130
Perfluorohexanesulfonic acid	0.0233	0.0195		ug/L		84	68 - 131
Perfluorohexanoic acid	0.0256	0.0223		ug/L		87	72 - 129
Perfluorononanesulfonic acid	0.0246	0.0204		ug/L		83	69 - 127
Perfluorononanoic acid	0.0256	0.0229		ug/L		89	69 - 130
Perfluorooctanesulfonamide	0.0256	0.0244		ug/L		95	67 - 137
Perfluorooctanesulfonic acid	0.0237	0.0203		ug/L		86	65 - 140
Perfluorooctanoic acid	0.0256	0.0211		ug/L		82	71 - 133
Perfluoropentanesulfonic acid	0.0240	0.0217		ug/L		90	71 - 127
Perfluoropentanoic acid	0.0256	0.0228		ug/L		89	72 - 129
Perfluorotetradecanoic acid	0.0256	0.0236		ug/L		92	71 - 132
Perfluorotridecanoic acid	0.0256	0.0221		ug/L		86	65 - 144
Perfluoroundecanoic acid	0.0256	0.0226		ug/L		88	69 - 133
Total PFOA and PFOS	0.0493	0.0414		ug/L		84	65 - 140

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C6 PFDA	119		50 - 150
13C5 PFHxA	113		50 - 150
13C3 PFBS	110		50 - 150
13C8 FOSA	97		50 - 150
M2-6:2 FTS	117		50 - 150
M2-4:2 FTS	129		50 - 150

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-303258/3-A
Matrix: Water
Analysis Batch: 304485

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 303258

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	120		50 - 150
13C2 PFTeDA	109		50 - 150
13C7 PFUnA	123		50 - 150
d3-NMeFOSAA	130		50 - 150
13C8 PFOA	114		50 - 150
13C9 PFNA	114		50 - 150
13C4 PFHpA	112		50 - 150
13C3 HFPO-DA	106		50 - 150
M2-8:2 FTS	122		50 - 150
13C3 PFHxS	116		50 - 150
13C8 PFOS	117		50 - 150
13C4 PFBA	106		50 - 150
13C2-PFDoDA	117		50 - 150
13C5 PFPeA	109		50 - 150
d3-NMePFOSA	51		50 - 150

Lab Sample ID: LCSD 410-303258/4-A
Matrix: Water
Analysis Batch: 304485

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 303258

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11Cl-PF3OUdS			0.0238	0.0207		ug/L		87	70 - 130	1	30
4:2 Fluorotelomer sulfonic acid			0.0239	0.0197		ug/L		82	63 - 143	8	30
6:2 Fluorotelomer sulfonic acid			0.0243	0.0226		ug/L		93	64 - 140	10	30
8:2 Fluorotelomer sulfonic acid			0.0245	0.0233		ug/L		95	67 - 138	4	30
9Cl-PF3ONS			0.0238	0.0227		ug/L		95	70 - 130	4	30
DONA			0.0242	0.0228		ug/L		94	70 - 130	8	30
HFPODA			0.0256	0.0221		ug/L		86	70 - 130	3	30
NEtFOSAA			0.0256	0.0227		ug/L		89	61 - 135	3	30
NMeFOSAA			0.0256	0.0234		ug/L		92	65 - 136	6	30
NMeFOSA			0.0256	0.0304		ug/L		119	68 - 141	7	30
Perfluorobutanesulfonic acid			0.0227	0.0208		ug/L		92	72 - 130	1	30
Perfluorobutanoic acid			0.0256	0.0221		ug/L		87	73 - 129	0	30
Perfluorodecanesulfonic acid			0.0247	0.0206		ug/L		83	53 - 142	3	30
Perfluorodecanoic acid			0.0256	0.0225		ug/L		88	71 - 129	1	30
Perfluorododecanoic acid			0.0256	0.0229		ug/L		89	72 - 134	1	30
Perfluoroheptanesulfonic acid			0.0244	0.0214		ug/L		88	69 - 134	3	30
Perfluoroheptanoic acid			0.0256	0.0223		ug/L		87	72 - 130	4	30
Perfluorohexanesulfonic acid			0.0233	0.0193		ug/L		83	68 - 131	1	30
Perfluorohexanoic acid			0.0256	0.0223		ug/L		87	72 - 129	0	30
Perfluorononanesulfonic acid			0.0246	0.0203		ug/L		83	69 - 127	1	30
Perfluorononanoic acid			0.0256	0.0223		ug/L		87	69 - 130	2	30
Perfluorooctanesulfonamide			0.0256	0.0249		ug/L		97	67 - 137	2	30
Perfluorooctanesulfonic acid			0.0237	0.0205		ug/L		86	65 - 140	1	30
Perfluorooctanoic acid			0.0256	0.0209		ug/L		82	71 - 133	1	30
Perfluoropentanesulfonic acid			0.0240	0.0221		ug/L		92	71 - 127	2	30
Perfluoropentanoic acid			0.0256	0.0228		ug/L		89	72 - 129	0	30
Perfluorotetradecanoic acid			0.0256	0.0229		ug/L		89	71 - 132	3	30
Perfluorotridecanoic acid			0.0256	0.0220		ug/L		86	65 - 144	0	30

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCSD 410-303258/4-A
Matrix: Water
Analysis Batch: 304485

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 303258

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroundecanoic acid			0.0256	0.0221		ug/L		86	69 - 133	2	30
Total PFOA and PFOS			0.0493	0.0414		ug/L		84	65 - 140	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C6 PFDA	*108*		*50 - 150*
13C5 PFHxA	*107*		*50 - 150*
13C3 PFBS	*103*		*50 - 150*
13C8 FOSA	*89*		*50 - 150*
M2-6:2 FTS	*96*		*50 - 150*
M2-4:2 FTS	*123*		*50 - 150*
d5-NEtFOSAA	*110*		*50 - 150*
13C2 PFTeDA	*99*		*50 - 150*
13C7 PFUnA	*110*		*50 - 150*
d3-NMeFOSAA	*114*		*50 - 150*
13C8 PFOA	*102*		*50 - 150*
13C9 PFNA	*104*		*50 - 150*
13C4 PFHpA	*101*		*50 - 150*
13C3 HFPO-DA	*96*		*50 - 150*
M2-8:2 FTS	*110*		*50 - 150*
13C3 PFHxS	*109*		*50 - 150*
13C8 PFOS	*107*		*50 - 150*
13C4 PFBA	*98*		*50 - 150*
13C2-PFDoDA	*105*		*50 - 150*
13C5 PFPeA	*99*		*50 - 150*
d3-NMePFOSA	*54*		*50 - 150*

Lab Sample ID: 670-6498-2 MS
Matrix: Surface Water
Analysis Batch: 304485

Client Sample ID: GSRY-SW0012-001.0-20220926MS
Prep Type: Total/NA
Prep Batch: 303258

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.00043	U	0.0211	0.0153		ug/L		73	70 - 130
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0212	0.0179		ug/L		85	63 - 143
6:2 Fluorotelomer sulfonic acid	0.043		0.0215	0.0668		ug/L		110	64 - 140
8:2 Fluorotelomer sulfonic acid	0.00085	U	0.0217	0.0201		ug/L		93	67 - 138
9Cl-PF3ONS	0.00043	U	0.0211	0.0199		ug/L		94	70 - 130
DONA	0.00043	U	0.0214	0.0201		ug/L		94	70 - 130
HFPODA	0.00043	U	0.0227	0.0206		ug/L		91	70 - 130
NEtFOSAA	0.00043	U	0.0227	0.0211		ug/L		93	61 - 135
NMeFOSAA	0.00051	U	0.0227	0.0193		ug/L		85	65 - 136
NMeFOSA	0.00085	U	0.0227	0.0272		ug/L		120	68 - 141
Perfluorobutanesulfonic acid	0.0014	I J	0.0201	0.0203		ug/L		94	72 - 130
Perfluorobutanoic acid	0.0068		0.0227	0.0262		ug/L		86	73 - 129
Perfluorodecanesulfonic acid	0.00043	U	0.0219	0.0135		ug/L		61	53 - 142
Perfluorodecanoic acid	0.00043	U	0.0227	0.0193		ug/L		85	71 - 129
Perfluorododecanoic acid	0.00043	U	0.0227	0.0195		ug/L		86	72 - 134
Perfluoroheptanesulfonic acid	0.00043	U	0.0216	0.0185		ug/L		86	69 - 134
Perfluoroheptanoic acid	0.00080	I	0.0227	0.0201		ug/L		85	72 - 130
Perfluorohexanesulfonic acid	0.0022		0.0207	0.0186		ug/L		79	68 - 131

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: 670-6498-2 MS
Matrix: Surface Water
Analysis Batch: 304485

Client Sample ID: GSRY-SW0012-001.0-20220926MS
Prep Type: Total/NA
Prep Batch: 303258

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid	0.0017		0.0227	0.0218		ug/L		89	72 - 129
Perfluorononanesulfonic acid	0.00043	U	0.0218	0.0166		ug/L		76	69 - 127
Perfluorononanoic acid	0.00043	U	0.0227	0.0201		ug/L		89	69 - 130
Perfluorooctanesulfonamide	0.00060	U	0.0227	0.0222		ug/L		98	67 - 137
Perfluorooctanesulfonic acid	0.0060		0.0210	0.0238		ug/L		85	65 - 140
Perfluorooctanoic acid	0.0017		0.0227	0.0205		ug/L		83	71 - 133
Perfluoropentanesulfonic acid	0.00043	U	0.0213	0.0187		ug/L		88	71 - 127
Perfluoropentanoic acid	0.0013	I	0.0227	0.0255		ug/L		107	72 - 129
Perfluorotetradecanoic acid	0.00043	U	0.0227	0.0217		ug/L		96	71 - 132
Perfluorotridecanoic acid	0.00043	U	0.0227	0.0130		ug/L		57	65 - 144
Perfluoroundecanoic acid	0.00043	U	0.0227	0.0197		ug/L		87	69 - 133
Total PFOA and PFOS	0.0077		0.0437	0.0443		ug/L		84	65 - 140

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C6 PFDA	*75*		*50 - 150*
13C5 PFHxA	*76*		*50 - 150*
13C3 PFBS	*80*		*50 - 150*
13C8 FOSA	*28*		*50 - 150*
M2-6:2 FTS	*133*		*50 - 150*
M2-4:2 FTS	*208*		*50 - 150*
d5-NEtFOSAA	*80*		*50 - 150*
13C2 PFTeDA	*12*		*50 - 150*
13C7 PFUnA	*63*		*50 - 150*
d3-NMeFOSAA	*87*		*50 - 150*
13C8 PFOA	*77*		*50 - 150*
13C9 PFNA	*79*		*50 - 150*
13C4 PFHpA	*74*		*50 - 150*
13C3 HFPO-DA	*69*		*50 - 150*
M2-8:2 FTS	*105*		*50 - 150*
13C3 PFHxS	*85*		*50 - 150*
13C8 PFOS	*79*		*50 - 150*
13C4 PFBA	*49*		*50 - 150*
13C2-PFDoDA	*44*		*50 - 150*
13C5 PFPeA	*59*		*50 - 150*
d3-NMePFOSA	*2*		*50 - 150*

LCMS

Prep Batch: 303258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6498-1	GSRY-SW0011-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-2	GSRY-SW0012-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-3	GSRY-SW0013-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-4	GSRY-SW0014-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-5	GSRY-SW0015-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-6	GSRY-SW0016-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-7	GSRY-SW0017-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-8	GSRY-SW0018-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-9	GSRY-SW0010-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-10	GSRY-FD-20220926	Total/NA	Surface Water	537 IDA	
670-6498-11	GSRY-FB-20220926	Total/NA	Water	537 IDA	
670-6498-12	GSRY-EB-20220926	Total/NA	Water	537 IDA	
MB 410-303258/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-303258/3-A	Lab Control Sample	Total/NA	Water	537 IDA	
LCSD 410-303258/4-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	
670-6498-2 MS	GSRY-SW0012-001.0-20220926MS	Total/NA	Surface Water	537 IDA	

Analysis Batch: 304485

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6498-1	GSRY-SW0011-001.0-20220926	Total/NA	Surface Water	QSM B15	303258
670-6498-2	GSRY-SW0012-001.0-20220926	Total/NA	Surface Water	QSM B15	303258
670-6498-3	GSRY-SW0013-001.0-20220926	Total/NA	Surface Water	QSM B15	303258
670-6498-4	GSRY-SW0014-001.0-20220926	Total/NA	Surface Water	QSM B15	303258
670-6498-5	GSRY-SW0015-001.0-20220926	Total/NA	Surface Water	QSM B15	303258
670-6498-6	GSRY-SW0016-001.0-20220926	Total/NA	Surface Water	QSM B15	303258
670-6498-7	GSRY-SW0017-001.0-20220926	Total/NA	Surface Water	QSM B15	303258
670-6498-8	GSRY-SW0018-001.0-20220926	Total/NA	Surface Water	QSM B15	303258
670-6498-9	GSRY-SW0010-001.0-20220926	Total/NA	Surface Water	QSM B15	303258
670-6498-10	GSRY-FD-20220926	Total/NA	Surface Water	QSM B15	303258
670-6498-11	GSRY-FB-20220926	Total/NA	Water	QSM B15	303258
670-6498-12	GSRY-EB-20220926	Total/NA	Water	QSM B15	303258
MB 410-303258/1-A	Method Blank	Total/NA	Water	QSM B15	303258
LCS 410-303258/3-A	Lab Control Sample	Total/NA	Water	QSM B15	303258
LCSD 410-303258/4-A	Lab Control Sample Dup	Total/NA	Water	QSM B15	303258
670-6498-2 MS	GSRY-SW0012-001.0-20220926MS	Total/NA	Surface Water	QSM B15	303258

Prep Batch: 306941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6498-1 - RE	GSRY-SW0011-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-3 - RE	GSRY-SW0013-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-4 - RE	GSRY-SW0014-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-5 - RE	GSRY-SW0015-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-6 - RE	GSRY-SW0016-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-7 - RE	GSRY-SW0017-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-8 - RE	GSRY-SW0018-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-9 - RE	GSRY-SW0010-001.0-20220926	Total/NA	Surface Water	537 IDA	
670-6498-10 - RE	GSRY-FD-20220926	Total/NA	Surface Water	537 IDA	
670-6498-12 - RE	GSRY-EB-20220926	Total/NA	Water	537 IDA	
MB 410-306941/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-306941/2-A	Lab Control Sample	Total/NA	Water	537 IDA	
LCSD 410-306941/3-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS SW

Job ID: 670-6498-1

LCMS

Analysis Batch: 307097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6498-1 - RE	GSRY-SW0011-001.0-20220926	Total/NA	Surface Water	QSM B15	306941
670-6498-3 - RE	GSRY-SW0013-001.0-20220926	Total/NA	Surface Water	QSM B15	306941
670-6498-4 - RE	GSRY-SW0014-001.0-20220926	Total/NA	Surface Water	QSM B15	306941
670-6498-5 - RE	GSRY-SW0015-001.0-20220926	Total/NA	Surface Water	QSM B15	306941
670-6498-6 - RE	GSRY-SW0016-001.0-20220926	Total/NA	Surface Water	QSM B15	306941
670-6498-7 - RE	GSRY-SW0017-001.0-20220926	Total/NA	Surface Water	QSM B15	306941
670-6498-8 - RE	GSRY-SW0018-001.0-20220926	Total/NA	Surface Water	QSM B15	306941
670-6498-9 - RE	GSRY-SW0010-001.0-20220926	Total/NA	Surface Water	QSM B15	306941
670-6498-10 - RE	GSRY-FD-20220926	Total/NA	Surface Water	QSM B15	306941
670-6498-12 - RE	GSRY-EB-20220926	Total/NA	Water	QSM B15	306941
MB 410-306941/1-A	Method Blank	Total/NA	Water	QSM B15	306941
LCS 410-306941/2-A	Lab Control Sample	Total/NA	Water	QSM B15	306941
LCSD 410-306941/3-A	Lab Control Sample Dup	Total/NA	Water	QSM B15	306941

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS SW

Job ID: 670-6498-1

Client Sample ID: GSRY-SW0011-001.0-20220926
Lab Sample ID: 670-6498-1
Date Collected: 09/26/22 13:20
Matrix: Surface Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 01:13
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 01:09

Client Sample ID: GSRY-SW0012-001.0-20220926
Lab Sample ID: 670-6498-2
Date Collected: 09/26/22 13:40
Matrix: Surface Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 01:23

Client Sample ID: GSRY-SW0013-001.0-20220926
Lab Sample ID: 670-6498-3
Date Collected: 09/26/22 13:55
Matrix: Surface Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 01:45
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 01:20

Client Sample ID: GSRY-SW0014-001.0-20220926
Lab Sample ID: 670-6498-4
Date Collected: 09/26/22 14:05
Matrix: Surface Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 01:55
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 01:41

Client Sample ID: GSRY-SW0015-001.0-20220926
Lab Sample ID: 670-6498-5
Date Collected: 09/26/22 14:18
Matrix: Surface Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 02:06
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 01:52

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS SW

Job ID: 670-6498-1

Client Sample ID: GSRY-SW0016-001.0-20220926
Lab Sample ID: 670-6498-6
Date Collected: 09/26/22 14:27
Matrix: Surface Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 02:16
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 02:02

Client Sample ID: GSRY-SW0017-001.0-20220926
Lab Sample ID: 670-6498-7
Date Collected: 09/26/22 14:37
Matrix: Surface Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 02:27
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 02:13

Client Sample ID: GSRY-SW0018-001.0-20220926
Lab Sample ID: 670-6498-8
Date Collected: 09/26/22 14:50
Matrix: Surface Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 02:38
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 02:23

Client Sample ID: GSRY-SW0010-001.0-20220926
Lab Sample ID: 670-6498-9
Date Collected: 09/26/22 13:00
Matrix: Surface Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 02:48
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 02:34

Client Sample ID: GSRY-FD-20220926
Lab Sample ID: 670-6498-10
Date Collected: 09/26/22 13:45
Matrix: Surface Water
Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 03:09
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 02:45

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS SW

Job ID: 670-6498-1

Client Sample ID: GSRY-FB-20220926

Lab Sample ID: 670-6498-11

Date Collected: 09/26/22 14:52

Matrix: Water

Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 03:20

Client Sample ID: GSRY-EB-20220926

Lab Sample ID: 670-6498-12

Date Collected: 09/26/22 14:54

Matrix: Water

Date Received: 09/30/22 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			303258	RC3V	ELLE	10/05/22 08:35
Total/NA	Analysis	QSM B15		1	304485	ZG8V	ELLE	10/09/22 03:31
Total/NA	Prep	537 IDA	RE		306941	JU9U	ELLE	10/15/22 00:19
Total/NA	Analysis	QSM B15	RE	1	307097	ZG8V	ELLE	10/17/22 02:55

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 670-6498-1
Project/Site: NASA KSC GSRY PFAS SW

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-22
A2LA	ISO/IEC 17025	0001.01	11-30-22
Alaska	State	PA00009	07-01-23
Alaska (UST)	State	17-027	02-28-23
Arizona	State	AZ0780	03-12-23
Arkansas DEQ	State	88-00660	08-09-23
California	State	2792	11-30-22
Colorado	State	PA00009	06-30-23
Connecticut	State	PH-0746	06-30-23
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-23
Delaware (DW)	State	N/A	01-31-23
Florida	NELAP	E87997	06-30-23
Georgia (DW)	State	C048	01-31-23
Hawaii	State	N/A	01-31-23
Illinois	NELAP	200027	01-31-23
Iowa	State	361	03-01-24
Kansas	NELAP	E-10151	10-31-22
Kentucky (DW)	State	KY90088	12-31-22
Kentucky (UST)	State	1.01	11-30-22
Kentucky (WW)	State	KY90088	01-01-23
Louisiana	NELAP	02055	06-30-23
Maine	State	2019012	03-12-23
Maryland	State	100	06-30-23
Massachusetts	State	M-PA009	06-30-23
Michigan	State	9930	01-31-23
Minnesota	NELAP	042-999-487	12-31-22
Mississippi	State	022	01-31-23
Missouri	State	450	01-31-25
Montana (DW)	State	0098	01-01-23
Montana (UST)	State	<cert No.>	02-01-23
Nebraska	State	NE-OS-32-17	01-31-23
New Hampshire	NELAP	2730	01-10-23
New Jersey	NELAP	PA011	06-30-23
New York	NELAP	10670	04-01-23
North Carolina (DW)	State	42705	07-31-23
North Carolina (WW/SW)	State	521	12-31-22
North Dakota	State	R-205	01-31-23
Oklahoma	NELAP	R-205	08-31-23
Oregon	NELAP	PA200001	09-11-23
PALA	Canada	1978	09-16-24
Pennsylvania	NELAP	36-00037	01-31-23
Rhode Island	State	LAO00338	12-30-22
South Carolina	State	89002	01-31-23
Tennessee	State	02838	01-31-23
Texas	NELAP	T104704194-22-43	08-31-23
USDA	US Federal Programs	P330-19-00197	08-09-23
Vermont	State	VT - 36037	10-27-22
Virginia	NELAP	460182	06-15-23
Washington	State	C457	04-11-23
West Virginia (DW)	State	9906 C	12-31-22

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 670-6498-1
Project/Site: NASA KSC GSRY PFAS SW

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	055	10-19-22
Wyoming	State	8TMS-L	01-31-23
Wyoming (UST)	A2LA	1.01	11-30-22

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS SW

Job ID: 670-6498-1

Method	Method Description	Protocol	Laboratory
QSM B15	PFAS for QSM 5.4, Table B-15	DOD 5.4	ELLE
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE

Protocol References:

DOD 5.4 = Department of Defense Quality Systems Manual V5.4

EPA = US Environmental Protection Agency

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS SW

Job ID: 670-6498-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-6498-1	GSRY-SW0011-001.0-20220926	Surface Water	09/26/22 13:20	09/30/22 11:10
670-6498-2	GSRY-SW0012-001.0-20220926	Surface Water	09/26/22 13:40	09/30/22 11:10
670-6498-3	GSRY-SW0013-001.0-20220926	Surface Water	09/26/22 13:55	09/30/22 11:10
670-6498-4	GSRY-SW0014-001.0-20220926	Surface Water	09/26/22 14:05	09/30/22 11:10
670-6498-5	GSRY-SW0015-001.0-20220926	Surface Water	09/26/22 14:18	09/30/22 11:10
670-6498-6	GSRY-SW0016-001.0-20220926	Surface Water	09/26/22 14:27	09/30/22 11:10
670-6498-7	GSRY-SW0017-001.0-20220926	Surface Water	09/26/22 14:37	09/30/22 11:10
670-6498-8	GSRY-SW0018-001.0-20220926	Surface Water	09/26/22 14:50	09/30/22 11:10
670-6498-9	GSRY-SW0010-001.0-20220926	Surface Water	09/26/22 13:00	09/30/22 11:10
670-6498-10	GSRY-FD-20220926	Surface Water	09/26/22 13:45	09/30/22 11:10
670-6498-11	GSRY-FB-20220926	Water	09/26/22 14:52	09/30/22 11:10
670-6498-12	GSRY-EB-20220926	Water	09/26/22 14:54	09/30/22 11:10

BO 452

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

eurofins

Project Name: NASA KSC - GSA Reclamation Yard		COC No.	Page: 1 of 1
Site Location: GSRY - PFAS SW		PO No. TBD	Project No. 60614327.4 Phase:
TO No.: 80KSC019F0078	AECOM Project Manager: **Chad Lee cc: Jennifer Gootee**	Send Invoice To: Instructions in MSA# 21S-27172-GV03	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Greg Kusel / (772) 631-7426	Dustin Slater / (407) 766-0747	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name: Eurofins	Turnaround Time(specify): Standard	Deliver Samples To: Eurofins Orlando	Site-Spicific WS#15 from QAPP: 15-2

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	Total No. of Containers (3)	Select PFAS by 537 (4 DEG)	Comments
	GSRY-SW0011-001.0-20220926	GSRY-SW0011	20220926	13:20	WS	N	G	2	2	
	GSRY-SW0012-001.0-20220926	GSRY-SW0012	20220926	13:40	WS	N	G	6 2	6 2	MS/MSD
	GSRY-SW0013-001.0-20220926	GSRY-SW0013	20220926	13:55	WS	N	G	2	2	
	GSRY-SW0014-001.0-20220926	GSRY-SW0014	20220926	14:05	WS	N	G	2	2	
	GSRY-SW0015-001.0-20220926	GSRY-SW0015	20220926	14:18	WS	N	G	2	2	
	GSRY-SW0016-001.0-20220926	GSRY-SW0016	20220926	14:27	WS	N	G	2	2	
	GSRY-SW0017-001.0-20220926	GSRY-SW0017	20220926	14:37	WS	N	G	2	2	
	GSRY-SW0018-001.0-20220926	GSRY-SW0018	20220926 6K	14:50	WS	N	G	2	2	
	GSRY-SW0019-001.0-20220926 10 6K	GSRY-SW0019 10 6K	20220926	13:00	WS	N	G	2	2	
	GSRY-FD-20220926	GSRY-FD	20220926	13:45	WS	FD	G	2	2	
	GSRY-FB-20220926	GSRY-FB	20220926	14:52	WQ	FB	G	2	2	
	GSRY-EB-20220926	GSRY-EB	20220926	14:54	WQ	EB	G	2	2	

670-6498 Chain of Custody

***Field* Comments:**
Report only per QAPP WS #15-2, ~~Additional sample volume submitted~~ 6K for MS/MSD for sample SW0012 No additional volume submitted

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	M. Pavsak	9/30/22	1110		9/30	1110
2						
3						

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: **4 DEG C**=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-616.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-6498-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 10/13/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY PFAS SW	Project #: 67000872			
Site:	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)	PFC_IDA_05.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-SW0011-001.0-20220926 (670-6498-1)	9/26/22	13:20 Eastern		Water			X	2	
GSRY-SW0012-001.0-20220926 (670-6498-2)	9/26/22	13:40 Eastern		Water			X	2	
GSRY-SW0012-001.0-20220926MS (670-6498-2MS)	9/26/22	13:40 Eastern	MS	Water			X	2	
GSRY-SW0012-001.0-20220926MSD (670-6498-2MSD)	9/26/22	13:40 Eastern	MSD	Water			X	2	
GSRY-SW0013-001.0-20220926 (670-6498-3)	9/26/22	13:55 Eastern		Water			X	2	
GSRY-SW0014-001.0-20220926 (670-6498-4)	9/26/22	14:05 Eastern		Water			X	2	
GSRY-SW0015-001.0-20220926 (670-6498-5)	9/26/22	14:18 Eastern		Water			X	2	
GSRY-SW0016-001.0-20220926 (670-6498-6)	9/26/22	14:27 Eastern		Water			X	2	
GSRY-SW0017-001.0-20220926 (670-6498-7)	9/26/22	14:37 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon out 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southeast, 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
		9/30 1300				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	10/1/22 10:00	ELET

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.7

Ver: 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-616.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-6498-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 10/13/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY PFAS SW	Project #: 67000872			
Site:	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)	PFC_IDA_05.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-SW0018-001.0-20220926 (670-6498-8)	9/26/22	14:50 Eastern		Water			X	2	
GSRY-SW0010-001.0-20220926 (670-6498-9)	9/26/22	13:00 Eastern		Water			X	2	
GSRY-FD-20220926 (670-6498-10)	9/26/22	13:45 Eastern		Water			X	2	
GSRY-FB-20220926 (670-6498-11)	9/26/22	14:52 Eastern		Water			X	2	
GSRY-EB-20220926 (670-6498-12)	9/26/22	14:54 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon out 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southeast, 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
1		9/30 1300				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	10/1/22 1000	ELLET

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.7

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-6498-1

Login Number: 6498
List Number: 1
Creator: Hartley, Tyler

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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	
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc. Job Number: 670-6498-1

Login Number: 6498 **List Source: Eurofins Lancaster Laboratories Environment Testing, LLC**
List Number: 2 **List Creation: 10/01/22 12:31 PM**
Creator: McBeth, Jessica

Question	Answer	Comment
The cooler's custody seal is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	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	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Tel: (407)339-5984

Laboratory Job ID: 670-6896-1
Client Project/Site: NASA KSC GSRY PFAS

For:
AECOM Technical Services Inc.
150 North Orange Avenue
Suite 200
Orlando, Florida 32801

Attn: Teresa Amentt Jennings

Kaitlin Dylnicki

Authorized for release by:
10/26/2022 4:39:01 PM

Kaitlin Dylnicki, Project Manager
(407)339-5984
kaitlin.dylnicki@et.eurofinsus.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 6
Client Sample Results 8
Isotope Dilution Summary 20
QC Sample Results 23
QC Association Summary 28
Lab Chronicle 30
Certification Summary 33
Method Summary 35
Sample Summary 36
Chain of Custody 37
Receipt Checklists 40

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 670-6896-1
Project/Site: NASA KSC GSRY PFAS

Qualifiers

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

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

Job ID: 670-6896-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-6896-1

Receipt
The samples were received on 10/6/2022 4:45 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

PFAS
Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) d3-NMePFOSA in the laboratory control spike samples associated with the following samples: GSRY-MW0069-015.0-20221005 (670-6896-1), GSRY-MW0070-015.0-20221005 (670-6896-2), GSRY-MW0073-022.0-20221005 (670-6896-3), GSRY-MW0074-012.0-20221005 (670-6896-4), GSRY-MW0074-012.0-20221005 (670-6896-4[MS]), GSRY-MW0074-012.0-20221005 (670-6896-4[MSD]), GSRY-MW0076-015.0-20221005 (670-6896-5), GSRY-MW0077-015.0-20221005 (670-6896-6), GSRY-MW0078-012.0-20221005 (670-6896-7), GSRY-FD-20221005 (670-6896-8), GSRY-FB-20221005 (670-6896-9) and GSRY-EB-20221005 (670-6896-10) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) in the re-extracted laboratory control spike sample(s) was again outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C3 HFPO-DA, 13C4 PFBA, 13C3 PFBS, 13C6 PFDA, 13C2-PFDoDA, 13C4 PFHpA, 13C3 PFHxS, 13C9 PFNA, 13C8 PFOA, 13C8 PFOS, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, d3-NMePFOSA, M2-8:2 FTS and d5-NEtFOSAA in the following sample: GSRY-MW0069-015.0-20221005 (670-6896-1) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) were within QC acceptance limits. The recovery for labeled isotope 13C4 PFBA, d3-NMePFOSA and M2-8:2 FTS were again outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C6 PFDA, 13C2-PFDoDA, 13C4 PFHpA, 13C3 PFHxS, 13C9 PFNA, 13C8 PFOA, 13C8 PFOS, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, d3-NMePFOSA, M2-6:2 FTS, M2-4:2 FTS, M2-8:2 FTS and d5-NEtFOSAA in the following sample: GSRY-MW0070-015.0-20221005 (670-6896-2) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) were within QC acceptance limits. The recovery for labeled isotope d3-NMePFOSA, M2-4:2 FTS and M2-6:2 FTS were again outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C4 PFBA, 13C2-PFDoDA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMePFOSA and M2-4:2 FTS in the following sample: GSRY-MW0073-022.0-20221005 (670-6896-3) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) were within QC acceptance limits. The recovery for labeled isotope 13C4 PFBA, d3-NMePFOSA and M2-4:2 FTS were again outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C4 PFBA, 13C6 PFDA, 13C2-PFDoDA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, d3-NMePFOSA, M2-4:2 FTS and d5-NEtFOSAA in the following sample: GSRY-MW0074-012.0-20221005 (670-6896-4) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) were within QC acceptance limits. The recovery for labeled isotope 13C4 PFBA, d3-NMePFOSA and M2-4:2 FTS were again outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C4 PFBA, 13C2-PFDoDA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMePFOSA, M2-6:2 FTS and M2-4:2 FTS in the following sample: GSRY-MW0074-012.0-20221005 (670-6896-4[MS]) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) were within QC acceptance limits. The recovery for labeled isotope 13C4 PFBA, d3-NMePFOSA, M2-4:2 FTS and M2-6:2 FTS were again outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C4 PFBA, 13C6 PFDA, 13C2-PFDoDA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, d3-NMePFOSA, M2-6:2 FTS, M2-4:2 FTS and d5-NEtFOSAA in the following sample: GSRY-MW0074-012.0-20221005 (670-6896-4[MSD]) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) were within QC acceptance limits. The recovery for labeled isotope 13C4 PFBA, d3-NMePFOSA, M2-4:2 FTS and M2-6:2 FTS were again outside the QC acceptance limits.

Job ID: 670-6896-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C4 PFBA, 13C2-PFDoDA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMePFOSA, M2-6:2 FTS and M2-4:2 FTS in the following sample: GSRY-MW0076-015.0-20221005 (670-6896-5) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) were within QC acceptance limits. The recovery for labeled isotope 13C4 PFBA, d3-NMePFOSA , M2-4:2 FTS and M2-6:2 FTS were again outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C4 PFBA, 13C6 PFDA, 13C2-PFDoDA, 13C9 PFNA, 13C8 PFOS, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, d3-NMePFOSA, M2-4:2 FTS, M2-8:2 FTS and d5-NEtFOSAA in the following sample: GSRY-MW0077-015.0-20221005 (670-6896-6) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) were within QC acceptance limits. The recovery for labeled isotope 13C4 PFBA, d3-NMePFOSA and M2-4:2 FTS were again outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C6 PFDA, 13C2-PFDoDA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, d3-NMePFOSA, M2-4:2 FTS and d5-NEtFOSAA in the following sample: GSRY-MW0078-012.0-20221005 (670-6896-7) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) were within QC acceptance limits. The recovery for labeled isotope d3-NMePFOSA and M2-4:2 FTS were again outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C4 PFBA, 13C6 PFDA, 13C2-PFDoDA, 13C8 PFOS, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, d3-NMePFOSA, M2-4:2 FTS and d5-NEtFOSAA in the following sample: GSRY-FD-20221005 (670-6896-8) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) were within QC acceptance limits. The recovery for labeled isotope 13C4 PFBA, d3-NMePFOSA and M2-4:2 FTS were again outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) d3-NMePFOSA in the following sample: GSRY-FB-20221005 (670-6896-9) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was again outside the QC acceptance limits.

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

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6896-1

Client Sample ID: GSRY-MW0069-015.0-20221005 — Lab Sample ID: 670-6896-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid	0.00080	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0020		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0014	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0033		0.0019	0.00090	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0055		0.0018	0.00045	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0070-015.0-20221005 — Lab Sample ID: 670-6896-2

No Detections.

Client Sample ID: GSRY-MW0073-022.0-20221005 — Lab Sample ID: 670-6896-3

No Detections.

Client Sample ID: GSRY-MW0074-012.0-20221005 — Lab Sample ID: 670-6896-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.0024		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.011		0.0046	0.0019	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00073	I	0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0092		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.019		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.015		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00085	I	0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.014		0.0019	0.00093	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.057		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0021		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0082		0.0019	0.00046	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0076-015.0-20221005 — Lab Sample ID: 670-6896-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.0018		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0046		0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00066	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.012		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.020		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.021		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00059	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0093		0.0019	0.00091	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.092		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0029		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.010		0.0018	0.00045	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0077-015.0-20221005 — Lab Sample ID: 670-6896-6

No Detections.

Client Sample ID: GSRY-MW0078-012.0-20221005 — Lab Sample ID: 670-6896-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.00084	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0027	I	0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0015	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0036		0.0018	0.00045	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Client Sample ID: GSRY-MW0078-012.0-20221005 (Continued)
Lab Sample ID: 670-6896-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	0.0019		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0010	I	0.0018	0.00063	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0088		0.0019	0.00090	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0053		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0015	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-FD-20221005
Lab Sample ID: 670-6896-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.0023		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.012		0.0046	0.0019	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00070	I	0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.011		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.020		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.016		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00081	I	0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.014		0.0019	0.00093	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.055		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0027		0.0019	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0080		0.0019	0.00046	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-FB-20221005
Lab Sample ID: 670-6896-9

No Detections.

Client Sample ID: GSRY-EB-20221005
Lab Sample ID: 670-6896-10

No Detections.

This Detection Summary does not include radiochemical test results.

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6896-1

Client Sample ID: GSRY-MW0069-015.0-20221005
Date Collected: 10/05/22 15:08
Date Received: 10/06/22 16:45

Lab Sample ID: 670-6896-1
Matrix: Ground Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
DONA	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
6:2 Fluorotelomer sulfonic acid	0.0036	U	0.0073	0.0036	ug/L		10/16/22 07:54	10/17/22 17:30	1
8:2 Fluorotelomer sulfonic acid	0.00090	U	0.0027	0.00090	ug/L		10/16/22 07:54	10/17/22 17:30	1
HFPODA	0.00045	U	0.0027	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
NMeFOSA	0.00090	U	0.0027	0.00090	ug/L		10/16/22 07:54	10/17/22 17:30	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorobutanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorobutanoic acid	0.0018	U	0.0045	0.0018	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluoroheptanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluoroheptanoic acid	**0.00080**	**I**	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorohexanesulfonic acid	**0.0020**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorohexanoic acid	**0.0014**	**I**	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorononanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorooctanesulfonamide	0.00063	U	0.0018	0.00063	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorooctanesulfonic acid	**0.0033**		0.0019	0.00090	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorooctanoic acid	**0.0055**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluoropentanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluoropentanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 17:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*4*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C3 HFPO-DA	*45*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C4 PFBA	*37*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C3 PFBS	*49*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C6 PFDA	*7*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C2-PFDoDA	*0.3*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C4 PFHpA	*47*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C5 PFHxA	*51*		*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C3 PFHxS	*43*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C9 PFNA	*19*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C8 PFOA	*34*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C8 PFOS	*15*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C5 PFPeA	*42*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C2 PFTeDA	*0.1*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
13C7 PFUnA	*2*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
d3-NMeFOSAA	*6*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
d3-NMePFOSA	*0*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
M2-6:2 FTS	*55*		*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*
M2-4:2 FTS	*133*		*50 - 150*	*10/16/22 07:54*	*10/17/22 17:30*	*1*

Client Sample ID: GSRY-MW0069-015.0-20221005

Lab Sample ID: 670-6896-1

Date Collected: 10/05/22 15:08

Matrix: Ground Water

Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	11	*	50 - 150	10/16/22 07:54	10/17/22 17:30	1
d5-NEtFOSAA	4	*	50 - 150	10/16/22 07:54	10/17/22 17:30	1

Client Sample ID: GSRY-MW0070-015.0-20221005

Lab Sample ID: 670-6896-2

Date Collected: 10/05/22 11:14

Matrix: Ground Water

Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
11Cl-PF3OUdS	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
DONA	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
4:2 Fluorotelomer sulfonic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
6:2 Fluorotelomer sulfonic acid	0.0038	U	0.0077	0.0038	ug/L		10/16/22 07:54	10/17/22 17:41	1
8:2 Fluorotelomer sulfonic acid	0.00095	U	0.0029	0.00095	ug/L		10/16/22 07:54	10/17/22 17:41	1
HFPODA	0.00048	U	0.0029	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
NEtFOSAA	0.00048	U	0.0029	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
NMeFOSA	0.00095	U	0.0029	0.00095	ug/L		10/16/22 07:54	10/17/22 17:41	1
NMeFOSAA	0.00057	U	0.0019	0.00057	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorobutanesulfonic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorobutanoic acid	0.0019	U	0.0048	0.0019	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorodecanesulfonic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorodecanoic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorododecanoic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluoroheptanesulfonic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluoroheptanoic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorohexanesulfonic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorohexanoic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorononanesulfonic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorononanoic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorooctanesulfonamide	0.00067	U	0.0019	0.00067	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorooctanesulfonic acid	0.00095	U	0.0020	0.00095	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorooctanoic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluoropentanesulfonic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluoropentanoic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorotetradecanoic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluorotridecanoic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1
Perfluoroundecanoic acid	0.00048	U	0.0019	0.00048	ug/L		10/16/22 07:54	10/17/22 17:41	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	0.5	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C3 HFPO-DA	51		50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C4 PFBA	53		50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C3 PFBS	86		50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C6 PFDA	0.4	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C2-PFDoDA	0.02	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C4 PFHpA	41	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C5 PFHxA	77		50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C3 PFHxS	35	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C9 PFNA	2	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C8 PFOA	11	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1

Client Sample ID: GSRY-MW0070-015.0-20221005 — Lab Sample ID: 670-6896-2

Date Collected: 10/05/22 11:14 — **Matrix: Ground Water**
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	2	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C5 PFPeA	79		50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C2 PFTeDA	0	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
13C7 PFUnA	0.1	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
d3-NMeFOSAA	0.7	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
d3-NMePFOSA	0	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
M2-6:2 FTS	27	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
M2-4:2 FTS	220	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
M2-8:2 FTS	0	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1
d5-NEtFOSAA	0.5	*	50 - 150	10/16/22 07:54	10/17/22 17:41	1

Client Sample ID: GSRY-MW0073-022.0-20221005 — Lab Sample ID: 670-6896-3

Date Collected: 10/05/22 09:36 — **Matrix: Ground Water**
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
11Cl-PF3OUdS	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
DONA	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
4:2 Fluorotelomer sulfonic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
6:2 Fluorotelomer sulfonic acid	0.0038	U	0.0076	0.0038	ug/L		10/16/22 07:54	10/17/22 18:02	1
8:2 Fluorotelomer sulfonic acid	0.00094	U	0.0028	0.00094	ug/L		10/16/22 07:54	10/17/22 18:02	1
HFPODA	0.00047	U	0.0028	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
NEtFOSAA	0.00047	U	0.0028	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
NMeFOSA	0.00094	U	0.0028	0.00094	ug/L		10/16/22 07:54	10/17/22 18:02	1
NMeFOSAA	0.00056	U	0.0019	0.00056	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorobutanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorobutanoic acid	0.0019	U	0.0047	0.0019	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorodecanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorodecanoic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorododecanoic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluoroheptanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluoroheptanoic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorohexanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorohexanoic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorononanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorononanoic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorooctanesulfonamide	0.00066	U	0.0019	0.00066	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorooctanesulfonic acid	0.00094	U	0.0020	0.00094	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorooctanoic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluoropentanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluoropentanoic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorotetradecanoic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluorotridecanoic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1
Perfluoroundecanoic acid	0.00047	U	0.0019	0.00047	ug/L		10/16/22 07:54	10/17/22 18:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	42	*	50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C3 HFPO-DA	61		50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C4 PFBA	39	*	50 - 150	10/16/22 07:54	10/17/22 18:02	1

Client Sample ID: GSRY-MW0073-022.0-20221005 Lab Sample ID: 670-6896-3

Date Collected: 10/05/22 09:36 **Matrix: Ground Water**
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	65		50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C6 PFDA	56		50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C2-PFDoDA	28	*	50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C4 PFHpA	76		50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C5 PFHxA	68		50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C3 PFHxS	71		50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C9 PFNA	68		50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C8 PFOA	75		50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C8 PFOS	64		50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C5 PFPeA	55		50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C2 PFTeDA	10	*	50 - 150	10/16/22 07:54	10/17/22 18:02	1
13C7 PFUnA	46	*	50 - 150	10/16/22 07:54	10/17/22 18:02	1
d3-NMeFOSAA	55		50 - 150	10/16/22 07:54	10/17/22 18:02	1
d3-NMePFOSA	4	*	50 - 150	10/16/22 07:54	10/17/22 18:02	1
M2-6:2 FTS	148		50 - 150	10/16/22 07:54	10/17/22 18:02	1
M2-4:2 FTS	222	*	50 - 150	10/16/22 07:54	10/17/22 18:02	1
M2-8:2 FTS	82		50 - 150	10/16/22 07:54	10/17/22 18:02	1
d5-NEtFOSAA	52		50 - 150	10/16/22 07:54	10/17/22 18:02	1

Client Sample ID: GSRY-MW0074-012.0-20221005 Lab Sample ID: 670-6896-4

Date Collected: 10/05/22 10:27 **Matrix: Ground Water**
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
11Cl-PF3OUdS	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
DONA	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
4:2 Fluorotelomer sulfonic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
6:2 Fluorotelomer sulfonic acid	0.0037	U	0.0075	0.0037	ug/L		10/16/22 07:54	10/17/22 18:14	1
8:2 Fluorotelomer sulfonic acid	0.00093	U	0.0028	0.00093	ug/L		10/16/22 07:54	10/17/22 18:14	1
HFPODA	0.00046	U	0.0028	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
NEtFOSAA	0.00046	U	0.0028	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
NMeFOSA	0.00093	U	0.0028	0.00093	ug/L		10/16/22 07:54	10/17/22 18:14	1
NMeFOSAA	0.00056	U	0.0019	0.00056	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorobutanesulfonic acid	**0.0024**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorobutanoic acid	**0.011**		0.0046	0.0019	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorodecanesulfonic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorodecanoic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorododecanoic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluoroheptanesulfonic acid	**0.00073**	**I**	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluoroheptanoic acid	**0.0092**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorohexanesulfonic acid	**0.019**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorohexanoic acid	**0.015**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorononanesulfonic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorononanoic acid	**0.00085**	**I**	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorooctanesulfonamide	0.00065	U	0.0019	0.00065	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorooctanesulfonic acid	**0.014**		0.0019	0.00093	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorooctanoic acid	**0.057**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluoropentanesulfonic acid	**0.0021**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1

Client Sample ID: GSRY-MW0074-012.0-20221005 Lab Sample ID: 670-6896-4

Date Collected: 10/05/22 10:27 **Matrix: Ground Water**
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid	**0.0082**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorotetradecanoic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluorotridecanoic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1
Perfluoroundecanoic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 18:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*35*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C3 HFPO-DA	*56*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C4 PFBA	*36*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C3 PFBS	*59*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C6 PFDA	*44*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C2-PFDoDA	*18*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C4 PFHpA	*67*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C5 PFHxA	*61*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C3 PFHxS	*66*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C9 PFNA	*56*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C8 PFOA	*67*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C8 PFOS	*54*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C5 PFPeA	*46*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C2 PFTeDA	*6*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
13C7 PFUnA	*31*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
d3-NMeFOSAA	*47*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
d3-NMePFOSA	*5*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
M2-6:2 FTS	*149*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
M2-4:2 FTS	*223*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
M2-8:2 FTS	*95*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*
d5-NEtFOSAA	*40*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:14*	*1*

Client Sample ID: GSRY-MW0076-015.0-20221005 Lab Sample ID: 670-6896-5

Date Collected: 10/05/22 13:27 **Matrix: Ground Water**
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
DONA	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
6:2 Fluorotelomer sulfonic acid	0.0036	U	0.0073	0.0036	ug/L		10/16/22 07:54	10/17/22 18:46	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		10/16/22 07:54	10/17/22 18:46	1
HFPODA	0.00045	U	0.0027	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		10/16/22 07:54	10/17/22 18:46	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorobutanesulfonic acid	**0.0018**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorobutanoic acid	**0.0046**		0.0045	0.0018	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluoroheptanesulfonic acid	**0.00066**	**I**	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluoroheptanoic acid	**0.012**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1

Client Sample ID: GSRY-MW0076-015.0-20221005 Lab Sample ID: 670-6896-5

Date Collected: 10/05/22 13:27 **Matrix: Ground Water**
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	**0.020**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorohexanoic acid	**0.021**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorononanoic acid	**0.00059**	**I**	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorooctanesulfonamide	0.00063	U	0.0018	0.00063	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorooctanesulfonic acid	**0.0093**		0.0019	0.00091	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorooctanoic acid	**0.092**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluoropentanesulfonic acid	**0.0029**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluoropentanoic acid	**0.010**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 18:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*40*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C3 HFPO-DA	*57*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C4 PFBA	*37*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C3 PFBS	*59*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C6 PFDA	*52*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C2-PFDoDA	*24*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C4 PFHpA	*74*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C5 PFHxA	*67*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C3 PFHxS	*72*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C9 PFNA	*70*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C8 PFOA	*71*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C8 PFOS	*61*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C5 PFPeA	*51*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C2 PFTeDA	*6*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
13C7 PFUnA	*38*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
d3-NMeFOSAA	*54*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
d3-NMePFOSA	*6*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
M2-6:2 FTS	*182*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
M2-4:2 FTS	*247*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
M2-8:2 FTS	*78*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*
d5-NEtFOSAA	*50*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:46*	*1*

Client Sample ID: GSRY-MW0077-015.0-20221005 Lab Sample ID: 670-6896-6

Date Collected: 10/05/22 12:51 **Matrix: Ground Water**
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
11Cl-PF3OUdS	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
DONA	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
4:2 Fluorotelomer sulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
6:2 Fluorotelomer sulfonic acid	0.0037	U	0.0074	0.0037	ug/L		10/16/22 07:54	10/17/22 18:56	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		10/16/22 07:54	10/17/22 18:56	1
HFPODA	0.00046	U	0.0027	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
NEtFOSAA	0.00046	U	0.0027	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		10/16/22 07:54	10/17/22 18:56	1

Client Sample ID: GSRY-MW0077-015.0-20221005 Lab Sample ID: 670-6896-6

Date Collected: 10/05/22 12:51 **Matrix: Ground Water**
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSAA	0.00055	U	0.0018	0.00055	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorobutanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorobutanoic acid	0.0018	U	0.0046	0.0018	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorodecanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorodecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorododecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluoroheptanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluoroheptanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorohexanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorohexanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorononanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorononanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorooctanesulfonamide	0.00064	U	0.0018	0.00064	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorooctanesulfonic acid	0.00091	U	0.0019	0.00091	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorooctanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluoropentanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluoropentanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorotetradecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluorotridecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1
Perfluoroundecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 18:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*3*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C3 HFPO-DA	*53*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C4 PFBA	*38*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C3 PFBS	*62*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C6 PFDA	*17*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C2-PFDoDA	*4*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C4 PFHpA	*60*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C5 PFHxA	*64*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C3 PFHxS	*61*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C9 PFNA	*31*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C8 PFOA	*50*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C8 PFOS	*28*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C5 PFPeA	*53*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C2 PFTeDA	*1*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
13C7 PFUnA	*8*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
d3-NMeFOSAA	*18*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
d3-NMePFOSA	*0.4*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
M2-6:2 FTS	*78*		*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
M2-4:2 FTS	*151*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
M2-8:2 FTS	*23*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*
d5-NEtFOSAA	*13*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 18:56*	*1*

Client Sample ID: GSRY-MW0078-012.0-20221005 Lab Sample ID: 670-6896-7

Date Collected: 10/05/22 12:16 **Matrix: Ground Water**
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6896-1

Client Sample ID: GSRY-MW0078-012.0-20221005
Date Collected: 10/05/22 12:16
Date Received: 10/06/22 16:45

Lab Sample ID: 670-6896-7
Matrix: Ground Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
DONA	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
6:2 Fluorotelomer sulfonic acid	0.0036	U	0.0073	0.0036	ug/L		10/16/22 07:54	10/17/22 19:07	1
8:2 Fluorotelomer sulfonic acid	0.00090	U	0.0027	0.00090	ug/L		10/16/22 07:54	10/17/22 19:07	1
HFPODA	0.00045	U	0.0027	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
NMeFOSA	0.00090	U	0.0027	0.00090	ug/L		10/16/22 07:54	10/17/22 19:07	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorobutanesulfonic acid	**0.00084**	**I**	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorobutanoic acid	**0.0027**	**I**	0.0045	0.0018	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluoroheptanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluoroheptanoic acid	**0.0015**	**I**	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorohexanesulfonic acid	**0.0036**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorohexanoic acid	**0.0019**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorononanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorooctanesulfonamide	**0.0010**	**I**	0.0018	0.00063	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorooctanesulfonic acid	**0.0088**		0.0019	0.00090	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorooctanoic acid	**0.0053**		0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluoropentanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluoropentanoic acid	**0.0015**	**I**	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*33*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C3 HFPO-DA	*95*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C4 PFBA	*58*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C3 PFBS	*95*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C6 PFDA	*44*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C2-PFDoDA	*12*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C4 PFHpA	*101*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C5 PFHxA	*99*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C3 PFHxS	*98*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C9 PFNA	*61*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C8 PFOA	*82*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C8 PFOS	*59*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C5 PFPeA	*80*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C2 PFTeDA	*2*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
13C7 PFUnA	*23*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
d3-NMeFOSAA	*43*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
d3-NMePFOSA	*2*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
M2-6:2 FTS	*133*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
M2-4:2 FTS	*249*	*	*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*
M2-8:2 FTS	*59*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:07*	*1*

Client Sample ID: GSRY-MW0078-012.0-20221005

Lab Sample ID: 670-6896-7

Date Collected: 10/05/22 12:16

Matrix: Ground Water

Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	33	*	50 - 150	10/16/22 07:54	10/17/22 19:07	1

Client Sample ID: GSRY-FD-20221005

Lab Sample ID: 670-6896-8

Date Collected: 10/05/22 10:30

Matrix: Ground Water

Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
11Cl-PF3OUdS	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
DONA	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
4:2 Fluorotelomer sulfonic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
6:2 Fluorotelomer sulfonic acid	0.0037	U	0.0075	0.0037	ug/L		10/16/22 07:54	10/17/22 19:18	1
8:2 Fluorotelomer sulfonic acid	0.00093	U	0.0028	0.00093	ug/L		10/16/22 07:54	10/17/22 19:18	1
HFPODA	0.00046	U	0.0028	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
NEtFOSAA	0.00046	U	0.0028	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
NMeFOSA	0.00093	U	0.0028	0.00093	ug/L		10/16/22 07:54	10/17/22 19:18	1
NMeFOSAA	0.00056	U	0.0019	0.00056	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorobutanesulfonic acid	**0.0023**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorobutanoic acid	**0.012**		0.0046	0.0019	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorodecanesulfonic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorodecanoic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorododecanoic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluoroheptanesulfonic acid	**0.00070**	**I**	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluoroheptanoic acid	**0.011**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorohexanesulfonic acid	**0.020**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorohexanoic acid	**0.016**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorononanesulfonic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorononanoic acid	**0.00081**	**I**	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorooctanesulfonamide	0.00065	U	0.0019	0.00065	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorooctanesulfonic acid	**0.014**		0.0019	0.00093	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorooctanoic acid	**0.055**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluoropentanesulfonic acid	**0.0027**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluoropentanoic acid	**0.0080**		0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorotetradecanoic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluorotridecanoic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1
Perfluoroundecanoic acid	0.00046	U	0.0019	0.00046	ug/L		10/16/22 07:54	10/17/22 19:18	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	20	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C3 HFPO-DA	57		50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C4 PFBA	36	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C3 PFBS	57		50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C6 PFDA	36	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C2-PFDoDA	7	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C4 PFHpA	65		50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C5 PFHxA	61		50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C3 PFHxS	62		50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C9 PFNA	52		50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C8 PFOA	65		50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C8 PFOS	46	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1

Client Sample ID: GSRY-FD-20221005
Lab Sample ID: 670-6896-8

Date Collected: 10/05/22 10:30
Matrix: Ground Water
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	47	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C2 PFTeDA	0.4	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1
13C7 PFUnA	17	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1
d3-NMeFOSAA	33	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1
d3-NMePFOSA	1	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1
M2-6:2 FTS	134		50 - 150	10/16/22 07:54	10/17/22 19:18	1
M2-4:2 FTS	220	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1
M2-8:2 FTS	69		50 - 150	10/16/22 07:54	10/17/22 19:18	1
d5-NEtFOSAA	27	*	50 - 150	10/16/22 07:54	10/17/22 19:18	1

Client Sample ID: GSRY-FB-20221005
Lab Sample ID: 670-6896-9

Date Collected: 10/05/22 15:12
Matrix: Ground Water
Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
DONA	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
6:2 Fluorotelomer sulfonic acid	0.0036	U	0.0072	0.0036	ug/L		10/16/22 07:54	10/17/22 19:28	1
8:2 Fluorotelomer sulfonic acid	0.00089	U	0.0027	0.00089	ug/L		10/16/22 07:54	10/17/22 19:28	1
HFPODA	0.00045	U	0.0027	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
NMeFOSA	0.00089	U	0.0027	0.00089	ug/L		10/16/22 07:54	10/17/22 19:28	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorobutanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorobutanoic acid	0.0018	U	0.0045	0.0018	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluoroheptanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluoroheptanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorohexanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorohexanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorononanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorooctanesulfonamide	0.00063	U	0.0018	0.00063	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorooctanesulfonic acid	0.00089	U	0.0019	0.00089	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorooctanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluoropentanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluoropentanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		10/16/22 07:54	10/17/22 19:28	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	80		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C3 HFPO-DA	105		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C4 PFBA	101		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C3 PFBS	91		50 - 150	10/16/22 07:54	10/17/22 19:28	1

Client Sample ID: GSRY-FB-20221005

Lab Sample ID: 670-6896-9

Date Collected: 10/05/22 15:12

Matrix: Ground Water

Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	102		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C2-PFDoDA	90		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C4 PFHpA	99		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C5 PFHxA	100		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C3 PFHxS	100		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C9 PFNA	103		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C8 PFOA	102		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C8 PFOS	101		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C5 PFPeA	98		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C2 PFTeDA	81		50 - 150	10/16/22 07:54	10/17/22 19:28	1
13C7 PFUnA	98		50 - 150	10/16/22 07:54	10/17/22 19:28	1
d3-NMeFOSAA	96		50 - 150	10/16/22 07:54	10/17/22 19:28	1
d3-NMePFOSA	41	*	50 - 150	10/16/22 07:54	10/17/22 19:28	1
M2-6:2 FTS	113		50 - 150	10/16/22 07:54	10/17/22 19:28	1
M2-4:2 FTS	121		50 - 150	10/16/22 07:54	10/17/22 19:28	1
M2-8:2 FTS	107		50 - 150	10/16/22 07:54	10/17/22 19:28	1
d5-NEtFOSAA	93		50 - 150	10/16/22 07:54	10/17/22 19:28	1

Client Sample ID: GSRY-EB-20221005

Lab Sample ID: 670-6896-10

Date Collected: 10/05/22 15:15

Matrix: Ground Water

Date Received: 10/06/22 16:45

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
11Cl-PF3OUdS	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
DONA	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
4:2 Fluorotelomer sulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
6:2 Fluorotelomer sulfonic acid	0.0037	U	0.0074	0.0037	ug/L		10/16/22 07:54	10/17/22 19:39	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		10/16/22 07:54	10/17/22 19:39	1
HFPODA	0.00046	U	0.0027	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
NEtFOSAA	0.00046	U	0.0027	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		10/16/22 07:54	10/17/22 19:39	1
NMeFOSAA	0.00055	U	0.0018	0.00055	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorobutanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorobutanoic acid	0.0018	U	0.0046	0.0018	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorodecanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorodecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorododecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluoroheptanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluoroheptanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorohexanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorohexanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorononanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorononanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorooctanesulfonamide	0.00064	U	0.0018	0.00064	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorooctanesulfonic acid	0.00091	U	0.0019	0.00091	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorooctanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluoropentanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluoropentanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6896-1

Client Sample ID: GSRY-EB-20221005
Date Collected: 10/05/22 15:15
Date Received: 10/06/22 16:45

Lab Sample ID: 670-6896-10
Matrix: Ground Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluorotridecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1
Perfluoroundecanoic acid	0.00046	U	0.0018	0.00046	ug/L		10/16/22 07:54	10/17/22 19:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*81*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C3 HFPO-DA	*92*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C4 PFBA	*105*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C3 PFBS	*99*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C6 PFDA	*105*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C2-PFDoDA	*106*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C4 PFHpA	*111*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C5 PFHxA	*111*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C3 PFHxS	*109*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C9 PFNA	*111*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C8 PFOA	*112*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C8 PFOS	*108*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C5 PFPeA	*105*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C2 PFTeDA	*83*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
13C7 PFUnA	*106*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
d3-NMeFOSAA	*103*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
d3-NMePFOSA	*55*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
M2-6:2 FTS	*128*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
M2-4:2 FTS	*126*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
M2-8:2 FTS	*113*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*
d5-NEtFOSAA	*95*		*50 - 150*	*10/16/22 07:54*	*10/17/22 19:39*	*1*

Isotope Dilution Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6896-1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	HFPODA	PFBA	C3PFBS	C6PFDA	PFDoDA	C4PFHA	13C5PHA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
670-6896-1	GSRY-MW0069-015.0-20221005	4 *	45 *	37 *	49 *	7 *	0.3 *	47 *	51
670-6896-2	GSRY-MW0070-015.0-20221005	0.5 *	51	53	86	0.4 *	0.02 *	41 *	77
670-6896-3	GSRY-MW0073-022.0-20221005	42 *	61	39 *	65	56	28 *	76	68
670-6896-4	GSRY-MW0074-012.0-20221005	35 *	56	36 *	59	44 *	18 *	67	61
670-6896-4 MS	GSRY-MW0074-012.0-20221005	22 *	58	37 *	63	63	36 *	71	65
670-6896-4 MSD	GSRY-MW0074-012.0-20221005	35 *	55	35 *	58	49 *	19 *	62	59
670-6896-5	GSRY-MW0076-015.0-20221005	40 *	57	37 *	59	52	24 *	74	67
670-6896-6	GSRY-MW0077-015.0-20221005	3 *	53	38 *	62	17 *	4 *	60	64
670-6896-7	GSRY-MW0078-012.0-20221005	33 *	95	58	95	44 *	12 *	101	99
670-6896-8	GSRY-FD-20221005	20 *	57	36 *	57	36 *	7 *	65	61
670-6896-9	GSRY-FB-20221005	80	105	101	91	102	90	99	100
670-6896-10	GSRY-EB-20221005	81	92	105	99	105	106	111	111

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C3PFHS	C9PFNA	C8PFOA	C8PFOS	PFPeA	PFTDA	13C7PUA	d3NMFOS
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
670-6896-1	GSRY-MW0069-015.0-20221005	43 *	19 *	34 *	15 *	42 *	0.1 *	2 *	6 *
670-6896-2	GSRY-MW0070-015.0-20221005	35 *	2 *	11 *	2 *	79	0 *	0.1 *	0.7 *
670-6896-3	GSRY-MW0073-022.0-20221005	71	68	75	64	55	10 *	46 *	55
670-6896-4	GSRY-MW0074-012.0-20221005	66	56	67	54	46 *	6 *	31 *	47 *
670-6896-4 MS	GSRY-MW0074-012.0-20221005	66	73	74	65	49 *	16 *	48 *	61
670-6896-4 MSD	GSRY-MW0074-012.0-20221005	61	62	67	56	46 *	4 *	35 *	48 *
670-6896-5	GSRY-MW0076-015.0-20221005	72	70	71	61	51	6 *	38 *	54
670-6896-6	GSRY-MW0077-015.0-20221005	61	31 *	50	28 *	53	1 *	8 *	18 *
670-6896-7	GSRY-MW0078-012.0-20221005	98	61	82	59	80	2 *	23 *	43 *
670-6896-8	GSRY-FD-20221005	62	52	65	46 *	47 *	0.4 *	17 *	33 *
670-6896-9	GSRY-FB-20221005	100	103	102	101	98	81	98	96
670-6896-10	GSRY-EB-20221005	109	111	112	108	105	83	106	103

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		d3NMFSA	M262FTS	M242FTS	M282FTS	d5NEFOS			
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)			
670-6896-1	GSRY-MW0069-015.0-20221005	0 *	55	133	11 *	4 *			
670-6896-2	GSRY-MW0070-015.0-20221005	0 *	27 *	220 *	0 *	0.5 *			
670-6896-3	GSRY-MW0073-022.0-20221005	4 *	148	222 *	82	52			
670-6896-4	GSRY-MW0074-012.0-20221005	5 *	149	223 *	95	40 *			

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		d3NMFSA	M262FTS	M242FTS	M282FTS	d5NEFOS			
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)			
670-6896-4 MS	GSRY-MW0074-012.0-20221005	0.6 *	160 *	228 *	119	53			
670-6896-4 MSD	GSRY-MW0074-012.0-20221005	2 *	160 *	200 *	95	46 *			
670-6896-5	GSRY-MW0076-015.0-20221005	6 *	182 *	247 *	78	50			
670-6896-6	GSRY-MW0077-015.0-20221005	0.4 *	78	151 *	23 *	13 *			
670-6896-7	GSRY-MW0078-012.0-20221005	2 *	133	249 *	59	33 *			
670-6896-8	GSRY-FD-20221005	1 *	134	220 *	69	27 *			
670-6896-9	GSRY-FB-20221005	41 *	113	121	107	93			
670-6896-10	GSRY-EB-20221005	55	128	126	113	95			

Surrogate Legend

PFOSA = 13C8 FOSA
HFPODA = 13C3 HFPO-DA
PFBA = 13C4 PFBA
C3PFBS = 13C3 PFBS
C6PFDA = 13C6 PFDA
PFDoDA = 13C2-PFDoDA
C4PFHA = 13C4 PFHpA
13C5PHA = 13C5 PFHxA
C3PFHS = 13C3 PFHxS
C9PFNA = 13C9 PFNA
C8PFOA = 13C8 PFOA
C8PFOS = 13C8 PFOS
PFPeA = 13C5 PFPeA
PFTDA = 13C2 PFTeDA
13C7PUA = 13C7 PFUnA
d3NMFOS = d3-NMeFOSAA
d3NMFSA = d3-NMePFOSA
M262FTS = M2-6:2 FTS
M242FTS = M2-4:2 FTS
M282FTS = M2-8:2 FTS
d5NEFOS = d5-NEtFOSAA

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	HFPODA	PFBA	C3PFBS	C6PFDA	PFDoDA	C4PFHA	13C5PHA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
LCS 410-307022/3-A	Lab Control Sample	84	92	102	102	103	96	105	102
MB 410-307022/1-A	Method Blank	80	99	104	96	106	91	107	111

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C3PFHS	C9PFNA	C8PFOA	C8PFOS	PFPeA	PFTDA	13C7PUA	d3NMFOS
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
LCS 410-307022/3-A	Lab Control Sample	109	108	101	102	104	89	100	103
MB 410-307022/1-A	Method Blank	107	105	106	102	102	86	100	100

Isotope Dilution Summary

Client: AECOM Technical Services Inc. Job ID: 670-6896-1
Project/Site: NASA KSC GSRY PFAS

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		d3NMFSA	M262FTS	M242FTS	M282FTS	d5NEFOS			
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)			
LCS 410-307022/3-A	Lab Control Sample	44 *	104	125	102	92			
MB 410-307022/1-A	Method Blank	53	110	120	114	92			

Surrogate Legend

PFOSA = 13C8 FOSA
HFPODA = 13C3 HFPO-DA
PFBA = 13C4 PFBA
C3PFBS = 13C3 PFBS
C6PFDA = 13C6 PFDA
PFDoDA = 13C2-PFDoDA
C4PFHA = 13C4 PFHpA
13C5PHA = 13C5 PFHxA
C3PFHS = 13C3 PFHxS
C9PFNA = 13C9 PFNA
C8PFOA = 13C8 PFOA
C8PFOS = 13C8 PFOS
PFPeA = 13C5 PFPeA
PFTDA = 13C2 PFTeDA
13C7PUA = 13C7 PFUnA
d3NMFOS = d3-NMeFOSAA
d3NMFSA = d3-NMePFOSA
M262FTS = M2-6:2 FTS
M242FTS = M2-4:2 FTS
M282FTS = M2-8:2 FTS
d5NEFOS = d5-NEtFOSAA

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6896-1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Lab Sample ID: MB 410-307022/1-A
Matrix: Water
Analysis Batch: 307235

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 307022

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
DONA	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
6:2 Fluorotelomer sulfonic acid	0.0040	U	0.0081	0.0040	ug/L		10/16/22 07:54	10/17/22 15:34	1
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		10/16/22 07:54	10/17/22 15:34	1
HFPODA	0.00050	U	0.0030	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		10/16/22 07:54	10/17/22 15:34	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorobutanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorohexanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		10/16/22 07:54	10/17/22 15:34	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*80*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C3 HFPO-DA	*99*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C4 PFBA	*104*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C3 PFBS	*96*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C6 PFDA	*106*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C2-PFDoDA	*91*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C4 PFHpA	*107*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C5 PFHxA	*111*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C3 PFHxS	*107*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C9 PFNA	*105*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C8 PFOA	*106*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C8 PFOS	*102*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C5 PFPeA	*102*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C2 PFTeDA	*86*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
13C7 PFUnA	*100*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
d3-NMeFOSAA	*100*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*
d3-NMePFOSA	*53*		*50 - 150*	*10/16/22 07:54*	*10/17/22 15:34*	*1*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-307022/1-A
Matrix: Water
Analysis Batch: 307235

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 307022

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	110		50 - 150	10/16/22 07:54	10/17/22 15:34	1
M2-4:2 FTS	120		50 - 150	10/16/22 07:54	10/17/22 15:34	1
M2-8:2 FTS	114		50 - 150	10/16/22 07:54	10/17/22 15:34	1
d5-NEtFOSAA	92		50 - 150	10/16/22 07:54	10/17/22 15:34	1

Lab Sample ID: LCS 410-307022/3-A
Matrix: Water
Analysis Batch: 307235

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 307022

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
9Cl-PF3ONS			0.0238	0.0230		ug/L		97	70 - 130		
11Cl-PF3OUdS			0.0238	0.0220		ug/L		92	70 - 130		
DONA			0.0242	0.0225		ug/L		93	70 - 130		
4:2 Fluorotelomer sulfonic acid			0.0239	0.0204		ug/L		85	63 - 143		
6:2 Fluorotelomer sulfonic acid			0.0243	0.0254		ug/L		105	64 - 140		
8:2 Fluorotelomer sulfonic acid			0.0245	0.0239		ug/L		97	67 - 138		
HFPODA			0.0256	0.0235		ug/L		92	70 - 130		
NEtFOSAA			0.0256	0.0274		ug/L		107	61 - 135		
NMeFOSA			0.0256	0.0343		ug/L		134	68 - 141		
NMeFOSAA			0.0256	0.0204		ug/L		80	65 - 136		
Perfluorobutanesulfonic acid			0.0227	0.0227		ug/L		100	72 - 130		
Perfluorobutanoic acid			0.0256	0.0237		ug/L		93	73 - 129		
Perfluorodecanesulfonic acid			0.0247	0.0209		ug/L		85	53 - 142		
Perfluorodecanoic acid			0.0256	0.0236		ug/L		92	71 - 129		
Perfluorododecanoic acid			0.0256	0.0236		ug/L		92	72 - 134		
Perfluoroheptanesulfonic acid			0.0244	0.0217		ug/L		89	69 - 134		
Perfluoroheptanoic acid			0.0256	0.0235		ug/L		92	72 - 130		
Perfluorohexanesulfonic acid			0.0233	0.0209		ug/L		89	68 - 131		
Perfluorohexanoic acid			0.0256	0.0235		ug/L		92	72 - 129		
Perfluorononanesulfonic acid			0.0246	0.0204		ug/L		83	69 - 127		
Perfluorononanoic acid			0.0256	0.0239		ug/L		94	69 - 130		
Perfluorooctanesulfonamide			0.0256	0.0270		ug/L		105	67 - 137		
Perfluorooctanesulfonic acid			0.0237	0.0226		ug/L		96	65 - 140		
Perfluorooctanoic acid			0.0256	0.0253		ug/L		99	71 - 133		
Perfluoropentanesulfonic acid			0.0240	0.0217		ug/L		90	71 - 127		
Perfluoropentanoic acid			0.0256	0.0234		ug/L		91	72 - 129		
Perfluorotetradecanoic acid			0.0256	0.0243		ug/L		95	71 - 132		
Perfluorotridecanoic acid			0.0256	0.0229		ug/L		90	65 - 144		
Perfluoroundecanoic acid			0.0256	0.0245		ug/L		96	69 - 133		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C8 FOSA	84		50 - 150
13C3 HFPO-DA	92		50 - 150
13C4 PFBA	102		50 - 150
13C3 PFBS	102		50 - 150
13C6 PFDA	103		50 - 150
13C2-PFDoDA	96		50 - 150
13C4 PFHpA	105		50 - 150
13C5 PFHxA	102		50 - 150

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-307022/3-A
Matrix: Water
Analysis Batch: 307235

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 307022

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 PFHxS	*109*		*50 - 150*
13C9 PFNA	*108*		*50 - 150*
13C8 PFOA	*101*		*50 - 150*
13C8 PFOS	*102*		*50 - 150*
13C5 PFPeA	*104*		*50 - 150*
13C2 PFTeDA	*89*		*50 - 150*
13C7 PFUnA	*100*		*50 - 150*
d3-NMeFOSAA	*103*		*50 - 150*
d3-NMePFOSA	*44*	*	*50 - 150*
M2-6:2 FTS	*104*		*50 - 150*
M2-4:2 FTS	*125*		*50 - 150*
M2-8:2 FTS	*102*		*50 - 150*
d5-NEtFOSAA	*92*		*50 - 150*

Lab Sample ID: 670-6896-4 MS
Matrix: Ground Water
Analysis Batch: 307235

Client Sample ID: GSRY-MW0074-012.0-20221005
Prep Type: Total/NA
Prep Batch: 307022

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
9Cl-PF3ONS	0.00046	U	0.0223	0.0207		ug/L		93	70 - 130
11Cl-PF3OUdS	0.00046	U	0.0223	0.0164		ug/L		73	70 - 130
DONA	0.00046	U	0.0227	0.0203		ug/L		90	70 - 130
4:2 Fluorotelomer sulfonic acid	0.00046	U	0.0224	0.0198		ug/L		88	63 - 143
6:2 Fluorotelomer sulfonic acid	0.0037	U	0.0227	0.0216		ug/L		95	64 - 140
8:2 Fluorotelomer sulfonic acid	0.00093	U	0.0230	0.0223		ug/L		97	67 - 138
HFPODA	0.00046	U	0.0240	0.0252		ug/L		105	70 - 130
NEtFOSAA	0.00046	U	0.0240	0.0258		ug/L		107	61 - 135
NMeFOSA	0.00093	U	0.0240	0.0367	J3	ug/L		153	68 - 141
NMeFOSAA	0.00056	U	0.0240	0.0236		ug/L		98	65 - 136
Perfluorobutanesulfonic acid	0.0024		0.0212	0.0241		ug/L		102	72 - 130
Perfluorobutanoic acid	0.011		0.0240	0.0342		ug/L		96	73 - 129
Perfluorodecanesulfonic acid	0.00046	U	0.0231	0.0144		ug/L		62	53 - 142
Perfluorodecanoic acid	0.00046	U	0.0240	0.0228		ug/L		95	71 - 129
Perfluorododecanoic acid	0.00046	U	0.0240	0.0211		ug/L		88	72 - 134
Perfluoroheptanesulfonic acid	0.00073	I	0.0228	0.0221		ug/L		94	69 - 134
Perfluoroheptanoic acid	0.0092		0.0240	0.0329		ug/L		99	72 - 130
Perfluorohexanesulfonic acid	0.019		0.0219	0.0425		ug/L		105	68 - 131
Perfluorohexanoic acid	0.015		0.0240	0.0407		ug/L		106	72 - 129
Perfluorononanesulfonic acid	0.00046	U	0.0230	0.0174		ug/L		76	69 - 127
Perfluorononanoic acid	0.00085	I	0.0240	0.0233		ug/L		94	69 - 130
Perfluorooctanesulfonamide	0.00065	U	0.0240	0.0272		ug/L		114	67 - 137
Perfluorooctanesulfonic acid	0.014		0.0222	0.0346		ug/L		95	65 - 140
Perfluorooctanoic acid	0.057		0.0240	0.0753		ug/L		78	71 - 133
Perfluoropentanesulfonic acid	0.0021		0.0225	0.0260		ug/L		106	71 - 127
Perfluoropentanoic acid	0.0082		0.0240	0.0379		ug/L		124	72 - 129
Perfluorotetradecanoic acid	0.00046	U	0.0240	0.0241		ug/L		100	71 - 132
Perfluorotridecanoic acid	0.00046	U	0.0240	0.0165		ug/L		69	65 - 144
Perfluoroundecanoic acid	0.00046	U	0.0240	0.0232		ug/L		97	69 - 133

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C8 FOSA	22	*	50 - 150
13C3 HFPO-DA	58		50 - 150
13C4 PFBA	37	*	50 - 150
13C3 PFBS	63		50 - 150
13C6 PFDA	63		50 - 150
13C2-PFDoDA	36	*	50 - 150
13C4 PFHpA	71		50 - 150
13C5 PFHxA	65		50 - 150
13C3 PFHxS	66		50 - 150
13C9 PFNA	73		50 - 150
13C8 PFOA	74		50 - 150
13C8 PFOS	65		50 - 150
13C5 PFPeA	49	*	50 - 150
13C2 PFTeDA	16	*	50 - 150
13C7 PFUnA	48	*	50 - 150
d3-NMeFOSAA	61		50 - 150
d3-NMePFOSA	0.6	*	50 - 150
M2-6:2 FTS	160	*	50 - 150
M2-4:2 FTS	228	*	50 - 150
M2-8:2 FTS	119		50 - 150
d5-NEtFOSAA	53		50 - 150

Lab Sample ID: 670-6896-4 MSD
Matrix: Ground Water
Analysis Batch: 307235

Client Sample ID: GSRY-MW0074-012.0-20221005
Prep Type: Total/NA
Prep Batch: 307022

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
9Cl-PF3ONS	0.00046	U	0.0224	0.0215		ug/L		96	70 - 130	4	30
11Cl-PF3OUdS	0.00046	U	0.0224	0.0121	J3	ug/L		54	70 - 130	30	30
DONA	0.00046	U	0.0227	0.0225		ug/L		99	70 - 130	10	30
4:2 Fluorotelomer sulfonic acid	0.00046	U	0.0225	0.0207		ug/L		92	63 - 143	5	30
6:2 Fluorotelomer sulfonic acid	0.0037	U	0.0228	0.0209		ug/L		92	64 - 140	3	30
8:2 Fluorotelomer sulfonic acid	0.00093	U	0.0230	0.0225		ug/L		98	67 - 138	1	30
HFPODA	0.00046	U	0.0241	0.0264		ug/L		110	70 - 130	5	30
NEtFOSAA	0.00046	U	0.0241	0.0253		ug/L		105	61 - 135	2	30
NMeFOSA	0.00093	U	0.0241	0.0342	J3	ug/L		142	68 - 141	7	30
NMeFOSAA	0.00056	U	0.0241	0.0210		ug/L		87	65 - 136	12	30
Perfluorobutanesulfonic acid	0.0024		0.0213	0.0231		ug/L		97	72 - 130	4	30
Perfluorobutanoic acid	0.011		0.0241	0.0347		ug/L		97	73 - 129	1	30
Perfluorodecanesulfonic acid	0.00046	U	0.0232	0.0112	J3	ug/L		48	53 - 142	25	30
Perfluorodecanoic acid	0.00046	U	0.0241	0.0236		ug/L		98	71 - 129	3	30
Perfluorododecanoic acid	0.00046	U	0.0241	0.0242		ug/L		100	72 - 134	13	30
Perfluoroheptanesulfonic acid	0.00073	I	0.0229	0.0226		ug/L		96	69 - 134	2	30
Perfluoroheptanoic acid	0.0092		0.0241	0.0356		ug/L		109	72 - 130	8	30
Perfluorohexanesulfonic acid	0.019		0.0219	0.0417		ug/L		101	68 - 131	2	30
Perfluorohexanoic acid	0.015		0.0241	0.0412		ug/L		108	72 - 129	1	30
Perfluorononanesulfonic acid	0.00046	U	0.0231	0.0152	J3	ug/L		66	69 - 127	14	30
Perfluorononanoic acid	0.00085	I	0.0241	0.0230		ug/L		92	69 - 130	1	30
Perfluorooctanesulfonamide	0.00065	U	0.0241	0.0259		ug/L		108	67 - 137	5	30
Perfluorooctanesulfonic acid	0.014		0.0223	0.0345		ug/L		94	65 - 140	0	30
Perfluorooctanoic acid	0.057		0.0241	0.0798		ug/L		97	71 - 133	6	30
Perfluoropentanesulfonic acid	0.0021		0.0226	0.0257		ug/L		105	71 - 127	1	30

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: 670-6896-4 MSD
Matrix: Ground Water
Analysis Batch: 307235

Client Sample ID: GSRY-MW0074-012.0-20221005
Prep Type: Total/NA
Prep Batch: 307022

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoropentanoic acid	0.0082		0.0241	0.0366		ug/L		118	72 - 129	3	30
Perfluorotetradecanoic acid	0.00046	U	0.0241	0.0235		ug/L		98	71 - 132	2	30
Perfluorotridecanoic acid	0.00046	U	0.0241	0.0124	J3	ug/L		51	65 - 144	29	30
Perfluoroundecanoic acid	0.00046	U	0.0241	0.0230		ug/L		96	69 - 133	1	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C8 FOSA	*35*	*	*50 - 150*
13C3 HFPO-DA	*55*		*50 - 150*
13C4 PFBA	*35*	*	*50 - 150*
13C3 PFBS	*58*		*50 - 150*
13C6 PFDA	*49*	*	*50 - 150*
13C2-PFDoDA	*19*	*	*50 - 150*
13C4 PFHpA	*62*		*50 - 150*
13C5 PFHxA	*59*		*50 - 150*
13C3 PFHxS	*61*		*50 - 150*
13C9 PFNA	*62*		*50 - 150*
13C8 PFOA	*67*		*50 - 150*
13C8 PFOS	*56*		*50 - 150*
13C5 PFPeA	*46*	*	*50 - 150*
13C2 PFTeDA	*4*	*	*50 - 150*
13C7 PFUnA	*35*	*	*50 - 150*
d3-NMeFOSAA	*48*	*	*50 - 150*
d3-NMePFOSA	*2*	*	*50 - 150*
M2-6:2 FTS	*160*	*	*50 - 150*
M2-4:2 FTS	*200*	*	*50 - 150*
M2-8:2 FTS	*95*		*50 - 150*
d5-NEtFOSAA	*46*	*	*50 - 150*

LCMS

Prep Batch: 307022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6896-1	GSRY-MW0069-015.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-2	GSRY-MW0070-015.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-3	GSRY-MW0073-022.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-4	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-5	GSRY-MW0076-015.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-6	GSRY-MW0077-015.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-7	GSRY-MW0078-012.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-8	GSRY-FD-20221005	Total/NA	Ground Water	537 IDA	
670-6896-9	GSRY-FB-20221005	Total/NA	Ground Water	537 IDA	
670-6896-10	GSRY-EB-20221005	Total/NA	Ground Water	537 IDA	
MB 410-307022/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-307022/3-A	Lab Control Sample	Total/NA	Water	537 IDA	
670-6896-4 MS	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-4 MSD	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	537 IDA	

Analysis Batch: 307235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6896-1	GSRY-MW0069-015.0-20221005	Total/NA	Ground Water	QSM B15	307022
670-6896-2	GSRY-MW0070-015.0-20221005	Total/NA	Ground Water	QSM B15	307022
670-6896-3	GSRY-MW0073-022.0-20221005	Total/NA	Ground Water	QSM B15	307022
670-6896-4	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	QSM B15	307022
670-6896-5	GSRY-MW0076-015.0-20221005	Total/NA	Ground Water	QSM B15	307022
670-6896-6	GSRY-MW0077-015.0-20221005	Total/NA	Ground Water	QSM B15	307022
670-6896-7	GSRY-MW0078-012.0-20221005	Total/NA	Ground Water	QSM B15	307022
670-6896-8	GSRY-FD-20221005	Total/NA	Ground Water	QSM B15	307022
670-6896-9	GSRY-FB-20221005	Total/NA	Ground Water	QSM B15	307022
670-6896-10	GSRY-EB-20221005	Total/NA	Ground Water	QSM B15	307022
MB 410-307022/1-A	Method Blank	Total/NA	Water	QSM B15	307022
LCS 410-307022/3-A	Lab Control Sample	Total/NA	Water	QSM B15	307022
670-6896-4 MS	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	QSM B15	307022
670-6896-4 MSD	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	QSM B15	307022

Prep Batch: 308892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6896-1 - RE	GSRY-MW0069-015.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-2 - RE	GSRY-MW0070-015.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-3 - RE	GSRY-MW0073-022.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-4 - RE	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-5 - RE	GSRY-MW0076-015.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-6 - RE	GSRY-MW0077-015.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-7 - RE	GSRY-MW0078-012.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-8 - RE	GSRY-FD-20221005	Total/NA	Ground Water	537 IDA	
670-6896-9 - RE	GSRY-FB-20221005	Total/NA	Ground Water	537 IDA	
670-6896-10 - RE	GSRY-EB-20221005	Total/NA	Ground Water	537 IDA	
MB 410-308892/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-308892/2-A	Lab Control Sample	Total/NA	Water	537 IDA	
670-6896-4 MS - RE	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	537 IDA	
670-6896-4 MSD - RE	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	537 IDA	

Client: AECOM Technical Services Inc.
Job ID: 670-6896-1
Project/Site: NASA KSC GSRY PFAS

LCMS

Analysis Batch: 309169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-6896-1 - RE	GSRY-MW0069-015.0-20221005	Total/NA	Ground Water	QSM B15	308892
670-6896-2 - RE	GSRY-MW0070-015.0-20221005	Total/NA	Ground Water	QSM B15	308892
670-6896-3 - RE	GSRY-MW0073-022.0-20221005	Total/NA	Ground Water	QSM B15	308892
670-6896-4 - RE	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	QSM B15	308892
670-6896-5 - RE	GSRY-MW0076-015.0-20221005	Total/NA	Ground Water	QSM B15	308892
670-6896-6 - RE	GSRY-MW0077-015.0-20221005	Total/NA	Ground Water	QSM B15	308892
670-6896-7 - RE	GSRY-MW0078-012.0-20221005	Total/NA	Ground Water	QSM B15	308892
670-6896-8 - RE	GSRY-FD-20221005	Total/NA	Ground Water	QSM B15	308892
670-6896-9 - RE	GSRY-FB-20221005	Total/NA	Ground Water	QSM B15	308892
670-6896-10 - RE	GSRY-EB-20221005	Total/NA	Ground Water	QSM B15	308892
MB 410-308892/1-A	Method Blank	Total/NA	Water	QSM B15	308892
LCS 410-308892/2-A	Lab Control Sample	Total/NA	Water	QSM B15	308892
670-6896-4 MS - RE	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	QSM B15	308892
670-6896-4 MSD - RE	GSRY-MW0074-012.0-20221005	Total/NA	Ground Water	QSM B15	308892

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6896-1

Client Sample ID: GSRY-MW0069-015.0-20221005
Lab Sample ID: 670-6896-1
Date Collected: 10/05/22 15:08
Matrix: Ground Water
Date Received: 10/06/22 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			307022	RC3V	ELLE	10/16/22 07:54
Total/NA	Analysis	QSM B15		1	307235	ZG8V	ELLE	10/17/22 17:30
Total/NA	Prep	537 IDA	RE		308892	GMZ5	ELLE	10/20/22 17:51
Total/NA	Analysis	QSM B15	RE	1	309169	QD9Y	ELLE	10/22/22 11:07

Client Sample ID: GSRY-MW0070-015.0-20221005
Lab Sample ID: 670-6896-2
Date Collected: 10/05/22 11:14
Matrix: Ground Water
Date Received: 10/06/22 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			307022	RC3V	ELLE	10/16/22 07:54
Total/NA	Analysis	QSM B15		1	307235	ZG8V	ELLE	10/17/22 17:41
Total/NA	Prep	537 IDA	RE		308892	GMZ5	ELLE	10/20/22 17:51
Total/NA	Analysis	QSM B15	RE	1	309169	QD9Y	ELLE	10/22/22 11:18

Client Sample ID: GSRY-MW0073-022.0-20221005
Lab Sample ID: 670-6896-3
Date Collected: 10/05/22 09:36
Matrix: Ground Water
Date Received: 10/06/22 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			307022	RC3V	ELLE	10/16/22 07:54
Total/NA	Analysis	QSM B15		1	307235	ZG8V	ELLE	10/17/22 18:02
Total/NA	Prep	537 IDA	RE		308892	GMZ5	ELLE	10/20/22 17:51
Total/NA	Analysis	QSM B15	RE	1	309169	QD9Y	ELLE	10/22/22 11:39

Client Sample ID: GSRY-MW0074-012.0-20221005
Lab Sample ID: 670-6896-4
Date Collected: 10/05/22 10:27
Matrix: Ground Water
Date Received: 10/06/22 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			307022	RC3V	ELLE	10/16/22 07:54
Total/NA	Analysis	QSM B15		1	307235	ZG8V	ELLE	10/17/22 18:14
Total/NA	Prep	537 IDA	RE		308892	GMZ5	ELLE	10/20/22 17:51
Total/NA	Analysis	QSM B15	RE	1	309169	QD9Y	ELLE	10/22/22 11:50

Client Sample ID: GSRY-MW0076-015.0-20221005
Lab Sample ID: 670-6896-5
Date Collected: 10/05/22 13:27
Matrix: Ground Water
Date Received: 10/06/22 16:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			307022	RC3V	ELLE	10/16/22 07:54
Total/NA	Analysis	QSM B15		1	307235	ZG8V	ELLE	10/17/22 18:46
Total/NA	Prep	537 IDA	RE		308892	GMZ5	ELLE	10/20/22 17:51
Total/NA	Analysis	QSM B15	RE	1	309169	QD9Y	ELLE	10/22/22 12:21

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6896-1

Client Sample ID: GSRY-MW0077-015.0-20221005

Lab Sample ID: 670-6896-6

Date Collected: 10/05/22 12:51
Date Received: 10/06/22 16:45

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			307022	RC3V	ELLE	10/16/22 07:54
Total/NA	Analysis	QSM B15		1	307235	ZG8V	ELLE	10/17/22 18:56
Total/NA	Prep	537 IDA	RE		308892	GMZ5	ELLE	10/20/22 17:51
Total/NA	Analysis	QSM B15	RE	1	309169	QD9Y	ELLE	10/22/22 12:32

Client Sample ID: GSRY-MW0078-012.0-20221005

Lab Sample ID: 670-6896-7

Date Collected: 10/05/22 12:16
Date Received: 10/06/22 16:45

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			307022	RC3V	ELLE	10/16/22 07:54
Total/NA	Analysis	QSM B15		1	307235	ZG8V	ELLE	10/17/22 19:07
Total/NA	Prep	537 IDA	RE		308892	GMZ5	ELLE	10/20/22 17:51
Total/NA	Analysis	QSM B15	RE	1	309169	QD9Y	ELLE	10/22/22 12:43

Client Sample ID: GSRY-FD-20221005

Lab Sample ID: 670-6896-8

Date Collected: 10/05/22 10:30
Date Received: 10/06/22 16:45

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			307022	RC3V	ELLE	10/16/22 07:54
Total/NA	Analysis	QSM B15		1	307235	ZG8V	ELLE	10/17/22 19:18
Total/NA	Prep	537 IDA	RE		308892	GMZ5	ELLE	10/20/22 17:51
Total/NA	Analysis	QSM B15	RE	1	309169	QD9Y	ELLE	10/22/22 12:53

Client Sample ID: GSRY-FB-20221005

Lab Sample ID: 670-6896-9

Date Collected: 10/05/22 15:12
Date Received: 10/06/22 16:45

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			307022	RC3V	ELLE	10/16/22 07:54
Total/NA	Analysis	QSM B15		1	307235	ZG8V	ELLE	10/17/22 19:28
Total/NA	Prep	537 IDA	RE		308892	GMZ5	ELLE	10/20/22 17:51
Total/NA	Analysis	QSM B15	RE	1	309169	QD9Y	ELLE	10/22/22 13:04

Client Sample ID: GSRY-EB-20221005

Lab Sample ID: 670-6896-10

Date Collected: 10/05/22 15:15
Date Received: 10/06/22 16:45

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			307022	RC3V	ELLE	10/16/22 07:54
Total/NA	Analysis	QSM B15		1	307235	ZG8V	ELLE	10/17/22 19:39
Total/NA	Prep	537 IDA	RE		308892	GMZ5	ELLE	10/20/22 17:51
Total/NA	Analysis	QSM B15	RE	1	309169	QD9Y	ELLE	10/22/22 13:14

Lab Chronicle

Client: AECOM Technical Services Inc.
Job ID: 670-6896-1
Project/Site: NASA KSC GSRY PFAS

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6896-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-22
A2LA	ISO/IEC 17025	0001.01	11-30-22
Alaska	State	PA00009	07-01-23
Alaska (UST)	State	17-027	02-28-23
Arizona	State	AZ0780	03-12-23
Arkansas DEQ	State	88-00660	08-09-23
California	State	2792	11-30-22
Colorado	State	PA00009	06-30-23
Connecticut	State	PH-0746	06-30-23
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-23
Delaware (DW)	State	N/A	01-31-23
Florida	NELAP	E87997	06-30-23
Georgia (DW)	State	C048	01-31-23
Hawaii	State	N/A	01-31-23
Illinois	NELAP	200027	01-31-23
Iowa	State	361	03-01-24
Kansas	NELAP	E-10151	10-31-22
Kentucky (DW)	State	KY90088	12-31-22
Kentucky (UST)	State	1.01	11-30-22
Kentucky (WW)	State	KY90088	01-01-23
Louisiana	NELAP	02055	06-30-23
Maine	State	2019012	03-12-23
Maryland	State	100	06-30-23
Massachusetts	State	M-PA009	06-30-23
Michigan	State	9930	01-31-23
Minnesota	NELAP	042-999-487	12-31-22
Mississippi	State	022	01-31-23
Missouri	State	450	01-31-25
Montana (DW)	State	0098	01-01-23
Montana (UST)	State	<cert No.>	02-01-23
Nebraska	State	NE-OS-32-17	01-31-23
New Hampshire	NELAP	2730	01-10-23
New Jersey	NELAP	PA011	06-30-23
New York	NELAP	10670	04-01-23
North Carolina (DW)	State	42705	07-31-23
North Carolina (WW/SW)	State	521	12-31-22
North Dakota	State	R-205	01-31-23
Oklahoma	NELAP	R-205	08-31-23
Oregon	NELAP	PA200001	09-11-23
PALA	Canada	1978	09-16-24
Pennsylvania	NELAP	36-00037	01-31-23
Rhode Island	State	LAO00338	12-30-22
South Carolina	State	89002	01-31-23
Tennessee	State	02838	01-31-23
Texas	NELAP	T104704194-22-43	08-31-23
USDA	US Federal Programs	P330-19-00197	08-09-23
Vermont	State	VT - 36037	10-27-22
Virginia	NELAP	460182	06-15-23
Washington	State	C457	04-11-23
West Virginia (DW)	State	9906 C	12-31-22

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 670-6896-1
Project/Site: NASA KSC GSRY PFAS

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia DEP	State	055	10-31-22
Wyoming	State	8TMS-L	01-31-23
Wyoming (UST)	A2LA	1.01	11-30-22

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6896-1

Method	Method Description	Protocol	Laboratory
QSM B15	PFAS for QSM 5.4, Table B-15	DOD 5.4	ELLE
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE

Protocol References:

DOD 5.4 = Department of Defense Quality Systems Manual V5.4

EPA = US Environmental Protection Agency

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS

Job ID: 670-6896-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-6896-1	GSRY-MW0069-015.0-20221005	Ground Water	10/05/22 15:08	10/06/22 16:45
670-6896-2	GSRY-MW0070-015.0-20221005	Ground Water	10/05/22 11:14	10/06/22 16:45
670-6896-3	GSRY-MW0073-022.0-20221005	Ground Water	10/05/22 09:36	10/06/22 16:45
670-6896-4	GSRY-MW0074-012.0-20221005	Ground Water	10/05/22 10:27	10/06/22 16:45
670-6896-5	GSRY-MW0076-015.0-20221005	Ground Water	10/05/22 13:27	10/06/22 16:45
670-6896-6	GSRY-MW0077-015.0-20221005	Ground Water	10/05/22 12:51	10/06/22 16:45
670-6896-7	GSRY-MW0078-012.0-20221005	Ground Water	10/05/22 12:16	10/06/22 16:45
670-6896-8	GSRY-FD-20221005	Ground Water	10/05/22 10:30	10/06/22 16:45
670-6896-9	GSRY-FB-20221005	Ground Water	10/05/22 15:12	10/06/22 16:45
670-6896-10	GSRY-EB-20221005	Ground Water	10/05/22 15:15	10/06/22 16:45

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name:	NASA KSC - GSA Reclamation Yard	COC No.	Page: 1 of 1
Site Location:	GSRY - PFAS	PO No. 138535	Project No. 60614327.4 / Phase:
TO No.: 80KSC019F0078	AECOM Project Manager: **Chad Lee cc: Jennifer Joyal**	Send Invoice To: Instructions in MSA# 21S-27172-GV03	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone #	Greg Kusel / (772) 631-7426 Dustin Slater / (407) 766-0747	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name: ENCO	Turnaround Time(specify): Standard	Deliver Samples To: ENCO Orlando	Site-Spicific WS#15 from QAPP: 15-2

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) 4 DEG / Total No. of Containers	Select PFAS by 537	Comments
	GSRY-MW0069-015.0-20221005	GSRY-MW0069	20221005	1508	WG	N	G	2	2	
	GSRY-MW0070-015.0-20221005	GSRY-MW0070	20221005	1114	WG	N	G	2	2	
	GSRY-MW0073-012.0-20221005	GSRY-MW0073	20221005	0936	WG	N	G	2	2	
	GSRY-MW0074-012.0-20221005	GSRY-MW0074	20221005	1027	WG	N	G	2	2	
	GSRY-MW0076-015.0-20221005	GSRY-MW0076	20221005	1327	WG	N	G	2	2	
	GSRY-MW0077-015.0-20221005	GSRY-MW0077	20221005	1251	WG	N	G	2	2	
	GSRY-MW0078-012.0-20221005	GSRY-MW0078	20221005	1216	WG	N	G	2	2	
	GSRY-FD-20221005	GSRY-FD	20221005	1630	WQ	FD	G	2	2	
	GSRY-MS-20221005	GSRY-MS	20221005	1033	WQ	N	G	2	2	
	GSRY-MSD-20221005	GSRY-MSD	20221005	1036	WQ	FD	G	2	2	
	GSRY-FB-20221005	GSRY-FB	20221005	1512	WQ	FB	G	2	2	
	GSRY-EB-20221005	GSRY-EB	20221005	1515	WQ	EB	G	2	2	

***Field* Comments:**
Report only per QAPP WS #15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1 Dustin Slater	10/5/22	16:45	1	10/5	1645
2			2		
3			3		

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank

Rev 8/19

1.0

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-687.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-6896-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 10/19/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY PFAS	Project #: 67000872			
Site:	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)	PFC_IDA_D5.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-MW0069-015.0-20221005 (670-6896-1)	10/5/22	15:08 Eastern		Water			X	2	
GSRY-MW0070-015.0-20221005 (670-6896-2)	10/5/22	11:14 Eastern		Water			X	2	
GSRY-MW0073-022.0-20221005 (670-6896-3)	10/5/22	09:36 Eastern		Water			X	2	
GSRY-MW0074-012.0-20221005 (670-6896-4)	10/5/22	10:27 Eastern		Water			X	2	
GSRY-MW0074-012.0-20221005 (670-6896-4MS)	10/5/22	10:27 Eastern	MS	Water			X	2	
GSRY-MW0074-012.0-20221005 (670-6896-4MSD)	10/5/22	10:27 Eastern	MSD	Water			X	2	
GSRY-MW0076-015.0-20221005 (670-6896-5)	10/5/22	13:27 Eastern		Water			X	2	
GSRY-MW0077-015.0-20221005 (670-6896-6)	10/5/22	12:51 Eastern		Water			X	2	
GSRY-MW0078-012.0-20221005 (670-6896-7)	10/5/22	12:16 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon out 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, 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 Southeast, 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: Melissa Clerisier	Date: 10/10/2022	Time: 12:28	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10/11/22 10:25	Company ELLET

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.8

Ver: 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dvinicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-687.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dvinicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-6896-1
Address: 2425 New Holland Pike,	Due Date Requested: 10/19/2022	Analysis Requested		Preservation Codes:
City: Lancaster	TAT Requested (days):			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)
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY PFAS	Project #: 67000872			
Site:	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Solid, Oil, Biota, Soil-Tissue, A-Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA_D5.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
		Preservation Code:							
GSRY-FD-20221005 (670-6896-8)	10/5/22	10:30 Eastern		Water			X	2	
GSRY-FB-20221005 (670-6896-9)	10/5/22	15:12 Eastern		Water			X	2	
GSRY-ED-20221005 (670-6896-10)	10/5/22	15:15 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon out 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification *Unconfirmed*	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2
Empty Kit Relinquished by:	Date: Time: Method of Shipment:
Relinquished by: Date/Time: Company	Received by: Date/Time: Company
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:

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:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-6896-1

Login Number: 6896

List Number: 1

Creator: Hartley, Tyler

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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	
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-6896-1

Login Number: 6896
List Number: 2
Creator: McBeth, Jessica

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC
List Creation: 10/11/22 02:10 PM

Question	Answer	Comment
The cooler's custody seal is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	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	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Teresa Amentt Jennings
AECOM Technical Services Inc.
150 North Orange Avenue
Suite 200
Orlando, Florida 32801

Generated 12/16/2022 12:57:34 PM Revision 1

JOB DESCRIPTION

NASA KSC GSRY IDW
October Sampling

JOB NUMBER

670-8406-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

Job Notes

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

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 Southeast, LLC Project Manager.

Authorization

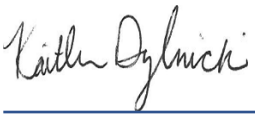

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Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 6
Detection Summary 9
Client Sample Results 13
Surrogate Summary 34
Isotope Dilution Summary 36
QC Sample Results 38
QC Association Summary 51
Lab Chronicle 56
Certification Summary 60
Method Summary 62
Sample Summary 63
Chain of Custody 64
Receipt Checklists 69

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 670-8406-1
Project/Site: NASA KSC GSRY IDW

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
J1	Estimated value; value may not be accurate. Surrogate recovery outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
Q	Sample held beyond the accepted holding time.
U	Indicates that the compound was analyzed for but not detected.

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

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)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-8406-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-8406-1

Receipt
The samples were received on 10/28/2022 2:15 PM. 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 2.9°C and 3.8°C

Revision
The report being provided is a revision of the original report sent on 11/29/2022. The report (revision 1) is being revised due to: update of units for total phosphorus and nitrate.

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

PCBs
Method 8082A: Two surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: GSRY-IDW01-20221027 (670-8406-1), GSRY-IDW03-20221027 (670-8406-3), GSRY-IDW04-20221027 (670-8406-4), GSRY-IDW06-20221027 (670-8406-6), GSRY-IDW08-20221027 (670-8406-8), GSRY-IDW10-20221027 (670-8406-10) and GSRY-IDW11-20221028 (670-8406-11). These results have been reported and qualified.

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

HPLC/IC
Method 300_ORGFMS: The following samples were performed outside of the analytical holding time due to failing instrument QC: GSRY-IDW01-20221027 (670-8406-1), GSRY-IDW02-20221027 (670-8406-2), GSRY-IDW03-20221027 (670-8406-3), GSRY-IDW04-20221027 (670-8406-4), GSRY-IDW05-20221027 (670-8406-5), GSRY-IDW06-20221027 (670-8406-6) and GSRY-IDW07-20221027 (670-8406-7), GSRY-IDW08-20221027 (670-8406-8), GSRY-IDW09-20221027 (670-8406-9) and GSRY-IDW10-20221027 (670-8406-10).

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

PFAS
Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C2-PFDoDA, d5-NEtFOSAA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, d3-NMePFOSA and 13C4 PFBA in the following sample: GSRY-IDW01-20221027 (670-8406-1) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA d3-NMePFOSA 13C4 PFBA was again outside of the QC acceptance limits. The recovery for labeled isotope d5-NEtFOSAA d3-NMeFOSAA 13C5 PFPeA 13C2-PFDoDA 13C7 PFUnA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C6 PFDA, 13C2-PFDoDA, 13C5 PFHxA, 13C3 PFBS, 13C8 FOSA, d5-NEtFOSAA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, 13C8 PFOA, 13C9 PFNA, d3-NMePFOSA, 13C4 PFHpA, M2-8:FTS, 13C8 PFOS and 13C4 PFBA in the following sample: GSRY-IDW02-20221027 (670-8406-2) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA 13C4 PFBA d3-NMePFOSA was again outside of the QC acceptance limits. The recovery for labeled isotope(s) M2-8:2 FTS 13C3 PFBS 13C8 PFOS 13C5 PFHxA d3-NMeFOSAA 13C4 PFHpA 13C8 PFOA 13C9 PFNA d5-NEtFOSAA 13C6 PFDA 13C5 PFPeA 13C2-PFDoDA 13C7 PFUnA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C6 PFDA, 13C2-PFDoDA, 13C8 FOSA, d5-NEtFOSAA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, d3-NMePFOSA and 13C4 PFBA in the following sample: GSRY-IDW03-20221027 (670-8406-3) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) d3-NMePFOSA was again outside of the QC acceptance limits. The recovery for labeled isotope(s) 13C2 PFTeDA 13C4 PFBA d3-NMeFOSAA d5-NEtFOSAA 13C6 PFDA 13C5 PFPeA 13C2-PFDoDA 13C7 PFUnA 13C8 FOSA was within the QC acceptance limits.

Job ID: 670-8406-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C6 PFDA, 13C2-PFDoDA, 13C5 PFHxA, 13C3 PFBS, 13C8 FOSA, d5-NEtFOSAA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, 13C8 PFOA, 13C9 PFNA, d3-NMePFOSA, 13C4 PFHpA, M2-8:2 FTS, 13C8 PFOS and 13C4 PFBA in the following sample: GSRY-IDW04-20221027 (670-8406-4) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C4 PFBA d3-NMePFOSA was again outside of the QC acceptance limits. The recovery for labeled isotope(s) 13C2 PFTeDA M2-8:2 FTS 13C3 PFBS 13C8 PFOS 13C5 PFHxA d3-NMeFOSAA 13C4 PFHpA 13C8 PFOA 13C9 PFNA d5-NEtFOSAA 13C6 PFDA 13C5 PFPeA 13C2-PFDoDA 13C7 PFUnA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C2-PFDoDA, 13C8 FOSA, M2-4:2 FTS, d5-NEtFOSAA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMePFOSA and 13C4 PFBA in the following sample: GSRY-IDW05-20221027 (670-8406-5) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C4 PFBA M2-4:2 FTS was again outside of the QC acceptance limits. The recovery for labeled isotope(s) 13C2 PFTeDA d3-NMePFOSA d5-NEtFOSAA 13C2-PFDoDA 13C7 PFUnA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C6 PFDA, 13C2-PFDoDA, 13C8 FOSA, d5-NEtFOSAA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, d3-NMePFOSA and 13C4 PFBA in the following sample: GSRY-IDW06-20221027 (670-8406-6) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA d3-NMePFOSA 13C2-PFDoDA was again outside of the QC acceptance limits. The recovery for labeled isotope(s) 13C4 PFBA d3-NMeFOSAA d5-NEtFOSAA 13C6 PFDA 13C5 PFPeA 13C7 PFUnA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C6 PFDA, 13C2-PFDoDA, 13C5 PFHxA, 13C3 PFBS, 13C8 FOSA, d5-NEtFOSAA, 13C5 PFPeA, 13C7 PFUnA, d3-NMeFOSAA, 13C9 PFNA, d3-NMePFOSA, 13C4 PFHpA, M2-8:2 FTS, 13C8 PFOS and 13C4 PFBA in the following sample: GSRY-IDW07-20221027 (670-8406-7) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-8:2 FTS d3-NMePFOSA 13C4 PFBA d3-NMeFOSAA d5-NEtFOSAA was again outside of the QC acceptance limits. The recovery for labeled isotope(s) 13C3 PFBS 13C8 PFOS 13C5 PFHxA 13C4 PFHpA 13C9 PFNA 13C6 PFDA 13C5 PFPeA 13C2-PFDoDA 13C7 PFUnA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C6 PFDA, 13C2-PFDoDA, 13C5 PFHxA, 13C3 PFBS, 13C8 FOSA, M2-6:2 FTS, d5-NEtFOSAA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, 13C8 PFOA, 13C9 PFNA, d3-NMePFOSA, 13C4 PFHpA, M2-8:2 FTS, 13C3 PFHxS, 13C8 PFOS and 13C4 PFBA in the following sample: GSRY-IDW08-20221027 (670-8406-8) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA d3-NMePFOSA M2-6:2 FTS was again outside of the QC acceptance limits. The recovery for labeled isotope(s) 13C3 PFHxS M2-8:2 FTS 13C3 PFBS 13C8 PFOS 13C5 PFHxA 13C4 PFBA d3-NMeFOSAA 13C4 PFHpA 13C8 PFOA 13C9 PFNA d5-NEtFOSAA 13C6 PFDA 13C5 PFPeA 13C2-PFDoDA 13C7 PFUnA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C6 PFDA, 13C2-PFDoDA, 13C5 PFHxA, 13C8 FOSA, d5-NEtFOSAA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, d3-NMePFOSA and 13C4 PFBA in the following sample: GSRY-IDW09-20221027 (670-8406-9) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C4 PFBA d3-NMePFOSA was again outside of the QC acceptance limits. The recovery for labeled isotope(s) 13C2 PFTeDA 13C5 PFHxA d3-NMeFOSAA d5-NEtFOSAA 13C6 PFDA 13C5 PFPeA 13C2-PFDoDA 13C7 PFUnA 13C8 FOSA was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C6 PFDA, 13C2-PFDoDA, 13C5 PFHxA, 13C3 PFBS, 13C8 FOSA, d5-NEtFOSAA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, 13C8 PFOA, 13C9 PFNA, d3-NMePFOSA, 13C4 PFHpA, M2-8:2 FTS, 13C3 PFHxS, 13C8 PFOS and 13C4 PFBA in the following sample: GSRY-IDW10-20221027 (670-8406-10) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C2 PFTeDA 13C4 PFBA d3-NMePFOSA was again outside of the QC acceptance limits. The recovery for labeled isotope(s) 13C3 PFHxS M2-8:2 FTS 13C3 PFBS 13C8 PFOS 13C5 PFHxA d3-NMeFOSAA 13C4 PFHpA 13C8 PFOA 13C9 PFNA d5-NEtFOSAA 13C6 PFDA 13C5 PFPeA 13C2-PFDoDA 13C7 PFUnA 13C8 FOSA was within the QC acceptance limits.

Job ID: 670-8406-1 (Continued)

Laboratory: Eurofins Orlando (Continued)

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C6 PFDA, 13C2-PFDoDA, 13C5 PFHxA, 13C3 PFBS, 13C8 FOSA, d5-NEtFOSAA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, 13C8 PFOA, 13C9 PFNA, d3-NMePFOSA, 13C4 PFHpA, 13C3 HFPO-DA, M2-8:2 FTS, 13C3 PFHxS, 13C8 PFOS and 13C4 PFBA in the following sample: GSRY-IDW11-20221028 (670-8406-11) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C6 PFDA, 13C2-PFDoDA, 13C5 PFHxA, 13C3 PFBS, 13C8 FOSA, d5-NEtFOSAA, 13C5 PFPeA, 13C2 PFTeDA, 13C7 PFUnA, d3-NMeFOSAA, 13C8 PFOA, 13C9 PFNA, d3-NMePFOSA, 13C4 PFHpA, 13C3 HFPO-DA, M2-8:2 FTS, 13C3 PFHx 13C8 PFOS and 13C4 PFBA was again outside of the QC acceptance limits.

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

General Chemistry

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

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Client Sample ID: GSRY-IDW01-20221027 — Lab Sample ID: 670-8406-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
8:2 Fluorotelomer sulfonic acid	0.0010	I	0.0027	0.00090	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0011	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0026	I	0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0016	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0057		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0030		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.015		0.0019	0.00090	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0014	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0011	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0026		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Total Phosphorus as P	49	I	100	40	ug/L	1		365.4	Total/NA

Client Sample ID: GSRY-IDW02-20221027 — Lab Sample ID: 670-8406-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.00070	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0021	I	0.0042	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.00058	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0031		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0015	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0052		0.0018	0.00085	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.00093	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00058	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0012	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Total Phosphorus as P	160		100	40	ug/L	1		365.4	Total/NA

Client Sample ID: GSRY-IDW03-20221027 — Lab Sample ID: 670-8406-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.0025	I	0.0026	0.00088	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.00056	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0025		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0048		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0037		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0043		0.0018	0.00088	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.013		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00058	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0025		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Total Phosphorus as P	76	I	100	40	ug/L	1		365.4	Total/NA

Client Sample ID: GSRY-IDW04-20221027 — Lab Sample ID: 670-8406-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.0021	I	0.0026	0.00087	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0086		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.013		0.0043	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.0020		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.015		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.051		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.031		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0014	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.080		0.0018	0.00087	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Client Sample ID: GSRY-IDW04-20221027 (Continued) — Lab Sample ID: 670-8406-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	0.0087		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0080		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.025		0.0017	0.00043	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-IDW05-20221027 — Lab Sample ID: 670-8406-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.0022	I	0.0026	0.00087	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.00094	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0030	I	0.0043	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0017		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0074		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0035		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.012		0.0018	0.00087	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0020		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00092	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0027		0.0017	0.00043	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-IDW06-20221027 — Lab Sample ID: 670-8406-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3-Trichlorobenzene	1.0		1.0	0.50	ug/L	1		8260B	Total/NA
1,2,4-Trichlorobenzene	1.9		1.0	0.50	ug/L	1		8260B	Total/NA
m-Dichlorobenzene	0.68	I	1.0	0.50	ug/L	1		8260B	Total/NA
o-Dichlorobenzene	0.87	I	1.0	0.50	ug/L	1		8260B	Total/NA
6:2 Fluorotelomer sulfonic acid	0.0013	I	0.0026	0.00086	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.00096	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0041	I	0.0043	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0021		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0085		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0046		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00047	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.018		0.0018	0.00086	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0038		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00091	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0040		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Total Phosphorus as P	84	I	100	40	ug/L	1		365.4	Total/NA

Client Sample ID: GSRY-IDW07-20221027 — Lab Sample ID: 670-8406-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.0015	I	0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0037	I	0.0044	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0018		0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.010		0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0055		0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.011		0.0018	0.00087	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0037		0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0012	I	0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0047		0.0017	0.00044	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Client Sample ID: GSRY-IDW08-20221027 — Lab Sample ID: 670-8406-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid	0.0017		0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0031		0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0027		0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0045		0.0018	0.00087	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0087		0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0014	I	0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Total Phosphorus as P	150		100	40	ug/L	1		365.4	Total/NA

Client Sample ID: GSRY-IDW09-20221027 — Lab Sample ID: 670-8406-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.00052	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0010	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0030		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0018		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0044		0.0018	0.00088	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0048		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0014	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-IDW10-20221027 — Lab Sample ID: 670-8406-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trichlorobenzene	10		1.0	0.50	ug/L	1		8260B	Total/NA
Chlorobenzene	24		1.0	0.50	ug/L	1		8260B	Total/NA
m-Dichlorobenzene	130		2.0	1.0	ug/L	2		8260B	Total/NA
o-Dichlorobenzene	1.0		1.0	0.50	ug/L	1		8260B	Total/NA
para-Dichlorobenzene	54		1.0	0.50	ug/L	1		8260B	Total/NA
6:2 Fluorotelomer sulfonic acid	0.0033		0.0027	0.00089	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.00070	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0028	I	0.0044	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0014	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0034		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0028		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0093		0.0019	0.00089	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0021		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0025		0.0018	0.00044	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-IDW11-20221028 — Lab Sample ID: 670-8406-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trichlorobenzene	3.2		1.0	0.50	ug/L	1		8260B	Total/NA
Chlorobenzene	7.3		1.0	0.50	ug/L	1		8260B	Total/NA
m-Dichlorobenzene	31		1.0	0.50	ug/L	1		8260B	Total/NA
para-Dichlorobenzene	14		1.0	0.50	ug/L	1		8260B	Total/NA
6:2 Fluorotelomer sulfonic acid	0.0066		0.0027	0.00091	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.011		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.014		0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00054	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.010		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.046		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.028		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00092	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: GSRY-IDW11-20221028 (Continued)

Lab Sample ID: 670-8406-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	0.035		0.0019	0.00091	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0070		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.011		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.019		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Total Phosphorus as P	240		100	40	ug/L	1		365.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Client Sample ID: GSRY-IDW01-20221027

Date Collected: 10/27/22 13:50
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-1

Matrix: Water

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 10:40	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 10:40	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 10:40	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 10:40	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 10:40	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 10:40	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 10:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/09/22 10:40*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*11/09/22 10:40*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/09/22 10:40*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.35	U	0.44	0.35	ug/L		11/03/22 08:46	11/05/22 09:24	1
PCB-1221	0.14	U	0.44	0.14	ug/L		11/03/22 08:46	11/05/22 09:24	1
PCB-1232	0.11	U	0.44	0.11	ug/L		11/03/22 08:46	11/05/22 09:24	1
PCB-1242	0.12	U	0.44	0.12	ug/L		11/03/22 08:46	11/05/22 09:24	1
PCB-1248	0.087	U	0.44	0.087	ug/L		11/03/22 08:46	11/05/22 09:24	1
PCB-1254	0.10	U	0.44	0.10	ug/L		11/03/22 08:46	11/05/22 09:24	1
PCB-1260	0.22	U	0.44	0.22	ug/L		11/03/22 08:46	11/05/22 09:24	1
Polychlorinated biphenyls, Total	0.14	U	0.44	0.14	ug/L		11/03/22 08:46	11/05/22 09:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*48*	*J1*	*50 - 150*	*11/03/22 08:46*	*11/05/22 09:24*	*1*
Tetrachloro-m-xylene	*74*		*50 - 150*	*11/03/22 08:46*	*11/05/22 09:24*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U Q	400	200	ug/L			10/29/22 22:52	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
6:2 Fluorotelomer sulfonic acid	0.00090	U	0.0027	0.00090	ug/L		11/09/22 07:56	11/11/22 05:41	1
8:2 Fluorotelomer sulfonic acid	**0.0010**	**I**	0.0027	0.00090	ug/L		11/09/22 07:56	11/11/22 05:41	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
DONA	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
HFPODA	0.00045	U	0.0027	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		11/09/22 07:56	11/11/22 05:41	1
NMeFOSA	0.00090	U	0.0027	0.00090	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorobutanesulfonic acid	**0.0011**	**I**	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorobutanoic acid	**0.0026**	**I**	0.0045	0.0018	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluoroheptanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluoroheptanoic acid	**0.0016**	**I**	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1

Client Sample ID: GSRY-IDW01-20221027

Lab Sample ID: 670-8406-1

Date Collected: 10/27/22 13:50

Matrix: Water

Date Received: 10/28/22 14:15

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	**0.0057**		0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorohexanoic acid	**0.0030**		0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorononanoic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorooctanesulfonamide	0.00063	U	0.0018	0.00063	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorooctanesulfonic acid	**0.015**		0.0019	0.00090	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorooctanoic acid	**0.0014**	**I**	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluoropentanesulfonic acid	**0.0011**	**I**	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluoropentanoic acid	**0.0026**		0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 05:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*54*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C2-PFDoDA	*38*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C5 PFHxA	*53*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C3 PFBS	*55*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C8 FOSA	*51*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
M2-6:2 FTS	*75*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
M2-4:2 FTS	*112*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
d5-NEtFOSAA	*46*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C5 PFPeA	*47*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C2 PFTeDA	*25*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C7 PFUnA	*48*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
d3-NMeFOSAA	*48*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C8 PFOA	*61*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C9 PFNA	*57*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
d3-NMePFOSA	*25*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C4 PFHpA	*57*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C3 HFPO-DA	*73*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
M2-8:2 FTS	*63*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C3 PFHxS	*61*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C8 PFOS	*55*		*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*
13C4 PFBA	*38*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 05:41*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	**49**	**I**	100	40	ug/L		11/11/22 06:01	11/15/22 11:19	1

Client Sample ID: GSRY-IDW02-20221027

Lab Sample ID: 670-8406-2

Date Collected: 10/27/22 13:52

Matrix: Water

Date Received: 10/28/22 14:15

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 11:01	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 11:01	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 11:01	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 11:01	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 11:01	1

Client Sample ID: GSRY-IDW02-20221027
Date Collected: 10/27/22 13:52
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-2
Matrix: Water

Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 11:01	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 11:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*11/09/22 11:01*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*11/09/22 11:01*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/09/22 11:01*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.35	U	0.45	0.35	ug/L		11/03/22 08:46	11/05/22 09:51	1
PCB-1221	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 09:51	1
PCB-1232	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 09:51	1
PCB-1242	0.12	U	0.45	0.12	ug/L		11/03/22 08:46	11/05/22 09:51	1
PCB-1248	0.089	U	0.45	0.089	ug/L		11/03/22 08:46	11/05/22 09:51	1
PCB-1254	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 09:51	1
PCB-1260	0.23	U	0.45	0.23	ug/L		11/03/22 08:46	11/05/22 09:51	1
Polychlorinated biphenyls, Total	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 09:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*65*		*50 - 150*	*11/03/22 08:46*	*11/05/22 09:51*	*1*
Tetrachloro-m-xylene	*68*		*50 - 150*	*11/03/22 08:46*	*11/05/22 09:51*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U Q	400	200	ug/L			10/29/22 23:09	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
4:2 Fluorotelomer sulfonic acid	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
6:2 Fluorotelomer sulfonic acid	0.00085	U	0.0025	0.00085	ug/L		11/09/22 07:56	11/11/22 06:13	1
8:2 Fluorotelomer sulfonic acid	0.00085	U	0.0025	0.00085	ug/L		11/09/22 07:56	11/11/22 06:13	1
9Cl-PF3ONS	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
DONA	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
HFPODA	0.00042	U	0.0025	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
NEtFOSAA	0.00042	U	0.0025	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
NMeFOSAA	0.00051	U	0.0017	0.00051	ug/L		11/09/22 07:56	11/11/22 06:13	1
NMeFOSA	0.00085	U	0.0025	0.00085	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorobutanesulfonic acid	**0.00070**	**I**	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorobutanoic acid	**0.0021**	**I**	0.0042	0.0017	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorodecanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorodecanoic acid	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorododecanoic acid	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluoroheptanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluoroheptanoic acid	**0.00058**	**I**	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorohexanesulfonic acid	**0.0031**		0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorohexanoic acid	**0.0015**	**I**	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorononanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorononanoic acid	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorooctanesulfonamide	0.00059	U	0.0017	0.00059	ug/L		11/09/22 07:56	11/11/22 06:13	1

Client Sample ID: GSRY-IDW02-20221027

Lab Sample ID: 670-8406-2

Date Collected: 10/27/22 13:52

Matrix: Water

Date Received: 10/28/22 14:15

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid	**0.0052**		0.0018	0.00085	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorooctanoic acid	**0.00093**	**I**	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluoropentanesulfonic acid	**0.00058**	**I**	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluoropentanoic acid	**0.0012**	**I**	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorotetradecanoic acid	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluorotridecanoic acid	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1
Perfluoroundecanoic acid	0.00042	U	0.0017	0.00042	ug/L		11/09/22 07:56	11/11/22 06:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*19*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C2-PFDoDA	*2*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C5 PFHxA	*44*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C3 PFBS	*47*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C8 FOSA	*14*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
M2-6:2 FTS	*66*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
M2-4:2 FTS	*102*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
d5-NEtFOSAA	*22*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C5 PFPeA	*40*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C2 PFTeDA	*0.1*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C7 PFUnA	*7*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
d3-NMeFOSAA	*27*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C8 PFOA	*45*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C9 PFNA	*36*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
d3-NMePFOSA	*3*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C4 PFHpA	*48*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C3 HFPO-DA	*58*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
M2-8:2 FTS	*26*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C3 PFHxS	*51*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C8 PFOS	*37*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*
13C4 PFBA	*30*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:13*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	**160**		100	40	ug/L		11/11/22 06:09	11/15/22 11:29	1

Client Sample ID: GSRY-IDW03-20221027

Lab Sample ID: 670-8406-3

Date Collected: 10/27/22 14:05

Matrix: Water

Date Received: 10/28/22 14:15

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:46	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:46	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:46	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:46	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:46	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:46	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/09/22 13:46*	*1*

Client Sample ID: GSRY-IDW03-20221027

Date Collected: 10/27/22 14:05
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-3

Matrix: Water

Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*11/09/22 13:46*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/09/22 13:46*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.35	U	0.45	0.35	ug/L		11/03/22 08:46	11/05/22 10:19	1
PCB-1221	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 10:19	1
PCB-1232	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 10:19	1
PCB-1242	0.12	U	0.45	0.12	ug/L		11/03/22 08:46	11/05/22 10:19	1
PCB-1248	0.089	U	0.45	0.089	ug/L		11/03/22 08:46	11/05/22 10:19	1
PCB-1254	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 10:19	1
PCB-1260	0.23	U	0.45	0.23	ug/L		11/03/22 08:46	11/05/22 10:19	1
Polychlorinated biphenyls, Total	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 10:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*48*	*J1*	*50 - 150*	*11/03/22 08:46*	*11/05/22 10:19*	*1*
Tetrachloro-m-xylene	*76*		*50 - 150*	*11/03/22 08:46*	*11/05/22 10:19*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U Q	400	200	ug/L			10/29/22 23:25	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
6:2 Fluorotelomer sulfonic acid	**0.0025**	**I**	0.0026	0.00088	ug/L		11/09/22 07:56	11/11/22 06:23	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		11/09/22 07:56	11/11/22 06:23	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
DONA	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
HFPODA	0.00044	U	0.0026	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		11/09/22 07:56	11/11/22 06:23	1
NMeFOSA	0.00088	U	0.0026	0.00088	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorobutanesulfonic acid	**0.00056**	**I**	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorobutanoic acid	0.0018	U	0.0044	0.0018	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluoroheptanoic acid	**0.0025**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorohexanesulfonic acid	**0.0048**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorohexanoic acid	**0.0037**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorononanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorooctanesulfonamide	0.00061	U	0.0018	0.00061	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorooctanesulfonic acid	**0.0043**		0.0018	0.00088	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorooctanoic acid	**0.013**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluoropentanesulfonic acid	**0.00058**	**I**	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluoropentanoic acid	**0.0025**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1

Client Sample ID: GSRY-IDW03-20221027

Lab Sample ID: 670-8406-3

Date Collected: 10/27/22 14:05

Matrix: Water

Date Received: 10/28/22 14:15

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 06:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*49*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C2-PFDoDA	*32*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C5 PFHxA	*50*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C3 PFBS	*52*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C8 FOSA	*45*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
M2-6:2 FTS	*80*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
M2-4:2 FTS	*111*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
d5-NEtFOSAA	*43*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C5 PFPeA	*44*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C2 PFTeDA	*18*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C7 PFUnA	*41*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
d3-NMeFOSAA	*47*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C8 PFOA	*56*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C9 PFNA	*53*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
d3-NMePFOSA	*19*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C4 PFHpA	*54*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C3 HFPO-DA	*62*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
M2-8:2 FTS	*60*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C3 PFHxS	*56*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C8 PFOS	*53*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*
13C4 PFBA	*37*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:23*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	76	I	100	40	ug/L		11/11/22 06:09	11/15/22 11:30	1

Client Sample ID: GSRY-IDW04-20221027

Lab Sample ID: 670-8406-4

Date Collected: 10/27/22 14:15

Matrix: Water

Date Received: 10/28/22 14:15

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:07	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:07	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:07	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:07	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:07	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:07	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*105*		*80 - 120*		*11/09/22 14:07*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*11/09/22 14:07*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/09/22 14:07*	*1*

Client Sample ID: GSRY-IDW04-20221027

Date Collected: 10/27/22 14:15
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-4

Matrix: Water

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.35	U	0.44	0.35	ug/L		11/03/22 08:46	11/05/22 10:47	1
PCB-1221	0.14	U	0.44	0.14	ug/L		11/03/22 08:46	11/05/22 10:47	1
PCB-1232	0.11	U	0.44	0.11	ug/L		11/03/22 08:46	11/05/22 10:47	1
PCB-1242	0.12	U	0.44	0.12	ug/L		11/03/22 08:46	11/05/22 10:47	1
PCB-1248	0.087	U	0.44	0.087	ug/L		11/03/22 08:46	11/05/22 10:47	1
PCB-1254	0.10	U	0.44	0.10	ug/L		11/03/22 08:46	11/05/22 10:47	1
PCB-1260	0.22	U	0.44	0.22	ug/L		11/03/22 08:46	11/05/22 10:47	1
Polychlorinated biphenyls, Total	0.14	U	0.44	0.14	ug/L		11/03/22 08:46	11/05/22 10:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*44*	*J1*	*50 - 150*	*11/03/22 08:46*	*11/05/22 10:47*	*1*
Tetrachloro-m-xylene	*73*		*50 - 150*	*11/03/22 08:46*	*11/05/22 10:47*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U Q	400	200	ug/L			10/29/22 23:41	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
6:2 Fluorotelomer sulfonic acid	**0.0021**	**I**	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 06:34	1
8:2 Fluorotelomer sulfonic acid	0.00087	U	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 06:34	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
DONA	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
HFPODA	0.00043	U	0.0026	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		11/09/22 07:56	11/11/22 06:34	1
NMeFOSA	0.00087	U	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorobutanesulfonic acid	**0.0086**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorobutanoic acid	**0.013**		0.0043	0.0017	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluoroheptanesulfonic acid	**0.0020**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluoroheptanoic acid	**0.015**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorohexanesulfonic acid	**0.051**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorohexanoic acid	**0.031**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorononanoic acid	**0.0014**	**I**	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorooctanesulfonamide	0.00061	U	0.0017	0.00061	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorooctanesulfonic acid	**0.080**		0.0018	0.00087	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorooctanoic acid	**0.0087**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluoropentanesulfonic acid	**0.0080**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluoropentanoic acid	**0.025**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*37*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*

Client Sample ID: GSRY-IDW04-20221027

Lab Sample ID: 670-8406-4

Date Collected: 10/27/22 14:15

Matrix: Water

Date Received: 10/28/22 14:15

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2-PFDoDA	*14*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C5 PFHxA	*46*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C3 PFBS	*48*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C8 FOSA	*37*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
M2-6:2 FTS	*72*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
M2-4:2 FTS	*102*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
d5-NEtFOSAA	*38*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C5 PFPeA	*42*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C2 PFTeDA	*2*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C7 PFUnA	*26*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
d3-NMeFOSAA	*38*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C8 PFOA	*49*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C9 PFNA	*47*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
d3-NMePFOSA	*16*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C4 PFHpA	*49*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C3 HFPO-DA	*60*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
M2-8:2 FTS	*40*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C3 PFHxS	*52*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C8 PFOS	*47*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*
13C4 PFBA	*33*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:34*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	40	U	100	40	ug/L		11/11/22 06:09	11/15/22 11:32	1

Client Sample ID: GSRY-IDW05-20221027

Lab Sample ID: 670-8406-5

Date Collected: 10/27/22 14:22

Matrix: Water

Date Received: 10/28/22 14:15

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:28	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:28	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:28	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:28	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:28	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:28	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/09/22 14:28*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*11/09/22 14:28*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/09/22 14:28*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.35	U	0.44	0.35	ug/L		11/03/22 08:46	11/05/22 11:15	1
PCB-1221	0.14	U	0.44	0.14	ug/L		11/03/22 08:46	11/05/22 11:15	1
PCB-1232	0.11	U	0.44	0.11	ug/L		11/03/22 08:46	11/05/22 11:15	1
PCB-1242	0.12	U	0.44	0.12	ug/L		11/03/22 08:46	11/05/22 11:15	1
PCB-1248	0.087	U	0.44	0.087	ug/L		11/03/22 08:46	11/05/22 11:15	1

Client Sample ID: GSRY-IDW05-20221027

Date Collected: 10/27/22 14:22
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-5

Matrix: Water

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1254	0.10	U	0.44	0.10	ug/L		11/03/22 08:46	11/05/22 11:15	1
PCB-1260	0.22	U	0.44	0.22	ug/L		11/03/22 08:46	11/05/22 11:15	1
Polychlorinated biphenyls, Total	0.14	U	0.44	0.14	ug/L		11/03/22 08:46	11/05/22 11:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*51*		*50 - 150*	*11/03/22 08:46*	*11/05/22 11:15*	*1*
Tetrachloro-m-xylene	*81*		*50 - 150*	*11/03/22 08:46*	*11/05/22 11:15*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U Q	400	200	ug/L			10/29/22 23:58	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
6:2 Fluorotelomer sulfonic acid	**0.0022**	**I**	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 06:45	1
8:2 Fluorotelomer sulfonic acid	0.00087	U	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 06:45	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
DONA	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
HFPODA	0.00043	U	0.0026	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		11/09/22 07:56	11/11/22 06:45	1
NMeFOSA	0.00087	U	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorobutanesulfonic acid	**0.00094**	**I**	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorobutanoic acid	**0.0030**	**I**	0.0043	0.0017	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluoroheptanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluoroheptanoic acid	**0.0017**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorohexanesulfonic acid	**0.0074**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorohexanoic acid	**0.0035**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorononanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorooctanesulfonamide	0.00061	U	0.0017	0.00061	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorooctanesulfonic acid	**0.012**		0.0018	0.00087	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorooctanoic acid	**0.0020**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluoropentanesulfonic acid	**0.00092**	**I**	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluoropentanoic acid	**0.0027**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*55*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C2-PFDoDA	*14*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C5 PFHxA	*72*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C3 PFBS	*77*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C8 FOSA	*48*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
M2-6:2 FTS	*139*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*

Client Sample ID: GSRY-IDW05-20221027 Lab Sample ID: 670-8406-5

Date Collected: 10/27/22 14:22 **Matrix: Water**
Date Received: 10/28/22 14:15

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*177*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
d5-NEtFOSAA	*49*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C5 PFPeA	*63*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C2 PFTeDA	*2*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C7 PFUnA	*31*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
d3-NMeFOSAA	*59*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C8 PFOA	*82*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C9 PFNA	*74*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
d3-NMePFOSA	*16*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C4 PFHpA	*83*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C3 HFPO-DA	*102*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
M2-8:2 FTS	*71*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C3 PFHxS	*90*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C8 PFOS	*73*		*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*
13C4 PFBA	*47*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 06:45*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	40	U	100	40	ug/L		11/11/22 06:09	11/15/22 11:33	1

Client Sample ID: GSRY-IDW06-20221027 Lab Sample ID: 670-8406-6

Date Collected: 10/27/22 14:30 **Matrix: Water**
Date Received: 10/28/22 14:15

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	**1.0**		1.0	0.50	ug/L			11/09/22 14:48	1
1,2,4-Trichlorobenzene	**1.9**		1.0	0.50	ug/L			11/09/22 14:48	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:48	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:48	1
m-Dichlorobenzene	**0.68**	**I**	1.0	0.50	ug/L			11/09/22 14:48	1
o-Dichlorobenzene	**0.87**	**I**	1.0	0.50	ug/L			11/09/22 14:48	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/09/22 14:48*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*11/09/22 14:48*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/09/22 14:48*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.36	U	0.46	0.36	ug/L		11/03/22 08:46	11/05/22 11:43	1
PCB-1221	0.14	U	0.46	0.14	ug/L		11/03/22 08:46	11/05/22 11:43	1
PCB-1232	0.11	U	0.46	0.11	ug/L		11/03/22 08:46	11/05/22 11:43	1
PCB-1242	0.13	U	0.46	0.13	ug/L		11/03/22 08:46	11/05/22 11:43	1
PCB-1248	0.089	U	0.46	0.089	ug/L		11/03/22 08:46	11/05/22 11:43	1
PCB-1254	0.11	U	0.46	0.11	ug/L		11/03/22 08:46	11/05/22 11:43	1
PCB-1260	0.23	U	0.46	0.23	ug/L		11/03/22 08:46	11/05/22 11:43	1
Polychlorinated biphenyls, Total	0.14	U	0.46	0.14	ug/L		11/03/22 08:46	11/05/22 11:43	1

Client Sample ID: GSRY-IDW06-20221027

Date Collected: 10/27/22 14:30
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-6

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	44	J1	50 - 150	11/03/22 08:46	11/05/22 11:43	1
Tetrachloro-m-xylene	75		50 - 150	11/03/22 08:46	11/05/22 11:43	1

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U Q	400	200	ug/L			10/30/22 00:14	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
6:2 Fluorotelomer sulfonic acid	**0.0013**	**I**	0.0026	0.00086	ug/L		11/09/22 07:56	11/11/22 06:55	1
8:2 Fluorotelomer sulfonic acid	0.00086	U	0.0026	0.00086	ug/L		11/09/22 07:56	11/11/22 06:55	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
DONA	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
HFPODA	0.00043	U	0.0026	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		11/09/22 07:56	11/11/22 06:55	1
NMeFOSA	0.00086	U	0.0026	0.00086	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorobutanesulfonic acid	**0.00096**	**I**	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorobutanoic acid	**0.0041**	**I**	0.0043	0.0017	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluoroheptanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluoroheptanoic acid	**0.0021**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorohexanesulfonic acid	**0.0085**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorohexanoic acid	**0.0046**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorononanoic acid	**0.00047**	**I**	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorooctanesulfonamide	0.00060	U	0.0017	0.00060	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorooctanesulfonic acid	**0.018**		0.0018	0.00086	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorooctanoic acid	**0.0038**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluoropentanesulfonic acid	**0.00091**	**I**	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluoropentanoic acid	**0.0040**		0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		11/09/22 07:56	11/11/22 06:55	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C6 PFDA	43	*	50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C2-PFDoDA	23	*	50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C5 PFHxA	50		50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C3 PFBS	53		50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C8 FOSA	42	*	50 - 150	11/09/22 07:56	11/11/22 06:55	1
M2-6:2 FTS	81		50 - 150	11/09/22 07:56	11/11/22 06:55	1
M2-4:2 FTS	112		50 - 150	11/09/22 07:56	11/11/22 06:55	1
d5-NEtFOSAA	43	*	50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C5 PFPeA	44	*	50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C2 PFTeDA	7	*	50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C7 PFUnA	35	*	50 - 150	11/09/22 07:56	11/11/22 06:55	1

Client Sample ID: GSRY-IDW06-20221027

Lab Sample ID: 670-8406-6

Date Collected: 10/27/22 14:30

Matrix: Water

Date Received: 10/28/22 14:15

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	46	*	50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C8 PFOA	53		50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C9 PFNA	51		50 - 150	11/09/22 07:56	11/11/22 06:55	1
d3-NMePFOSA	18	*	50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C4 PFHpA	52		50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C3 HFPO-DA	67		50 - 150	11/09/22 07:56	11/11/22 06:55	1
M2-8:2 FTS	52		50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C3 PFHxS	56		50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C8 PFOS	52		50 - 150	11/09/22 07:56	11/11/22 06:55	1
13C4 PFBA	34	*	50 - 150	11/09/22 07:56	11/11/22 06:55	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	84	I	100	40	ug/L		11/11/22 06:09	11/15/22 11:34	1

Client Sample ID: GSRY-IDW07-20221027

Lab Sample ID: 670-8406-7

Date Collected: 10/27/22 14:38

Matrix: Water

Date Received: 10/28/22 14:15

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:48	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:48	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:48	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:48	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:48	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:48	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		80 - 120		11/09/22 14:48	1
4-Bromofluorobenzene (Surr)	101		80 - 120		11/09/22 14:48	1
Dibromofluoromethane (Surr)	100		80 - 120		11/09/22 14:48	1

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.35	U	0.45	0.35	ug/L		11/03/22 08:46	11/05/22 12:10	1
PCB-1221	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 12:10	1
PCB-1232	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 12:10	1
PCB-1242	0.12	U	0.45	0.12	ug/L		11/03/22 08:46	11/05/22 12:10	1
PCB-1248	0.087	U	0.45	0.087	ug/L		11/03/22 08:46	11/05/22 12:10	1
PCB-1254	0.10	U	0.45	0.10	ug/L		11/03/22 08:46	11/05/22 12:10	1
PCB-1260	0.22	U	0.45	0.22	ug/L		11/03/22 08:46	11/05/22 12:10	1
Polychlorinated biphenyls, Total	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 12:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	79		50 - 150	11/03/22 08:46	11/05/22 12:10	1
Tetrachloro-m-xylene	69		50 - 150	11/03/22 08:46	11/05/22 12:10	1

Client Sample ID: GSRY-IDW07-20221027

Date Collected: 10/27/22 14:38
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-7

Matrix: Water

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U Q	400	200	ug/L			10/30/22 00:30	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
6:2 Fluorotelomer sulfonic acid	0.00087	U	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 07:06	1
8:2 Fluorotelomer sulfonic acid	0.00087	U	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 07:06	1
9Cl-PF3ONS	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
DONA	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
HFPODA	0.00044	U	0.0026	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		11/09/22 07:56	11/11/22 07:06	1
NMeFOSA	0.00087	U	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorobutanesulfonic acid	**0.0015**	**I**	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorobutanoic acid	**0.0037**	**I**	0.0044	0.0017	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorodecanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorodecanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorododecanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluoroheptanoic acid	**0.0018**		0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorohexanesulfonic acid	**0.010**		0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorohexanoic acid	**0.0055**		0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorononanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorononanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorooctanesulfonamide	0.00061	U	0.0017	0.00061	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorooctanesulfonic acid	**0.011**		0.0018	0.00087	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorooctanoic acid	**0.0037**		0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluoropentanesulfonic acid	**0.0012**	**I**	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluoropentanoic acid	**0.0047**		0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorotetradecanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluorotridecanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1
Perfluoroundecanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*34*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C2-PFDoDA	*12*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C5 PFHxA	*47*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C3 PFBS	*48*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C8 FOSA	*28*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
M2-6:2 FTS	*70*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
M2-4:2 FTS	*105*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
d5-NEtFOSAA	*33*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C5 PFPeA	*43*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C2 PFTeDA	*2*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C7 PFUnA	*24*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
d3-NMeFOSAA	*38*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C8 PFOA	*51*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C9 PFNA	*45*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
d3-NMePFOSA	*8*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Client Sample ID: GSRY-IDW07-20221027

Lab Sample ID: 670-8406-7

Date Collected: 10/27/22 14:38
Matrix: Water
Date Received: 10/28/22 14:15

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFHpA	*49*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C3 HFPO-DA	*63*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
M2-8:2 FTS	*45*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C3 PFHxS	*55*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C8 PFOS	*45*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*
13C4 PFBA	*35*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:06*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	40	U	100	40	ug/L		11/11/22 06:09	11/15/22 11:35	1

Client Sample ID: GSRY-IDW08-20221027

Lab Sample ID: 670-8406-8

Date Collected: 10/27/22 14:45
Matrix: Water
Date Received: 10/28/22 14:15

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:30	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:30	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:30	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:30	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:30	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:30	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/09/22 15:30*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*11/09/22 15:30*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/09/22 15:30*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.35	U	0.45	0.35	ug/L		11/03/22 08:46	11/05/22 12:38	1
PCB-1221	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 12:38	1
PCB-1232	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 12:38	1
PCB-1242	0.12	U	0.45	0.12	ug/L		11/03/22 08:46	11/05/22 12:38	1
PCB-1248	0.089	U	0.45	0.089	ug/L		11/03/22 08:46	11/05/22 12:38	1
PCB-1254	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 12:38	1
PCB-1260	0.23	U	0.45	0.23	ug/L		11/03/22 08:46	11/05/22 12:38	1
Polychlorinated biphenyls, Total	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 12:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*12*	*J1*	*50 - 150*	*11/03/22 08:46*	*11/05/22 12:38*	*1*
Tetrachloro-m-xylene	*66*		*50 - 150*	*11/03/22 08:46*	*11/05/22 12:38*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U Q	400	200	ug/L			10/30/22 02:09	1

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Client Sample ID: GSRY-IDW08-20221027

Date Collected: 10/27/22 14:45
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-8

Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
6:2 Fluorotelomer sulfonic acid	0.00087	U	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 07:16	1
8:2 Fluorotelomer sulfonic acid	0.00087	U	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 07:16	1
9Cl-PF3ONS	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
DONA	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
HFPODA	0.00044	U	0.0026	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		11/09/22 07:56	11/11/22 07:16	1
NMeFOSA	0.00087	U	0.0026	0.00087	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorobutanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorobutanoic acid	0.0017	U	0.0044	0.0017	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorodecanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorodecanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorododecanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluoroheptanoic acid	**0.0017**		0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorohexanesulfonic acid	**0.0031**		0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorohexanoic acid	**0.0027**		0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorononanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorononanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorooctanesulfonamide	0.00061	U	0.0017	0.00061	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorooctanesulfonic acid	**0.0045**		0.0018	0.00087	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorooctanoic acid	**0.0087**		0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluoropentanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluoropentanoic acid	**0.0014**	**I**	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorotetradecanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluorotridecanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1
Perfluoroundecanoic acid	0.00044	U	0.0017	0.00044	ug/L		11/09/22 07:56	11/11/22 07:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*7*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C2-PFDoDA	*0.3*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C5 PFHxA	*40*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C3 PFBS	*43*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C8 FOSA	*6*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
M2-6:2 FTS	*47*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
M2-4:2 FTS	*80*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
d5-NEtFOSAA	*9*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C5 PFPeA	*38*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C2 PFTeDA	*0.04*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C7 PFUnA	*2*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
d3-NMeFOSAA	*12*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C8 PFOA	*35*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C9 PFNA	*21*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
d3-NMePFOSA	*1*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C4 PFHpA	*40*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C3 HFPO-DA	*53*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
M2-8:2 FTS	*13*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C3 PFHxS	*41*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*

Client Sample ID: GSRY-IDW08-20221027 — Lab Sample ID: 670-8406-8

Date Collected: 10/27/22 14:45 — **Matrix: Water**
Date Received: 10/28/22 14:15

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*21*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*
13C4 PFBA	*33*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:16*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	150		100	40	ug/L		11/11/22 06:09	11/15/22 11:36	1

Client Sample ID: GSRY-IDW09-20221027 — Lab Sample ID: 670-8406-9

Date Collected: 10/27/22 14:52 — **Matrix: Water**
Date Received: 10/28/22 14:15

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:50	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:50	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:50	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:50	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:50	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:50	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 15:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/09/22 15:50*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*11/09/22 15:50*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/09/22 15:50*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.35	U	0.45	0.35	ug/L		11/03/22 08:46	11/05/22 13:06	1
PCB-1221	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 13:06	1
PCB-1232	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 13:06	1
PCB-1242	0.12	U	0.45	0.12	ug/L		11/03/22 08:46	11/05/22 13:06	1
PCB-1248	0.088	U	0.45	0.088	ug/L		11/03/22 08:46	11/05/22 13:06	1
PCB-1254	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 13:06	1
PCB-1260	0.22	U	0.45	0.22	ug/L		11/03/22 08:46	11/05/22 13:06	1
Polychlorinated biphenyls, Total	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 13:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*51*		*50 - 150*	*11/03/22 08:46*	*11/05/22 13:06*	*1*
Tetrachloro-m-xylene	*78*		*50 - 150*	*11/03/22 08:46*	*11/05/22 13:06*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U Q	400	200	ug/L			10/30/22 02:25	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
6:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		11/09/22 07:56	11/11/22 07:27	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		11/09/22 07:56	11/11/22 07:27	1

Client Sample ID: GSRY-IDW09-20221027
Date Collected: 10/27/22 14:52
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-9
Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
DONA	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
HFPODA	0.00044	U	0.0026	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		11/09/22 07:56	11/11/22 07:27	1
NMeFOSA	0.00088	U	0.0026	0.00088	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorobutanesulfonic acid	**0.00052**	**I**	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorobutanoic acid	0.0018	U	0.0044	0.0018	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluoroheptanoic acid	**0.0010**	**I**	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorohexanesulfonic acid	**0.0030**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorohexanoic acid	**0.0018**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorononanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorooctanesulfonamide	0.00061	U	0.0018	0.00061	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorooctanesulfonic acid	**0.0044**		0.0018	0.00088	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorooctanoic acid	**0.0048**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluoropentanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluoropentanoic acid	**0.0014**	**I**	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*45*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C2-PFDoDA	*25*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C5 PFHxA	*49*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C3 PFBS	*51*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C8 FOSA	*41*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
M2-6:2 FTS	*79*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
M2-4:2 FTS	*108*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
d5-NEtFOSAA	*44*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C5 PFPeA	*43*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C2 PFTeDA	*11*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C7 PFUnA	*40*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
d3-NMeFOSAA	*47*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C8 PFOA	*55*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C9 PFNA	*53*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
d3-NMePFOSA	*15*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C4 PFHpA	*53*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C3 HFPO-DA	*66*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
M2-8:2 FTS	*55*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C3 PFHxS	*57*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C8 PFOS	*52*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*
13C4 PFBA	*36*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:27*	*1*

Client Sample ID: GSRY-IDW09-20221027 Lab Sample ID: 670-8406-9

Date Collected: 10/27/22 14:52 **Matrix: Water**
Date Received: 10/28/22 14:15

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	40	U	100	40	ug/L		11/11/22 06:09	11/15/22 11:37	1

Client Sample ID: GSRY-IDW10-20221027 Lab Sample ID: 670-8406-10

Date Collected: 10/27/22 15:00 **Matrix: Water**
Date Received: 10/28/22 14:15

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 22:09	1
1,2,4-Trichlorobenzene	**10**		1.0	0.50	ug/L			11/09/22 22:09	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 22:09	1
Chlorobenzene	**24**		1.0	0.50	ug/L			11/09/22 22:09	1
m-Dichlorobenzene	**130**		2.0	1.0	ug/L			11/10/22 16:38	2
o-Dichlorobenzene	**1.0**		1.0	0.50	ug/L			11/09/22 22:09	1
para-Dichlorobenzene	**54**		1.0	0.50	ug/L			11/09/22 22:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/09/22 22:09*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/10/22 16:38*	*2*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/09/22 22:09*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/10/22 16:38*	*2*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/09/22 22:09*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 120*		*11/10/22 16:38*	*2*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.35	U	0.45	0.35	ug/L		11/03/22 08:46	11/05/22 13:34	1
PCB-1221	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 13:34	1
PCB-1232	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 13:34	1
PCB-1242	0.12	U	0.45	0.12	ug/L		11/03/22 08:46	11/05/22 13:34	1
PCB-1248	0.088	U	0.45	0.088	ug/L		11/03/22 08:46	11/05/22 13:34	1
PCB-1254	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 13:34	1
PCB-1260	0.23	U	0.45	0.23	ug/L		11/03/22 08:46	11/05/22 13:34	1
Polychlorinated biphenyls, Total	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 13:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*31*	*J1*	*50 - 150*	*11/03/22 08:46*	*11/05/22 13:34*	*1*
Tetrachloro-m-xylene	*74*		*50 - 150*	*11/03/22 08:46*	*11/05/22 13:34*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U Q	400	200	ug/L			10/30/22 02:41	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
6:2 Fluorotelomer sulfonic acid	**0.0033**		0.0027	0.00089	ug/L		11/09/22 07:56	11/11/22 07:38	1
8:2 Fluorotelomer sulfonic acid	0.00089	U	0.0027	0.00089	ug/L		11/09/22 07:56	11/11/22 07:38	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
DONA	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1

Client Sample ID: GSRY-IDW10-20221027
Date Collected: 10/27/22 15:00
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-10
Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPODA	0.00044	U	0.0027	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
NEtFOSAA	0.00044	U	0.0027	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		11/09/22 07:56	11/11/22 07:38	1
NMeFOSA	0.00089	U	0.0027	0.00089	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorobutanesulfonic acid	**0.00070**	**I**	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorobutanoic acid	**0.0028**	**I**	0.0044	0.0018	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluoroheptanoic acid	**0.0014**	**I**	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorohexanesulfonic acid	**0.0034**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorohexanoic acid	**0.0028**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorononanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorooctanesulfonamide	0.00062	U	0.0018	0.00062	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorooctanesulfonic acid	**0.0093**		0.0019	0.00089	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorooctanoic acid	**0.0021**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluoropentanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluoropentanoic acid	**0.0025**		0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		11/09/22 07:56	11/11/22 07:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*14*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C2-PFDoDA	*1*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C5 PFHxA	*39*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C3 PFBS	*42*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C8 FOSA	*9*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
M2-6:2 FTS	*68*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
M2-4:2 FTS	*87*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
d5-NEtFOSAA	*15*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C5 PFPeA	*34*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C2 PFTeDA	*0.3*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C7 PFUnA	*5*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
d3-NMeFOSAA	*20*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C8 PFOA	*44*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C9 PFNA	*31*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
d3-NMePFOSA	*2*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C4 PFHpA	*43*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C3 HFPO-DA	*51*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
M2-8:2 FTS	*22*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C3 PFHxS	*46*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C8 PFOS	*32*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*
13C4 PFBA	*24*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:38*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	40	U	100	40	ug/L		11/11/22 06:09	11/15/22 15:49	1

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Client Sample ID: GSRY-IDW11-20221028

Date Collected: 10/28/22 12:15
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-11

Matrix: Water

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/10/22 04:34	1
1,2,4-Trichlorobenzene	**3.2**		1.0	0.50	ug/L			11/10/22 04:34	1
Benzene	0.50	U	1.0	0.50	ug/L			11/10/22 04:34	1
Chlorobenzene	**7.3**		1.0	0.50	ug/L			11/10/22 04:34	1
m-Dichlorobenzene	**31**		1.0	0.50	ug/L			11/10/22 04:34	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/10/22 04:34	1
para-Dichlorobenzene	**14**		1.0	0.50	ug/L			11/10/22 04:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/10/22 04:34*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*11/10/22 04:34*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/10/22 04:34*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.35	U	0.45	0.35	ug/L		11/03/22 08:46	11/05/22 14:02	1
PCB-1221	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 14:02	1
PCB-1232	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 14:02	1
PCB-1242	0.12	U	0.45	0.12	ug/L		11/03/22 08:46	11/05/22 14:02	1
PCB-1248	0.089	U	0.45	0.089	ug/L		11/03/22 08:46	11/05/22 14:02	1
PCB-1254	0.11	U	0.45	0.11	ug/L		11/03/22 08:46	11/05/22 14:02	1
PCB-1260	0.23	U	0.45	0.23	ug/L		11/03/22 08:46	11/05/22 14:02	1
Polychlorinated biphenyls, Total	0.14	U	0.45	0.14	ug/L		11/03/22 08:46	11/05/22 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*26*	*J1*	*50 - 150*	*11/03/22 08:46*	*11/05/22 14:02*	*1*
Tetrachloro-m-xylene	*78*		*50 - 150*	*11/03/22 08:46*	*11/05/22 14:02*	*1*

Method: MCAWW 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U	400	200	ug/L			10/30/22 02:58	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
6:2 Fluorotelomer sulfonic acid	**0.0066**		0.0027	0.00091	ug/L		11/09/22 07:56	11/11/22 07:48	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		11/09/22 07:56	11/11/22 07:48	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
DONA	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
HFPODA	0.00045	U	0.0027	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
NMeFOSAA	0.00055	U	0.0018	0.00055	ug/L		11/09/22 07:56	11/11/22 07:48	1
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorobutanesulfonic acid	**0.011**		0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorobutanoic acid	**0.014**		0.0045	0.0018	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluoroheptanesulfonic acid	**0.00054**	**I**	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluoroheptanoic acid	**0.010**		0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Client Sample ID: GSRY-IDW11-20221028
Date Collected: 10/28/22 12:15
Date Received: 10/28/22 14:15

Lab Sample ID: 670-8406-11
Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	**0.046**		0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorohexanoic acid	**0.028**		0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorononanoic acid	**0.00092**	**I**	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorooctanesulfonamide	0.00064	U	0.0018	0.00064	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorooctanesulfonic acid	**0.035**		0.0019	0.00091	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorooctanoic acid	**0.0070**		0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluoropentanesulfonic acid	**0.011**		0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluoropentanoic acid	**0.019**		0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		11/09/22 07:56	11/11/22 07:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*3*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C2-PFDoDA	*0.1*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C5 PFHxA	*39*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C3 PFBS	*42*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C8 FOSA	*3*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
M2-6:2 FTS	*52*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
M2-4:2 FTS	*79*		*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
d5-NEtFOSAA	*3*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C5 PFPeA	*37*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C2 PFTeDA	*0*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C7 PFUnA	*0.6*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
d3-NMeFOSAA	*5*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C8 PFOA	*31*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C9 PFNA	*14*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
d3-NMePFOSA	*0.7*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C4 PFHpA	*39*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C3 HFPO-DA	*48*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
M2-8:2 FTS	*7*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C3 PFHxS	*42*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C8 PFOS	*13*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*
13C4 PFBA	*29*	*	*50 - 150*	*11/09/22 07:56*	*11/11/22 07:48*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	**240**		100	40	ug/L		11/11/22 06:09	11/15/22 15:50	1

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)
660-124807-H-5 MS	Matrix Spike	105	100	100
660-124807-I-4 MS	Matrix Spike	105	102	100
670-8406-1	GSRY-IDW01-20221027	104	103	100
670-8406-1 MS	GSRY-IDW01-20221027	105	102	101
670-8406-2	GSRY-IDW02-20221027	103	103	100
670-8406-2 MS	GSRY-IDW02-20221027	105	102	100
670-8406-3	GSRY-IDW03-20221027	104	103	99
670-8406-4	GSRY-IDW04-20221027	105	102	100
670-8406-5	GSRY-IDW05-20221027	104	102	100
670-8406-6	GSRY-IDW06-20221027	104	103	99
670-8406-7	GSRY-IDW07-20221027	104	101	100
670-8406-8	GSRY-IDW08-20221027	104	104	100
670-8406-9	GSRY-IDW09-20221027	104	103	100
670-8406-10	GSRY-IDW10-20221027	98	96	100
670-8406-10	GSRY-IDW10-20221027	97	96	101
670-8406-11	GSRY-IDW11-20221028	104	101	99
670-8447-F-1 MS	Matrix Spike	111	92	92
670-8447-F-1 MSD	Matrix Spike Duplicate	98	103	96
670-8518-B-1 MS	Matrix Spike	97	99	93
670-8518-B-1 MSD	Matrix Spike Duplicate	98	100	93
LCS 670-10640/4	Lab Control Sample	104	101	100
LCS 670-10681/4	Lab Control Sample	100	98	92
LCS 670-10699/4	Lab Control Sample	105	102	100
LCS 670-10817/4	Lab Control Sample	98	97	95
MB 670-10640/6	Method Blank	104	103	100
MB 670-10681/6	Method Blank	92	99	91
MB 670-10699/6	Method Blank	103	101	99
MB 670-10817/6	Method Blank	98	100	99

Surrogate Legend

TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		DCBP2	TCX2
Lab Sample ID	Client Sample ID	(50-150)	(50-150)
670-8406-1	GSRY-IDW01-20221027	48 J1	74
670-8406-2	GSRY-IDW02-20221027	65	68
670-8406-3	GSRY-IDW03-20221027	48 J1	76
670-8406-4	GSRY-IDW04-20221027	44 J1	73
670-8406-5	GSRY-IDW05-20221027	51	81
670-8406-6	GSRY-IDW06-20221027	44 J1	75
670-8406-7	GSRY-IDW07-20221027	79	69
670-8406-8	GSRY-IDW08-20221027	12 J1	66
670-8406-9	GSRY-IDW09-20221027	51	78
670-8406-10	GSRY-IDW10-20221027	31 J1	74

Surrogate Summary

Client: AECOM Technical Services Inc. Job ID: 670-8406-1
Project/Site: NASA KSC GSRY IDW

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

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

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	DCBP2 (50-150)	TCX2 (50-150)								
670-8406-11	GSRY-IDW11-20221028	26 J1	78								
LCS 400-599009/2-A	Lab Control Sample	93	67								
LCSD 400-599009/3-A	Lab Control Sample Dup	82	77								
MB 400-599009/1-A	Method Blank	90	56								

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Isotope Dilution Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	C6PFDA (50-150)	PFDoDA (50-150)	13C5PHA (50-150)	C3PFBS (50-150)	PFOSA (50-150)	M262FTS (50-150)	M242FTS (50-150)	d5NEFOS (50-150)
670-8406-1	GSRY-IDW01-20221027	54	38 *	53	55	51	75	112	46 *
670-8406-2	GSRY-IDW02-20221027	19 *	2 *	44 *	47 *	14 *	66	102	22 *
670-8406-3	GSRY-IDW03-20221027	49 *	32 *	50	52	45 *	80	111	43 *
670-8406-4	GSRY-IDW04-20221027	37 *	14 *	46 *	48 *	37 *	72	102	38 *
670-8406-5	GSRY-IDW05-20221027	55	14 *	72	77	48 *	139	177 *	49 *
670-8406-6	GSRY-IDW06-20221027	43 *	23 *	50	53	42 *	81	112	43 *
670-8406-7	GSRY-IDW07-20221027	34 *	12 *	47 *	48 *	28 *	70	105	33 *
670-8406-8	GSRY-IDW08-20221027	7 *	0.3 *	40 *	43 *	6 *	47 *	80	9 *
670-8406-9	GSRY-IDW09-20221027	45 *	25 *	49 *	51	41 *	79	108	44 *
670-8406-10	GSRY-IDW10-20221027	14 *	1 *	39 *	42 *	9 *	68	87	15 *
670-8406-11	GSRY-IDW11-20221028	3 *	0.1 *	39 *	42 *	3 *	52	79	3 *
LCS 410-315557/3-A	Lab Control Sample	71	62	75	71	65	79	85	65
LCSD 410-315557/4-A	Lab Control Sample Dup	86	73	88	82	77	92	90	79
MB 410-315557/1-A	Method Blank	84	70	83	83	74	94	104	76

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFPeA (50-150)	PFTDA (50-150)	13C7PUA (50-150)	d3NMFOS (50-150)	C8PFOA (50-150)	C9PFNA (50-150)	d3NMFSA (50-150)	C4PFHA (50-150)
670-8406-1	GSRY-IDW01-20221027	47 *	25 *	48 *	48 *	61	57	25 *	57
670-8406-2	GSRY-IDW02-20221027	40 *	0.1 *	7 *	27 *	45 *	36 *	3 *	48 *
670-8406-3	GSRY-IDW03-20221027	44 *	18 *	41 *	47 *	56	53	19 *	54
670-8406-4	GSRY-IDW04-20221027	42 *	2 *	26 *	38 *	49 *	47 *	16 *	49 *
670-8406-5	GSRY-IDW05-20221027	63	2 *	31 *	59	82	74	16 *	83
670-8406-6	GSRY-IDW06-20221027	44 *	7 *	35 *	46 *	53	51	18 *	52
670-8406-7	GSRY-IDW07-20221027	43 *	2 *	24 *	38 *	51	45 *	8 *	49 *
670-8406-8	GSRY-IDW08-20221027	38 *	0.04 *	2 *	12 *	35 *	21 *	1 *	40 *
670-8406-9	GSRY-IDW09-20221027	43 *	11 *	40 *	47 *	55	53	15 *	53
670-8406-10	GSRY-IDW10-20221027	34 *	0.3 *	5 *	20 *	44 *	31 *	2 *	43 *
670-8406-11	GSRY-IDW11-20221028	37 *	0 *	0.6 *	5 *	31 *	14 *	0.7 *	39 *
LCS 410-315557/3-A	Lab Control Sample	72	60	69	73	74	72	52	71
LCSD 410-315557/4-A	Lab Control Sample Dup	82	71	86	83	86	86	64	81
MB 410-315557/1-A	Method Blank	83	68	81	76	88	84	66	81

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (50-150)	M282FTS (50-150)	C3PFHS (50-150)	C8PFOS (50-150)	PFBA (50-150)
670-8406-1	GSRY-IDW01-20221027	73	63	61	55	38 *
670-8406-2	GSRY-IDW02-20221027	58	26 *	51	37 *	30 *
670-8406-3	GSRY-IDW03-20221027	62	60	56	53	37 *
670-8406-4	GSRY-IDW04-20221027	60	40 *	52	47 *	33 *
670-8406-5	GSRY-IDW05-20221027	102	71	90	73	47 *
670-8406-6	GSRY-IDW06-20221027	67	52	56	52	34 *
670-8406-7	GSRY-IDW07-20221027	63	45 *	55	45 *	35 *
670-8406-8	GSRY-IDW08-20221027	53	13 *	41 *	21 *	33 *
670-8406-9	GSRY-IDW09-20221027	66	55	57	52	36 *
670-8406-10	GSRY-IDW10-20221027	51	22 *	46 *	32 *	24 *
670-8406-11	GSRY-IDW11-20221028	48 *	7 *	42 *	13 *	29 *
LCS 410-315557/3-A	Lab Control Sample	89	73	75	72	71
LCSD 410-315557/4-A	Lab Control Sample Dup	107	90	84	90	82
MB 410-315557/1-A	Method Blank	104	88	87	85	80

Isotope Dilution Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Surrogate Legend

C6PFDA = 13C6 PFDA
PFDoDA = 13C2-PFDoDA
13C5PHA = 13C5 PFHxA
C3PFBS = 13C3 PFBS
PFOSA = 13C8 FOSA
M262FTS = M2-6:2 FTS
M242FTS = M2-4:2 FTS
d5NEFOS = d5-NEtFOSAA
PFPeA = 13C5 PFPeA
PFTDA = 13C2 PFTeDA
13C7PUA = 13C7 PFUnA
d3NMFOS = d3-NMeFOSAA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
d3NMFSA = d3-NMePFOSA
C4PFHA = 13C4 PFHpA
HFPODA = 13C3 HFPO-DA
M282FTS = M2-8:2 FTS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
PFBA = 13C4 PFBA

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 670-10640/6
Matrix: Water
Analysis Batch: 10640

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 09:10	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 09:10	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 09:10	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 09:10	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 09:10	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 09:10	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 09:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/09/22 09:10*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*11/09/22 09:10*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 120*		*11/09/22 09:10*	*1*

Lab Sample ID: LCS 670-10640/4
Matrix: Water
Analysis Batch: 10640

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichlorobenzene	40.0	42.2		ug/L		105	50 - 150
1,2,4-Trichlorobenzene	40.0	38.4		ug/L		96	50 - 150
Benzene	40.0	36.9		ug/L		92	50 - 150
Chlorobenzene	40.0	36.0		ug/L		90	50 - 150
m-Dichlorobenzene	40.0	35.2		ug/L		88	50 - 150
o-Dichlorobenzene	40.0	35.9		ug/L		90	50 - 150
para-Dichlorobenzene	40.0	35.3		ug/L		88	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*104*		*80 - 120*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: 670-8406-1 MS
Matrix: Water
Analysis Batch: 10640

Client Sample ID: GSRY-IDW01-20221027
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichlorobenzene	0.50	U	40.0	48.5		ug/L		121	50 - 150
1,2,4-Trichlorobenzene	0.50	U	40.0	42.2		ug/L		106	50 - 150
Benzene	0.50	U	40.0	41.2		ug/L		103	50 - 150
Chlorobenzene	0.50	U	40.0	39.7		ug/L		99	50 - 150
m-Dichlorobenzene	0.50	U	40.0	38.6		ug/L		96	50 - 150
o-Dichlorobenzene	0.50	U	40.0	38.5		ug/L		96	50 - 150
para-Dichlorobenzene	0.50	U	40.0	38.9		ug/L		97	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 670-8406-1 MS
Matrix: Water
Analysis Batch: 10640

Client Sample ID: GSRY-IDW01-20221027
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*101*		*80 - 120*

Lab Sample ID: 670-8406-2 MS
Matrix: Water
Analysis Batch: 10640

Client Sample ID: GSRY-IDW02-20221027
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichlorobenzene	0.50	U	40.0	48.5		ug/L		121	50 - 150
1,2,4-Trichlorobenzene	0.50	U	40.0	45.4		ug/L		114	50 - 150
Benzene	0.50	U	40.0	43.4		ug/L		109	50 - 150
Chlorobenzene	0.50	U	40.0	42.0		ug/L		105	50 - 150
m-Dichlorobenzene	0.50	U	40.0	41.5		ug/L		104	50 - 150
o-Dichlorobenzene	0.50	U	40.0	41.6		ug/L		104	50 - 150
para-Dichlorobenzene	0.50	U	40.0	41.1		ug/L		103	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 670-10681/6
Matrix: Water
Analysis Batch: 10681

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:33	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:33	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:33	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:33	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:33	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:33	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 13:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*92*		*80 - 120*		*11/09/22 13:33*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/09/22 13:33*	*1*
Dibromofluoromethane (Surr)	*91*		*80 - 120*		*11/09/22 13:33*	*1*

Lab Sample ID: LCS 670-10681/4
Matrix: Water
Analysis Batch: 10681

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichlorobenzene	50.0	51.1		ug/L		102	50 - 150
1,2,4-Trichlorobenzene	50.0	53.0		ug/L		106	50 - 150
Benzene	50.0	48.5		ug/L		97	50 - 150
Chlorobenzene	50.0	53.0		ug/L		106	50 - 150
m-Dichlorobenzene	50.0	52.7		ug/L		105	50 - 150

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 670-10681/4
Matrix: Water
Analysis Batch: 10681

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
o-Dichlorobenzene	50.0	51.9		ug/L		104	50 - 150
para-Dichlorobenzene	50.0	53.6		ug/L		107	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*80 - 120*

Lab Sample ID: 670-8447-F-1 MS
Matrix: Water
Analysis Batch: 10681

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichlorobenzene	0.50	U	50.0	51.3		ug/L		103	50 - 150
1,2,4-Trichlorobenzene	0.50	U	50.0	45.0		ug/L		90	50 - 150
Benzene	1.2		50.0	47.2		ug/L		92	50 - 150
Chlorobenzene	0.50	U	50.0	50.0		ug/L		100	50 - 150
m-Dichlorobenzene	0.50	U	50.0	45.5		ug/L		91	50 - 150
o-Dichlorobenzene	0.50	U	50.0	46.7		ug/L		93	50 - 150
para-Dichlorobenzene	0.50	U	50.0	52.6		ug/L		105	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*111*		*80 - 120*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*80 - 120*

Lab Sample ID: 670-8447-F-1 MSD
Matrix: Water
Analysis Batch: 10681

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2,3-Trichlorobenzene	0.50	U	50.0	59.2		ug/L		118	50 - 150	14	30
1,2,4-Trichlorobenzene	0.50	U	50.0	58.6		ug/L		117	50 - 150	26	30
Benzene	1.2		50.0	56.5		ug/L		111	50 - 150	18	30
Chlorobenzene	0.50	U	50.0	59.3		ug/L		119	50 - 150	17	30
m-Dichlorobenzene	0.50	U	50.0	59.6		ug/L		119	50 - 150	27	30
o-Dichlorobenzene	0.50	U	50.0	59.5		ug/L		119	50 - 150	24	30
para-Dichlorobenzene	0.50	U	50.0	60.0		ug/L		120	50 - 150	13	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*80 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 670-10699/6
Matrix: Water
Analysis Batch: 10699

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 20:19	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 20:19	1
Benzene	0.50	U	1.0	0.50	ug/L			11/09/22 20:19	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 20:19	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 20:19	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 20:19	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/09/22 20:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*80 - 120*		*11/09/22 20:19*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*11/09/22 20:19*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/09/22 20:19*	*1*

Lab Sample ID: LCS 670-10699/4
Matrix: Water
Analysis Batch: 10699

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichlorobenzene	40.0	43.6		ug/L		109	50 - 150
1,2,4-Trichlorobenzene	40.0	40.1		ug/L		100	50 - 150
Benzene	40.0	38.9		ug/L		97	50 - 150
Chlorobenzene	40.0	37.8		ug/L		95	50 - 150
m-Dichlorobenzene	40.0	36.6		ug/L		91	50 - 150
o-Dichlorobenzene	40.0	37.8		ug/L		94	50 - 150
para-Dichlorobenzene	40.0	37.1		ug/L		93	50 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: 660-124807-H-5 MS
Matrix: Water
Analysis Batch: 10699

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichlorobenzene	0.50	U	40.0	45.3		ug/L		113	50 - 150
1,2,4-Trichlorobenzene	0.50	U	40.0	43.3		ug/L		108	50 - 150
Benzene	0.50	U	40.0	44.6		ug/L		111	50 - 150
Chlorobenzene	0.50	U	40.0	42.9		ug/L		107	50 - 150
m-Dichlorobenzene	0.50	U	40.0	41.3		ug/L		103	50 - 150
o-Dichlorobenzene	0.50	U	40.0	41.8		ug/L		105	50 - 150
para-Dichlorobenzene	0.50	U	40.0	41.2		ug/L		103	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 660-124807-H-5 MS
Matrix: Water
Analysis Batch: 10699

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: 660-124807-I-4 MS
Matrix: Water
Analysis Batch: 10699

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichlorobenzene	0.50	U	40.0	56.4		ug/L		141	50 - 150
1,2,4-Trichlorobenzene	0.50	U	40.0	51.2		ug/L		128	50 - 150
Benzene	0.50	U	40.0	50.6		ug/L		126	50 - 150
Chlorobenzene	0.50	U	40.0	48.5		ug/L		121	50 - 150
m-Dichlorobenzene	0.50	U	40.0	46.8		ug/L		117	50 - 150
o-Dichlorobenzene	0.50	U	40.0	47.3		ug/L		118	50 - 150
para-Dichlorobenzene	0.50	U	40.0	46.9		ug/L		117	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*105*		*80 - 120*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 670-10817/6
Matrix: Water
Analysis Batch: 10817

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/10/22 12:59	1
1,2,4-Trichlorobenzene	0.50	U	1.0	0.50	ug/L			11/10/22 12:59	1
Benzene	0.50	U	1.0	0.50	ug/L			11/10/22 12:59	1
Chlorobenzene	0.50	U	1.0	0.50	ug/L			11/10/22 12:59	1
m-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/10/22 12:59	1
o-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/10/22 12:59	1
para-Dichlorobenzene	0.50	U	1.0	0.50	ug/L			11/10/22 12:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/10/22 12:59*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*11/10/22 12:59*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*11/10/22 12:59*	*1*

Lab Sample ID: LCS 670-10817/4
Matrix: Water
Analysis Batch: 10817

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichlorobenzene	50.0	47.1		ug/L		94	50 - 150
1,2,4-Trichlorobenzene	50.0	48.0		ug/L		96	50 - 150
Benzene	50.0	47.7		ug/L		95	50 - 150
Chlorobenzene	50.0	50.6		ug/L		101	50 - 150
m-Dichlorobenzene	50.0	48.9		ug/L		98	50 - 150

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 670-10817/4
Matrix: Water
Analysis Batch: 10817

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Dichlorobenzene			50.0	48.2		ug/L		96	50 - 150		
para-Dichlorobenzene			50.0	49.5		ug/L		99	50 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*80 - 120*

Lab Sample ID: 670-8518-B-1 MS
Matrix: Water
Analysis Batch: 10817

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
1,2,3-Trichlorobenzene	0.50	U	50.0	56.7		ug/L		113	50 - 150		
1,2,4-Trichlorobenzene	0.50	U	50.0	50.8		ug/L		102	50 - 150		
Benzene	0.50	U	50.0	45.8		ug/L		92	50 - 150		
Chlorobenzene	0.50	U	50.0	48.3		ug/L		97	50 - 150		
m-Dichlorobenzene	0.50	U	50.0	48.7		ug/L		97	50 - 150		
o-Dichlorobenzene	0.50	U	50.0	48.9		ug/L		98	50 - 150		
para-Dichlorobenzene	0.50	U	50.0	49.4		ug/L		99	50 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*80 - 120*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*

Lab Sample ID: 670-8518-B-1 MSD
Matrix: Water
Analysis Batch: 10817

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2,3-Trichlorobenzene	0.50	U	50.0	51.5		ug/L		103	50 - 150	10	30
1,2,4-Trichlorobenzene	0.50	U	50.0	49.7		ug/L		99	50 - 150	2	30
Benzene	0.50	U	50.0	46.2		ug/L		92	50 - 150	1	30
Chlorobenzene	0.50	U	50.0	49.3		ug/L		99	50 - 150	2	30
m-Dichlorobenzene	0.50	U	50.0	49.7		ug/L		99	50 - 150	2	30
o-Dichlorobenzene	0.50	U	50.0	49.7		ug/L		99	50 - 150	2	30
para-Dichlorobenzene	0.50	U	50.0	50.2		ug/L		100	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*80 - 120*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 400-599009/1-A
Matrix: Water
Analysis Batch: 599347

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 599009

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.39	U	0.50	0.39	ug/L		11/03/22 08:46	11/05/22 06:09	1
PCB-1221	0.16	U	0.50	0.16	ug/L		11/03/22 08:46	11/05/22 06:09	1
PCB-1232	0.13	U	0.50	0.13	ug/L		11/03/22 08:46	11/05/22 06:09	1
PCB-1242	0.14	U	0.50	0.14	ug/L		11/03/22 08:46	11/05/22 06:09	1
PCB-1248	0.098	U	0.50	0.098	ug/L		11/03/22 08:46	11/05/22 06:09	1
PCB-1254	0.12	U	0.50	0.12	ug/L		11/03/22 08:46	11/05/22 06:09	1
PCB-1260	0.25	U	0.50	0.25	ug/L		11/03/22 08:46	11/05/22 06:09	1
Polychlorinated biphenyls, Total	0.16	U	0.50	0.16	ug/L		11/03/22 08:46	11/05/22 06:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*90*		*50 - 150*	*11/03/22 08:46*	*11/05/22 06:09*	*1*
Tetrachloro-m-xylene	*56*		*50 - 150*	*11/03/22 08:46*	*11/05/22 06:09*	*1*

Lab Sample ID: LCS 400-599009/2-A
Matrix: Water
Analysis Batch: 599347

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 599009

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
PCB-1016			5.05	4.97		ug/L		98	41 - 150		
PCB-1260			5.03	4.52		ug/L		90	31 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*93*		*50 - 150*
Tetrachloro-m-xylene	*67*		*50 - 150*

Lab Sample ID: LCSD 400-599009/3-A
Matrix: Water
Analysis Batch: 599347

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 599009

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
PCB-1016			5.05	4.58		ug/L		91	41 - 150	8	30
PCB-1260			5.03	4.03		ug/L		80	31 - 150	11	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*82*		*50 - 150*
Tetrachloro-m-xylene	*77*		*50 - 150*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 670-9455/162
Matrix: Water
Analysis Batch: 9455

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U	400	200	ug/L			10/29/22 20:41	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 670-9455/163
Matrix: Water
Analysis Batch: 9455

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	4000	4060		ug/L		101	90 - 110

Lab Sample ID: LCS 670-9455/164
Matrix: Water
Analysis Batch: 9455

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	4000	3830		ug/L		96	90 - 110

Lab Sample ID: 670-8400-G-1 MS
Matrix: Water
Analysis Batch: 9455

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	230	I	5000	4870		ug/L		93	80 - 120

Lab Sample ID: 670-8400-G-1 MSD
Matrix: Water
Analysis Batch: 9455

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	230	I	5000	4700		ug/L		89	80 - 120	4	20

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Lab Sample ID: MB 410-315557/1-A
Matrix: Water
Analysis Batch: 315983

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315557

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
6:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		11/09/22 07:56	11/11/22 03:22	1
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		11/09/22 07:56	11/11/22 03:22	1
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
DONA	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
HFPODA	0.00050	U	0.0030	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		11/09/22 07:56	11/11/22 03:22	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorobutanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorohexanoic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-315557/1-A
Matrix: Water
Analysis Batch: 315983

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315557

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		11/09/22 07:56	11/11/22 03:22	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C6 PFDA	*84*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C2-PFDoDA	*70*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C5 PFHxA	*83*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C3 PFBS	*83*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C8 FOSA	*74*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
M2-6:2 FTS	*94*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
M2-4:2 FTS	*104*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
d5-NEtFOSAA	*76*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C5 PFPeA	*83*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C2 PFTeDA	*68*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C7 PFUnA	*81*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
d3-NMeFOSAA	*76*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C8 PFOA	*88*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C9 PFNA	*84*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
d3-NMePFOSA	*66*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C4 PFHpA	*81*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C3 HFPO-DA	*104*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
M2-8:2 FTS	*88*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C3 PFHxS	*87*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C8 PFOS	*85*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*
13C4 PFBA	*80*		*50 - 150*	*11/09/22 07:56*	*11/11/22 03:22*	*1*

Lab Sample ID: LCS 410-315557/3-A
Matrix: Water
Analysis Batch: 315983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315557

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.0238	0.0241		ug/L		101	70 - 130
4:2 Fluorotelomer sulfonic acid	0.0239	0.0209		ug/L		87	63 - 143
6:2 Fluorotelomer sulfonic acid	0.0243	0.0228		ug/L		94	64 - 140
8:2 Fluorotelomer sulfonic acid	0.0245	0.0229		ug/L		94	67 - 138
9Cl-PF3ONS	0.0238	0.0234		ug/L		98	70 - 130
DONA	0.0242	0.0241		ug/L		100	70 - 130
HFPODA	0.0256	0.0199		ug/L		78	70 - 130
NEtFOSAA	0.0256	0.0256		ug/L		100	61 - 135
NMeFOSAA	0.0256	0.0214		ug/L		84	65 - 136
NMeFOSA	0.0256	0.0248		ug/L		97	68 - 141
Perfluorobutanesulfonic acid	0.0227	0.0230		ug/L		102	72 - 130

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-315557/3-A
Matrix: Water
Analysis Batch: 315983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315557

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid	0.0256	0.0221		ug/L		86	73 - 129
Perfluorodecanesulfonic acid	0.0247	0.0213		ug/L		86	53 - 142
Perfluorodecanoic acid	0.0256	0.0251		ug/L		98	71 - 129
Perfluorododecanoic acid	0.0256	0.0263		ug/L		103	72 - 134
Perfluoroheptanesulfonic acid	0.0244	0.0224		ug/L		92	69 - 134
Perfluoroheptanoic acid	0.0256	0.0261		ug/L		102	72 - 130
Perfluorohexanesulfonic acid	0.0233	0.0228		ug/L		98	68 - 131
Perfluorohexanoic acid	0.0256	0.0233		ug/L		91	72 - 129
Perfluorononanesulfonic acid	0.0246	0.0229		ug/L		93	69 - 127
Perfluorononanoic acid	0.0256	0.0250		ug/L		98	69 - 130
Perfluorooctanesulfonamide	0.0256	0.0257		ug/L		100	67 - 137
Perfluorooctanesulfonic acid	0.0237	0.0229		ug/L		97	65 - 140
Perfluorooctanoic acid	0.0256	0.0239		ug/L		93	71 - 133
Perfluoropentanesulfonic acid	0.0240	0.0225		ug/L		94	71 - 127
Perfluoropentanoic acid	0.0256	0.0237		ug/L		93	72 - 129
Perfluorotetradecanoic acid	0.0256	0.0255		ug/L		99	71 - 132
Perfluorotridecanoic acid	0.0256	0.0255		ug/L		99	65 - 144
Perfluoroundecanoic acid	0.0256	0.0250		ug/L		98	69 - 133

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C6 PFDA	*71*		*50 - 150*
13C2-PFDoDA	*62*		*50 - 150*
13C5 PFHxA	*75*		*50 - 150*
13C3 PFBS	*71*		*50 - 150*
13C8 FOSA	*65*		*50 - 150*
M2-6:2 FTS	*79*		*50 - 150*
M2-4:2 FTS	*85*		*50 - 150*
d5-NEtFOSAA	*65*		*50 - 150*
13C5 PFPeA	*72*		*50 - 150*
13C2 PFTeDA	*60*		*50 - 150*
13C7 PFUnA	*69*		*50 - 150*
d3-NMeFOSAA	*73*		*50 - 150*
13C8 PFOA	*74*		*50 - 150*
13C9 PFNA	*72*		*50 - 150*
d3-NMePFOSA	*52*		*50 - 150*
13C4 PFHpA	*71*		*50 - 150*
13C3 HFPO-DA	*89*		*50 - 150*
M2-8:2 FTS	*73*		*50 - 150*
13C3 PFHxS	*75*		*50 - 150*
13C8 PFOS	*72*		*50 - 150*
13C4 PFBA	*71*		*50 - 150*

Lab Sample ID: LCSD 410-315557/4-A
Matrix: Water
Analysis Batch: 315983

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315557

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11Cl-PF3OUdS	0.0238	0.0224		ug/L		94	70 - 130	8	30
4:2 Fluorotelomer sulfonic acid	0.0239	0.0229		ug/L		96	63 - 143	9	30

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCSD 410-315557/4-A
Matrix: Water
Analysis Batch: 315983

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315557

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
6:2 Fluorotelomer sulfonic acid			0.0243	0.0220		ug/L		91	64 - 140	4	30
8:2 Fluorotelomer sulfonic acid			0.0245	0.0220		ug/L		90	67 - 138	4	30
9Cl-PF3ONS			0.0238	0.0218		ug/L		92	70 - 130	7	30
DONA			0.0242	0.0241		ug/L		100	70 - 130	0	30
HFPODA			0.0256	0.0197		ug/L		77	70 - 130	1	30
NEtFOSAA			0.0256	0.0239		ug/L		93	61 - 135	7	30
NMeFOSAA			0.0256	0.0228		ug/L		89	65 - 136	6	30
NMeFOSA			0.0256	0.0246		ug/L		96	68 - 141	1	30
Perfluorobutanesulfonic acid			0.0227	0.0224		ug/L		99	72 - 130	3	30
Perfluorobutanoic acid			0.0256	0.0220		ug/L		86	73 - 129	1	30
Perfluorodecanesulfonic acid			0.0247	0.0204		ug/L		83	53 - 142	4	30
Perfluorodecanoic acid			0.0256	0.0241		ug/L		94	71 - 129	4	30
Perfluorododecanoic acid			0.0256	0.0263		ug/L		103	72 - 134	0	30
Perfluoroheptanesulfonic acid			0.0244	0.0230		ug/L		95	69 - 134	3	30
Perfluoroheptanoic acid			0.0256	0.0267		ug/L		104	72 - 130	2	30
Perfluorohexanesulfonic acid			0.0233	0.0227		ug/L		97	68 - 131	1	30
Perfluorohexanoic acid			0.0256	0.0232		ug/L		91	72 - 129	0	30
Perfluorononanesulfonic acid			0.0246	0.0216		ug/L		88	69 - 127	6	30
Perfluorononanoic acid			0.0256	0.0246		ug/L		96	69 - 130	1	30
Perfluorooctanesulfonamide			0.0256	0.0249		ug/L		97	67 - 137	3	30
Perfluorooctanesulfonic acid			0.0237	0.0217		ug/L		92	65 - 140	5	30
Perfluorooctanoic acid			0.0256	0.0233		ug/L		91	71 - 133	2	30
Perfluoropentanesulfonic acid			0.0240	0.0231		ug/L		96	71 - 127	3	30
Perfluoropentanoic acid			0.0256	0.0242		ug/L		94	72 - 129	2	30
Perfluorotetradecanoic acid			0.0256	0.0259		ug/L		101	71 - 132	2	30
Perfluorotridecanoic acid			0.0256	0.0257		ug/L		100	65 - 144	1	30
Perfluoroundecanoic acid			0.0256	0.0239		ug/L		93	69 - 133	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C6 PFDA	*86*		*50 - 150*
13C2-PFDoDA	*73*		*50 - 150*
13C5 PFHxA	*88*		*50 - 150*
13C3 PFBS	*82*		*50 - 150*
13C8 FOSA	*77*		*50 - 150*
M2-6:2 FTS	*92*		*50 - 150*
M2-4:2 FTS	*90*		*50 - 150*
d5-NEtFOSAA	*79*		*50 - 150*
13C5 PFPeA	*82*		*50 - 150*
13C2 PFTeDA	*71*		*50 - 150*
13C7 PFUnA	*86*		*50 - 150*
d3-NMeFOSAA	*83*		*50 - 150*
13C8 PFOA	*86*		*50 - 150*
13C9 PFNA	*86*		*50 - 150*
d3-NMePFOSA	*64*		*50 - 150*
13C4 PFHpA	*81*		*50 - 150*
13C3 HFPO-DA	*107*		*50 - 150*
M2-8:2 FTS	*90*		*50 - 150*
13C3 PFHxS	*84*		*50 - 150*
13C8 PFOS	*90*		*50 - 150*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCSD 410-315557/4-A
Matrix: Water
Analysis Batch: 315983

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315557

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*82*		*50 - 150*

Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 670-10914/12-A
Matrix: Water
Analysis Batch: 11387

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 10914

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	40	U	100	40	ug/L		11/11/22 06:01	11/15/22 10:52	1

Lab Sample ID: LCS 670-10914/11-A
Matrix: Water
Analysis Batch: 11387

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10914

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Phosphorus as P			1500	1540		ug/L		103	90 - 110		

Lab Sample ID: 670-8373-C-1-A MS
Matrix: Water
Analysis Batch: 11387

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 10914

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Phosphorus as P	2900	J3	1500	4050	J3	ug/L		270	85 - 115		

Lab Sample ID: 670-8373-C-1-B MSD
Matrix: Water
Analysis Batch: 11387

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 10914

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Phosphorus as P	2900	J3	1500	4090	J3	ug/L		272	85 - 115	1	20

Lab Sample ID: MB 670-10916/2-A
Matrix: Water
Analysis Batch: 11387

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 10916

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	40	U	100	40	ug/L		11/11/22 06:09	11/15/22 11:24	1

Lab Sample ID: LCS 670-10916/1-A
Matrix: Water
Analysis Batch: 11387

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 10916

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Total Phosphorus as P			1500	1490		ug/L		99	90 - 110		

Method: 365.4 - Phosphorus, Total (Continued)

Lab Sample ID: 670-7527-C-5-B MS
Matrix: Water
Analysis Batch: 11387

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 10916

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Phosphorus as P	180		1500	1390		ug/L		93	85 - 115

Lab Sample ID: 670-7527-C-5-C MSD
Matrix: Water
Analysis Batch: 11387

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 10916

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Phosphorus as P	180		1500	1410		ug/L		94	85 - 115	1	20

GC/MS VOA

Analysis Batch: 10640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-1	GSRY-IDW01-20221027	Total/NA	Water	8260B	
670-8406-2	GSRY-IDW02-20221027	Total/NA	Water	8260B	
670-8406-3	GSRY-IDW03-20221027	Total/NA	Water	8260B	
670-8406-4	GSRY-IDW04-20221027	Total/NA	Water	8260B	
670-8406-5	GSRY-IDW05-20221027	Total/NA	Water	8260B	
670-8406-6	GSRY-IDW06-20221027	Total/NA	Water	8260B	
670-8406-7	GSRY-IDW07-20221027	Total/NA	Water	8260B	
670-8406-8	GSRY-IDW08-20221027	Total/NA	Water	8260B	
670-8406-9	GSRY-IDW09-20221027	Total/NA	Water	8260B	
MB 670-10640/6	Method Blank	Total/NA	Water	8260B	
LCS 670-10640/4	Lab Control Sample	Total/NA	Water	8260B	
670-8406-1 MS	GSRY-IDW01-20221027	Total/NA	Water	8260B	
670-8406-2 MS	GSRY-IDW02-20221027	Total/NA	Water	8260B	

Analysis Batch: 10681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-10	GSRY-IDW10-20221027	Total/NA	Water	8260B	
MB 670-10681/6	Method Blank	Total/NA	Water	8260B	
LCS 670-10681/4	Lab Control Sample	Total/NA	Water	8260B	
670-8447-F-1 MS	Matrix Spike	Total/NA	Water	8260B	
670-8447-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 10699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-11	GSRY-IDW11-20221028	Total/NA	Water	8260B	
MB 670-10699/6	Method Blank	Total/NA	Water	8260B	
LCS 670-10699/4	Lab Control Sample	Total/NA	Water	8260B	
660-124807-H-5 MS	Matrix Spike	Total/NA	Water	8260B	
660-124807-I-4 MS	Matrix Spike	Total/NA	Water	8260B	

Analysis Batch: 10817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-10	GSRY-IDW10-20221027	Total/NA	Water	8260B	
MB 670-10817/6	Method Blank	Total/NA	Water	8260B	
LCS 670-10817/4	Lab Control Sample	Total/NA	Water	8260B	
670-8518-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
670-8518-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC Semi VOA

Prep Batch: 599009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-1	GSRY-IDW01-20221027	Total/NA	Water	3511	
670-8406-2	GSRY-IDW02-20221027	Total/NA	Water	3511	
670-8406-3	GSRY-IDW03-20221027	Total/NA	Water	3511	
670-8406-4	GSRY-IDW04-20221027	Total/NA	Water	3511	
670-8406-5	GSRY-IDW05-20221027	Total/NA	Water	3511	
670-8406-6	GSRY-IDW06-20221027	Total/NA	Water	3511	
670-8406-7	GSRY-IDW07-20221027	Total/NA	Water	3511	
670-8406-8	GSRY-IDW08-20221027	Total/NA	Water	3511	
670-8406-9	GSRY-IDW09-20221027	Total/NA	Water	3511	

GC Semi VOA (Continued)

Prep Batch: 599009 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-10	GSRY-IDW10-20221027	Total/NA	Water	3511	
670-8406-11	GSRY-IDW11-20221028	Total/NA	Water	3511	
MB 400-599009/1-A	Method Blank	Total/NA	Water	3511	
LCS 400-599009/2-A	Lab Control Sample	Total/NA	Water	3511	
LCSD 400-599009/3-A	Lab Control Sample Dup	Total/NA	Water	3511	

Analysis Batch: 599347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-1	GSRY-IDW01-20221027	Total/NA	Water	8082A	599009
670-8406-2	GSRY-IDW02-20221027	Total/NA	Water	8082A	599009
670-8406-3	GSRY-IDW03-20221027	Total/NA	Water	8082A	599009
670-8406-4	GSRY-IDW04-20221027	Total/NA	Water	8082A	599009
670-8406-5	GSRY-IDW05-20221027	Total/NA	Water	8082A	599009
670-8406-6	GSRY-IDW06-20221027	Total/NA	Water	8082A	599009
670-8406-7	GSRY-IDW07-20221027	Total/NA	Water	8082A	599009
670-8406-8	GSRY-IDW08-20221027	Total/NA	Water	8082A	599009
670-8406-9	GSRY-IDW09-20221027	Total/NA	Water	8082A	599009
670-8406-10	GSRY-IDW10-20221027	Total/NA	Water	8082A	599009
670-8406-11	GSRY-IDW11-20221028	Total/NA	Water	8082A	599009
MB 400-599009/1-A	Method Blank	Total/NA	Water	8082A	599009
LCS 400-599009/2-A	Lab Control Sample	Total/NA	Water	8082A	599009
LCSD 400-599009/3-A	Lab Control Sample Dup	Total/NA	Water	8082A	599009

HPLC/IC

Analysis Batch: 9455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-1	GSRY-IDW01-20221027	Total/NA	Water	300.0	
670-8406-2	GSRY-IDW02-20221027	Total/NA	Water	300.0	
670-8406-3	GSRY-IDW03-20221027	Total/NA	Water	300.0	
670-8406-4	GSRY-IDW04-20221027	Total/NA	Water	300.0	
670-8406-5	GSRY-IDW05-20221027	Total/NA	Water	300.0	
670-8406-6	GSRY-IDW06-20221027	Total/NA	Water	300.0	
670-8406-7	GSRY-IDW07-20221027	Total/NA	Water	300.0	
670-8406-8	GSRY-IDW08-20221027	Total/NA	Water	300.0	
670-8406-9	GSRY-IDW09-20221027	Total/NA	Water	300.0	
670-8406-10	GSRY-IDW10-20221027	Total/NA	Water	300.0	
670-8406-11	GSRY-IDW11-20221028	Total/NA	Water	300.0	
MB 670-9455/162	Method Blank	Total/NA	Water	300.0	
LCS 670-9455/163	Lab Control Sample	Total/NA	Water	300.0	
LCS 670-9455/164	Lab Control Sample	Total/NA	Water	300.0	
670-8400-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
670-8400-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

LCMS

Prep Batch: 315557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-1	GSRY-IDW01-20221027	Total/NA	Water	537 IDA	
670-8406-2	GSRY-IDW02-20221027	Total/NA	Water	537 IDA	
670-8406-3	GSRY-IDW03-20221027	Total/NA	Water	537 IDA	
670-8406-4	GSRY-IDW04-20221027	Total/NA	Water	537 IDA	

LCMS (Continued)

Prep Batch: 315557 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-5	GSRY-IDW05-20221027	Total/NA	Water	537 IDA	
670-8406-6	GSRY-IDW06-20221027	Total/NA	Water	537 IDA	
670-8406-7	GSRY-IDW07-20221027	Total/NA	Water	537 IDA	
670-8406-8	GSRY-IDW08-20221027	Total/NA	Water	537 IDA	
670-8406-9	GSRY-IDW09-20221027	Total/NA	Water	537 IDA	
670-8406-10	GSRY-IDW10-20221027	Total/NA	Water	537 IDA	
670-8406-11	GSRY-IDW11-20221028	Total/NA	Water	537 IDA	
MB 410-315557/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-315557/3-A	Lab Control Sample	Total/NA	Water	537 IDA	
LCSD 410-315557/4-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	

Analysis Batch: 315983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-1	GSRY-IDW01-20221027	Total/NA	Water	QSM B15	315557
670-8406-2	GSRY-IDW02-20221027	Total/NA	Water	QSM B15	315557
670-8406-3	GSRY-IDW03-20221027	Total/NA	Water	QSM B15	315557
670-8406-4	GSRY-IDW04-20221027	Total/NA	Water	QSM B15	315557
670-8406-5	GSRY-IDW05-20221027	Total/NA	Water	QSM B15	315557
670-8406-6	GSRY-IDW06-20221027	Total/NA	Water	QSM B15	315557
670-8406-7	GSRY-IDW07-20221027	Total/NA	Water	QSM B15	315557
670-8406-8	GSRY-IDW08-20221027	Total/NA	Water	QSM B15	315557
670-8406-9	GSRY-IDW09-20221027	Total/NA	Water	QSM B15	315557
670-8406-10	GSRY-IDW10-20221027	Total/NA	Water	QSM B15	315557
670-8406-11	GSRY-IDW11-20221028	Total/NA	Water	QSM B15	315557
MB 410-315557/1-A	Method Blank	Total/NA	Water	QSM B15	315557
LCS 410-315557/3-A	Lab Control Sample	Total/NA	Water	QSM B15	315557
LCSD 410-315557/4-A	Lab Control Sample Dup	Total/NA	Water	QSM B15	315557

Prep Batch: 317594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-1 - RE	GSRY-IDW01-20221027	Total/NA	Water	537 IDA	
670-8406-2 - RE	GSRY-IDW02-20221027	Total/NA	Water	537 IDA	
670-8406-3 - RE	GSRY-IDW03-20221027	Total/NA	Water	537 IDA	
670-8406-4 - RE	GSRY-IDW04-20221027	Total/NA	Water	537 IDA	
670-8406-5 - RE	GSRY-IDW05-20221027	Total/NA	Water	537 IDA	
670-8406-6 - RE	GSRY-IDW06-20221027	Total/NA	Water	537 IDA	
670-8406-7 - RE	GSRY-IDW07-20221027	Total/NA	Water	537 IDA	
670-8406-8 - RE	GSRY-IDW08-20221027	Total/NA	Water	537 IDA	
670-8406-9 - RE	GSRY-IDW09-20221027	Total/NA	Water	537 IDA	
670-8406-10 - RE	GSRY-IDW10-20221027	Total/NA	Water	537 IDA	
670-8406-11 - RE	GSRY-IDW11-20221028	Total/NA	Water	537 IDA	
MB 410-317594/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-317594/3-A	Lab Control Sample	Total/NA	Water	537 IDA	
LCSD 410-317594/4-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	

Analysis Batch: 318375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-1 - RE	GSRY-IDW01-20221027	Total/NA	Water	QSM B15	317594
670-8406-2 - RE	GSRY-IDW02-20221027	Total/NA	Water	QSM B15	317594
670-8406-3 - RE	GSRY-IDW03-20221027	Total/NA	Water	QSM B15	317594
670-8406-4 - RE	GSRY-IDW04-20221027	Total/NA	Water	QSM B15	317594

LCMS (Continued)

Analysis Batch: 318375 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-5 - RE	GSRY-IDW05-20221027	Total/NA	Water	QSM B15	317594
670-8406-6 - RE	GSRY-IDW06-20221027	Total/NA	Water	QSM B15	317594
670-8406-7 - RE	GSRY-IDW07-20221027	Total/NA	Water	QSM B15	317594
670-8406-8 - RE	GSRY-IDW08-20221027	Total/NA	Water	QSM B15	317594
670-8406-9 - RE	GSRY-IDW09-20221027	Total/NA	Water	QSM B15	317594
670-8406-10 - RE	GSRY-IDW10-20221027	Total/NA	Water	QSM B15	317594
670-8406-11 - RE	GSRY-IDW11-20221028	Total/NA	Water	QSM B15	317594
MB 410-317594/1-A	Method Blank	Total/NA	Water	QSM B15	317594
LCS 410-317594/3-A	Lab Control Sample	Total/NA	Water	QSM B15	317594
LCSD 410-317594/4-A	Lab Control Sample Dup	Total/NA	Water	QSM B15	317594

General Chemistry

Prep Batch: 10914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-1	GSRY-IDW01-20221027	Total/NA	Water	365.2/365.3/365	
MB 670-10914/12-A	Method Blank	Total/NA	Water	365.2/365.3/365	
LCS 670-10914/11-A	Lab Control Sample	Total/NA	Water	365.2/365.3/365	
670-8373-C-1-A MS	Matrix Spike	Total/NA	Water	365.2/365.3/365	
670-8373-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	365.2/365.3/365	

Prep Batch: 10916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-2	GSRY-IDW02-20221027	Total/NA	Water	365.2/365.3/365	
670-8406-3	GSRY-IDW03-20221027	Total/NA	Water	365.2/365.3/365	
670-8406-4	GSRY-IDW04-20221027	Total/NA	Water	365.2/365.3/365	
670-8406-5	GSRY-IDW05-20221027	Total/NA	Water	365.2/365.3/365	
670-8406-6	GSRY-IDW06-20221027	Total/NA	Water	365.2/365.3/365	
670-8406-7	GSRY-IDW07-20221027	Total/NA	Water	365.2/365.3/365	
670-8406-8	GSRY-IDW08-20221027	Total/NA	Water	365.2/365.3/365	
670-8406-9	GSRY-IDW09-20221027	Total/NA	Water	365.2/365.3/365	
670-8406-10	GSRY-IDW10-20221027	Total/NA	Water	365.2/365.3/365	
670-8406-11	GSRY-IDW11-20221028	Total/NA	Water	365.2/365.3/365	
MB 670-10916/2-A	Method Blank	Total/NA	Water	365.2/365.3/365	
LCS 670-10916/1-A	Lab Control Sample	Total/NA	Water	365.2/365.3/365	
670-7527-C-5-B MS	Matrix Spike	Total/NA	Water	365.2/365.3/365	
670-7527-C-5-C MSD	Matrix Spike Duplicate	Total/NA	Water	365.2/365.3/365	

Analysis Batch: 11387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-8406-1	GSRY-IDW01-20221027	Total/NA	Water	365.4	10914
670-8406-2	GSRY-IDW02-20221027	Total/NA	Water	365.4	10916
670-8406-3	GSRY-IDW03-20221027	Total/NA	Water	365.4	10916
670-8406-4	GSRY-IDW04-20221027	Total/NA	Water	365.4	10916
670-8406-5	GSRY-IDW05-20221027	Total/NA	Water	365.4	10916
670-8406-6	GSRY-IDW06-20221027	Total/NA	Water	365.4	10916
670-8406-7	GSRY-IDW07-20221027	Total/NA	Water	365.4	10916
670-8406-8	GSRY-IDW08-20221027	Total/NA	Water	365.4	10916
670-8406-9	GSRY-IDW09-20221027	Total/NA	Water	365.4	10916
670-8406-10	GSRY-IDW10-20221027	Total/NA	Water	365.4	10916
670-8406-11	GSRY-IDW11-20221028	Total/NA	Water	365.4	10916

General Chemistry (Continued)

Analysis Batch: 11387 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 670-10914/12-A	Method Blank	Total/NA	Water	365.4	10914
MB 670-10916/2-A	Method Blank	Total/NA	Water	365.4	10916
LCS 670-10914/11-A	Lab Control Sample	Total/NA	Water	365.4	10914
LCS 670-10916/1-A	Lab Control Sample	Total/NA	Water	365.4	10916
670-7527-C-5-B MS	Matrix Spike	Total/NA	Water	365.4	10916
670-7527-C-5-C MSD	Matrix Spike Duplicate	Total/NA	Water	365.4	10916
670-8373-C-1-A MS	Matrix Spike	Total/NA	Water	365.4	10914
670-8373-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	365.4	10914

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Client Sample ID: GSRY-IDW01-20221027

Lab Sample ID: 670-8406-1

Date Collected: 10/27/22 13:50

Matrix: Water

Date Received: 10/28/22 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	10640	K1P	EET ORL	11/09/22 10:40
Total/NA	Prep	3511			599009	JTC	EET PEN	11/03/22 08:46
Total/NA	Analysis	8082A		1	599347	JAW	EET PEN	11/05/22 09:24
Total/NA	Analysis	300.0		1	9455	YS	EET ORL	10/29/22 22:52
Total/NA	Prep	537 IDA			315557	RC3V	ELLE	11/09/22 07:56
Total/NA	Analysis	QSM B15		1	315983	ZG8V	ELLE	11/11/22 05:41
Total/NA	Prep	537 IDA	RE		317594	RC3V	ELLE	11/15/22 08:16
Total/NA	Analysis	QSM B15	RE	1	318375	I5JH	ELLE	11/17/22 12:39
Total/NA	Prep	365.2/365.3/365			10914	CB	EET ORL	11/11/22 06:01
Total/NA	Analysis	365.4		1	11387	AT	EET ORL	11/15/22 11:19

Client Sample ID: GSRY-IDW02-20221027

Lab Sample ID: 670-8406-2

Date Collected: 10/27/22 13:52

Matrix: Water

Date Received: 10/28/22 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	10640	K1P	EET ORL	11/09/22 11:01
Total/NA	Prep	3511			599009	JTC	EET PEN	11/03/22 08:46
Total/NA	Analysis	8082A		1	599347	JAW	EET PEN	11/05/22 09:51
Total/NA	Analysis	300.0		1	9455	YS	EET ORL	10/29/22 23:09
Total/NA	Prep	537 IDA			315557	RC3V	ELLE	11/09/22 07:56
Total/NA	Analysis	QSM B15		1	315983	ZG8V	ELLE	11/11/22 06:13
Total/NA	Prep	537 IDA	RE		317594	RC3V	ELLE	11/15/22 08:16
Total/NA	Analysis	QSM B15	RE	1	318375	I5JH	ELLE	11/17/22 13:02
Total/NA	Prep	365.2/365.3/365			10916	CB	EET ORL	11/11/22 06:09
Total/NA	Analysis	365.4		1	11387	AT	EET ORL	11/15/22 11:29

Client Sample ID: GSRY-IDW03-20221027

Lab Sample ID: 670-8406-3

Date Collected: 10/27/22 14:05

Matrix: Water

Date Received: 10/28/22 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	10640	K1P	EET ORL	11/09/22 13:46
Total/NA	Prep	3511			599009	JTC	EET PEN	11/03/22 08:46
Total/NA	Analysis	8082A		1	599347	JAW	EET PEN	11/05/22 10:19
Total/NA	Analysis	300.0		1	9455	YS	EET ORL	10/29/22 23:25
Total/NA	Prep	537 IDA			315557	RC3V	ELLE	11/09/22 07:56
Total/NA	Analysis	QSM B15		1	315983	ZG8V	ELLE	11/11/22 06:23
Total/NA	Prep	537 IDA	RE		317594	RC3V	ELLE	11/15/22 08:16
Total/NA	Analysis	QSM B15	RE	1	318375	I5JH	ELLE	11/17/22 13:13
Total/NA	Prep	365.2/365.3/365			10916	CB	EET ORL	11/11/22 06:09
Total/NA	Analysis	365.4		1	11387	AT	EET ORL	11/15/22 11:30

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Client Sample ID: GSRY-IDW04-20221027

Lab Sample ID: 670-8406-4

Date Collected: 10/27/22 14:15
Matrix: Water
Date Received: 10/28/22 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	10640	K1P	EET ORL	11/09/22 14:07
Total/NA	Prep	3511			599009	JTC	EET PEN	11/03/22 08:46
Total/NA	Analysis	8082A		1	599347	JAW	EET PEN	11/05/22 10:47
Total/NA	Analysis	300.0		1	9455	YS	EET ORL	10/29/22 23:41
Total/NA	Prep	537 IDA			315557	RC3V	ELLE	11/09/22 07:56
Total/NA	Analysis	QSM B15		1	315983	ZG8V	ELLE	11/11/22 06:34
Total/NA	Prep	537 IDA	RE		317594	RC3V	ELLE	11/15/22 08:16
Total/NA	Analysis	QSM B15	RE	1	318375	I5JH	ELLE	11/17/22 13:24
Total/NA	Prep	365.2/365.3/365			10916	CB	EET ORL	11/11/22 06:09
Total/NA	Analysis	365.4		1	11387	AT	EET ORL	11/15/22 11:32

Client Sample ID: GSRY-IDW05-20221027

Lab Sample ID: 670-8406-5

Date Collected: 10/27/22 14:22
Matrix: Water
Date Received: 10/28/22 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	10640	K1P	EET ORL	11/09/22 14:28
Total/NA	Prep	3511			599009	JTC	EET PEN	11/03/22 08:46
Total/NA	Analysis	8082A		1	599347	JAW	EET PEN	11/05/22 11:15
Total/NA	Analysis	300.0		1	9455	YS	EET ORL	10/29/22 23:58
Total/NA	Prep	537 IDA			315557	RC3V	ELLE	11/09/22 07:56
Total/NA	Analysis	QSM B15		1	315983	ZG8V	ELLE	11/11/22 06:45
Total/NA	Prep	537 IDA	RE		317594	RC3V	ELLE	11/15/22 08:16
Total/NA	Analysis	QSM B15	RE	1	318375	I5JH	ELLE	11/17/22 13:35
Total/NA	Prep	365.2/365.3/365			10916	CB	EET ORL	11/11/22 06:09
Total/NA	Analysis	365.4		1	11387	AT	EET ORL	11/15/22 11:33

Client Sample ID: GSRY-IDW06-20221027

Lab Sample ID: 670-8406-6

Date Collected: 10/27/22 14:30
Matrix: Water
Date Received: 10/28/22 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	10640	K1P	EET ORL	11/09/22 14:48
Total/NA	Prep	3511			599009	JTC	EET PEN	11/03/22 08:46
Total/NA	Analysis	8082A		1	599347	JAW	EET PEN	11/05/22 11:43
Total/NA	Analysis	300.0		1	9455	YS	EET ORL	10/30/22 00:14
Total/NA	Prep	537 IDA			315557	RC3V	ELLE	11/09/22 07:56
Total/NA	Analysis	QSM B15		1	315983	ZG8V	ELLE	11/11/22 06:55
Total/NA	Prep	537 IDA	RE		317594	RC3V	ELLE	11/15/22 08:16
Total/NA	Analysis	QSM B15	RE	1	318375	I5JH	ELLE	11/17/22 13:46
Total/NA	Prep	365.2/365.3/365			10916	CB	EET ORL	11/11/22 06:09
Total/NA	Analysis	365.4		1	11387	AT	EET ORL	11/15/22 11:34

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Client Sample ID: GSRY-IDW07-20221027

Lab Sample ID: 670-8406-7

Date Collected: 10/27/22 14:38

Matrix: Water

Date Received: 10/28/22 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	10640	K1P	EET ORL	11/09/22 14:48
Total/NA	Prep	3511			599009	JTC	EET PEN	11/03/22 08:46
Total/NA	Analysis	8082A		1	599347	JAW	EET PEN	11/05/22 12:10
Total/NA	Analysis	300.0		1	9455	YS	EET ORL	10/30/22 00:30
Total/NA	Prep	537 IDA			315557	RC3V	ELLE	11/09/22 07:56
Total/NA	Analysis	QSM B15		1	315983	ZG8V	ELLE	11/11/22 07:06
Total/NA	Prep	537 IDA	RE		317594	RC3V	ELLE	11/15/22 08:16
Total/NA	Analysis	QSM B15	RE	1	318375	I5JH	ELLE	11/17/22 13:57
Total/NA	Prep	365.2/365.3/365			10916	CB	EET ORL	11/11/22 06:09
Total/NA	Analysis	365.4		1	11387	AT	EET ORL	11/15/22 11:35

Client Sample ID: GSRY-IDW08-20221027

Lab Sample ID: 670-8406-8

Date Collected: 10/27/22 14:45

Matrix: Water

Date Received: 10/28/22 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	10640	K1P	EET ORL	11/09/22 15:30
Total/NA	Prep	3511			599009	JTC	EET PEN	11/03/22 08:46
Total/NA	Analysis	8082A		1	599347	JAW	EET PEN	11/05/22 12:38
Total/NA	Analysis	300.0		1	9455	YS	EET ORL	10/30/22 02:09
Total/NA	Prep	537 IDA			315557	RC3V	ELLE	11/09/22 07:56
Total/NA	Analysis	QSM B15		1	315983	ZG8V	ELLE	11/11/22 07:16
Total/NA	Prep	537 IDA	RE		317594	RC3V	ELLE	11/15/22 08:16
Total/NA	Analysis	QSM B15	RE	1	318375	I5JH	ELLE	11/17/22 14:08
Total/NA	Prep	365.2/365.3/365			10916	CB	EET ORL	11/11/22 06:09
Total/NA	Analysis	365.4		1	11387	AT	EET ORL	11/15/22 11:36

Client Sample ID: GSRY-IDW09-20221027

Lab Sample ID: 670-8406-9

Date Collected: 10/27/22 14:52

Matrix: Water

Date Received: 10/28/22 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	10640	K1P	EET ORL	11/09/22 15:50
Total/NA	Prep	3511			599009	JTC	EET PEN	11/03/22 08:46
Total/NA	Analysis	8082A		1	599347	JAW	EET PEN	11/05/22 13:06
Total/NA	Analysis	300.0		1	9455	YS	EET ORL	10/30/22 02:25
Total/NA	Prep	537 IDA			315557	RC3V	ELLE	11/09/22 07:56
Total/NA	Analysis	QSM B15		1	315983	ZG8V	ELLE	11/11/22 07:27
Total/NA	Prep	537 IDA	RE		317594	RC3V	ELLE	11/15/22 08:16
Total/NA	Analysis	QSM B15	RE	1	318375	I5JH	ELLE	11/17/22 14:19
Total/NA	Prep	365.2/365.3/365			10916	CB	EET ORL	11/11/22 06:09
Total/NA	Analysis	365.4		1	11387	AT	EET ORL	11/15/22 11:37

Lab Chronicle

Client: AECOM Technical Services Inc.
Job ID: 670-8406-1
Project/Site: NASA KSC GSRY IDW

Client Sample ID: GSRY-IDW10-20221027
Lab Sample ID: 670-8406-10
Date Collected: 10/27/22 15:00
Matrix: Water
Date Received: 10/28/22 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	10681	K1P	EET ORL	11/09/22 22:09
Total/NA	Analysis	8260B		2	10817	K1P	EET ORL	11/10/22 16:38
Total/NA	Prep	3511			599009	JTC	EET PEN	11/03/22 08:46
Total/NA	Analysis	8082A		1	599347	JAW	EET PEN	11/05/22 13:34
Total/NA	Analysis	300.0		1	9455	YS	EET ORL	10/30/22 02:41
Total/NA	Prep	537 IDA			315557	RC3V	ELLE	11/09/22 07:56
Total/NA	Analysis	QSM B15		1	315983	ZG8V	ELLE	11/11/22 07:38
Total/NA	Prep	537 IDA	RE		317594	RC3V	ELLE	11/15/22 08:16
Total/NA	Analysis	QSM B15	RE	1	318375	I5JH	ELLE	11/17/22 14:30
Total/NA	Prep	365.2/365.3/365			10916	CB	EET ORL	11/11/22 06:09
Total/NA	Analysis	365.4		1	11387	AT	EET ORL	11/15/22 15:49

Client Sample ID: GSRY-IDW11-20221028
Lab Sample ID: 670-8406-11
Date Collected: 10/28/22 12:15
Matrix: Water
Date Received: 10/28/22 14:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	10699	K1P	EET ORL	11/10/22 04:34
Total/NA	Prep	3511			599009	JTC	EET PEN	11/03/22 08:46
Total/NA	Analysis	8082A		1	599347	JAW	EET PEN	11/05/22 14:02
Total/NA	Analysis	300.0		1	9455	YS	EET ORL	10/30/22 02:58
Total/NA	Prep	537 IDA			315557	RC3V	ELLE	11/09/22 07:56
Total/NA	Analysis	QSM B15		1	315983	ZG8V	ELLE	11/11/22 07:48
Total/NA	Prep	537 IDA	RE		317594	RC3V	ELLE	11/15/22 08:16
Total/NA	Analysis	QSM B15	RE	1	318375	I5JH	ELLE	11/17/22 14:41
Total/NA	Prep	365.2/365.3/365			10916	CB	EET ORL	11/11/22 06:09
Total/NA	Analysis	365.4		1	11387	AT	EET ORL	11/15/22 15:50

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 670-8406-1
Project/Site: NASA KSC GSRY IDW

Laboratory: Eurofins Orlando

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

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-23

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-20-22
A2LA	ISO/IEC 17025	0001.01	11-20-22
Alaska	State	PA00009	12-08-22
Alaska (UST)	State	17-027	02-28-23
Arizona	State	AZ0780	03-12-23
Arkansas DEQ	State	88-00660	08-09-23
California	State	2792	11-30-22
Colorado	State	PA00009	06-30-23
Connecticut	State	PH-0746	06-30-23
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-23
Delaware (DW)	State	N/A	01-31-23
Florida	NELAP	E87997	06-30-23
Georgia (DW)	State	C048	01-31-23
Hawaii	State	N/A	11-27-22
Illinois	NELAP	200027	01-31-23
Iowa	State	361	11-21-22
Kansas	NELAP	E-10151	10-31-22 *
Kentucky (DW)	State	KY90088	12-31-22
Kentucky (UST)	State	0001.01	11-20-22
Kentucky (WW)	State	KY90088	12-31-22
Louisiana (All)	NELAP	02055	06-30-23
Maine	State	2019012	03-12-23
Maryland	State	100	06-30-23
Massachusetts	State	M-PA009	06-30-23
Michigan	State	9930	01-31-23
Minnesota	NELAP	042-999-487	12-31-22
Mississippi	State	022	01-31-23
Missouri	State	450	01-31-25
Montana (DW)	State	0098	01-01-23
Montana (UST)	State	<cert No.>	02-01-23
Nebraska	State	NE-OS-32-17	01-31-23
New Hampshire	NELAP	2730	01-10-23
New Jersey	NELAP	PA011	06-30-23
New York	NELAP	10670	11-21-22
North Carolina (DW)	State	42705	07-31-23
North Carolina (WW/SW)	State	521	12-31-22
North Dakota	State	R-205	01-31-23
Oklahoma	NELAP	R-205	11-22-22
Oregon	NELAP	PA200001	09-11-23
PALA	Canada	1978	09-16-24
Pennsylvania	NELAP	36-00037	01-31-23
Rhode Island	State	LAO00338	12-30-22
South Carolina	State	89002	01-31-23
Tennessee	State	02838	01-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 670-8406-1
Project/Site: NASA KSC GSRY IDW

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704194-22-45	11-21-22
USDA	US Federal Programs	P330-19-00197	08-09-23
Vermont	State	VT - 36037	10-28-23
Virginia	NELAP	460182	11-27-22
Washington	State	C457	04-11-23
West Virginia (DW)	State	9906 C	12-31-22
West Virginia DEP	State	055	07-31-23
Wyoming	State	8TMS-L	01-31-23
Wyoming (UST)	A2LA	0001.01	11-20-22

Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-23
ANAB	ISO/IEC 17025	L2471	02-23-23
Arkansas DEQ	State	88-0689	09-01-23
California	State	2510	06-30-23
Florida	NELAP	E81010	06-30-23
Georgia	State	E81010(FL)	06-30-23
Illinois	NELAP	200041	10-09-23
Kansas	NELAP	E-10253	10-31-23
Kentucky (UST)	State	53	06-30-23
Kentucky (WW)	State	KY98030	12-31-22
Louisiana (All)	NELAP	30976	06-30-23
Louisiana (DW)	State	LA017	12-31-22
Maryland	State	233	09-30-23
Michigan	State	9912	06-30-23
North Carolina (WW/SW)	State	314	12-31-22
Oklahoma	NELAP	9810	08-31-23
Pennsylvania	NELAP	68-00467	01-31-23
South Carolina	State	96026	06-30-23
Tennessee	State	TN02907	06-30-23
Texas	NELAP	T104704286	09-30-23
US Fish & Wildlife	US Federal Programs	A22340	06-30-23
USDA	US Federal Programs	P330-21-00056	05-17-24
Virginia	NELAP	460166	06-14-23
West Virginia DEP	State	136	03-31-23

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET ORL
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	EET PEN
300.0	Anions, Ion Chromatography	MCAWW	EET ORL
QSM B15	PFAS for QSM 5.4, Table B-15	DOD 5.4	ELLE
365.4	Phosphorus, Total	EPA	EET ORL
3511	Microextraction of Organic Compounds	SW846	EET PEN
365.2/365.3/365	Phosphorus, Total	MCAWW	EET ORL
5030C	Purge and Trap	SW846	EET ORL
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE

Protocol References:

DOD 5.4 = Department of Defense Quality Systems Manual V5.4

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-8406-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-8406-1	GSRY-IDW01-20221027	Water	10/27/22 13:50	10/28/22 14:15
670-8406-2	GSRY-IDW02-20221027	Water	10/27/22 13:52	10/28/22 14:15
670-8406-3	GSRY-IDW03-20221027	Water	10/27/22 14:05	10/28/22 14:15
670-8406-4	GSRY-IDW04-20221027	Water	10/27/22 14:15	10/28/22 14:15
670-8406-5	GSRY-IDW05-20221027	Water	10/27/22 14:22	10/28/22 14:15
670-8406-6	GSRY-IDW06-20221027	Water	10/27/22 14:30	10/28/22 14:15
670-8406-7	GSRY-IDW07-20221027	Water	10/27/22 14:38	10/28/22 14:15
670-8406-8	GSRY-IDW08-20221027	Water	10/27/22 14:45	10/28/22 14:15
670-8406-9	GSRY-IDW09-20221027	Water	10/27/22 14:52	10/28/22 14:15
670-8406-10	GSRY-IDW10-20221027	Water	10/27/22 15:00	10/28/22 14:15
670-8406-11	GSRY-IDW11-20221028	Water	10/28/22 12:15	10/28/22 14:15

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

eurofins

Project Name: NASA KSC - GSA Reclamation Yard			COC No.	Page: 1 of 2	
Site Location: GSRY - IDW			PO No. TBD	Project No. 60614327.4	Phase:
TO No.: 80KSC019F0078	AECOM Project Manager:	**Chad Lee cc: Jennifer Gootee**	Send Invoice To: Instructions in MSA# 21S-27172-GV03	EDD to: Jennifer Chastain	Cc: Teresa Amentt Jennings
Sampler/Phone # Greg Kusel / (772) 631-7426	Dustin Slater / (407) 766-0747		Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain	Cc: Teresa Amentt Jennings
Lab Name: Eurofins	Turnaround Time(specify):	Standard 14 day	Deliver Samples To: Eurofins Orlando	Site-Spicific WS#15 from QAPP: 15-17A	

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Not Preserved)	4 DEG PCBs by SW8082A	4 DEG Select PFAS by 537	4 DEG Nitrate by 300.0	4 DEG Total Phosphorus by 345.6	Comments
	GSRY-IDW01- 20221027	GSRY-IDW01	2022 1027	1350	IDW	IDW	G	9 GK	3 GK	2	2	1	1	Drums 220338
	GSRY-IDW02- 20221027	GSRY-IDW02	2022 1027	1358	IDW	IDW	G	9	3	2	2	1	1	220339
	GSRY-IDW03- 20221027	GSRY-IDW03	2022 1027	1405	IDW	IDW	G	9	3	2	2	1	1	220342
	GSRY-IDW04- 20221027	GSRY-IDW04	2022 1027	1415	IDW	IDW	G	9	3	2	2	1	1	220332
	GSRY-IDW05- 20221027	GSRY-IDW05	2022 1027	1422	IDW	IDW	G	9	3	2	2	1	1	220337
	GSRY-IDW06- 20221027	GSRY-IDW06	2022 1027	1430	IDW	IDW	G	9	3	2	2	1	1	220334
	GSRY-IDW07- 20221027	GSRY-IDW07	2022 1027	1438	IDW	IDW	G	9	3	2	2	1	1	220335
	GSRY-IDW08- 20221027	GSRY-IDW08	2022 1027	1445	IDW	IDW	G	9	3	2	2	1	1	226062
	GSRY-IDW09- 20221027	GSRY-IDW09	2022 1027	1452	IDW	IDW	G	9	3	2	2	1	1	226063
	GSRY-IDW10- 20221027	GSRY-IDW10	2022 1027	1500	IDW	IDW	G	9	3	2	2	1	1	228461
	GSRY-IDW11- 20221028	GSRY-IDW11	2022 1028	1215	IDW	IDW	G	9	3	2	2	1	1	228462
GK	~~GSRY-IDW12~~	~~GSRY-IDW12~~	~~2022~~		~~IDW~~	~~IDW~~	~~G~~	~~9~~ GK	~~3~~ GK	~~2~~	~~2~~	~~1~~	~~1~~	

670-8406 Chain of Custody

***Field* Comments:** 2 preserved 8260 bottles included for each sample. Analyze unpreserved.
Report only per QAPP WS #15-17A

***Lab* Comments:**

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1 Doug Kusel	10/28/22	1415	1	10/27 22	1415
2			2		
3			3		

Sample Shipment and Delivery Details

Number of coolers in shipment:
Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank

Rev 8/19

2.9 3.8

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-1144.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-8406-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 11/10/2022			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY IDW	Project #: 67000867			
Site: NASA KSC GSRY IDW	SSOW#:			

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:

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)	8082A/3511_PCB_1YR TCL PCBs by 8082A	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-IDW01-20221027 (670-8406-1)	10/27/22	13:50 Eastern		Water			X	2	
GSRY-IDW02-20221027 (670-8406-2)	10/27/22	13:52 Eastern		Water			X	2	
GSRY-IDW03-20221027 (670-8406-3)	10/27/22	14:05 Eastern		Water			X	2	
GSRY-IDW04-20221027 (670-8406-4)	10/27/22	14:15 Eastern		Water			X	2	
GSRY-IDW05-20221027 (670-8406-5)	10/27/22	14:22 Eastern		Water			X	2	
GSRY-IDW06-20221027 (670-8406-6)	10/27/22	14:30 Eastern		Water			X	2	
GSRY-IDW07-20221027 (670-8406-7)	10/27/22	14:38 Eastern		Water			X	2	
GSRY-IDW08-20221027 (670-8406-8)	10/27/22	14:45 Eastern		Water			X	2	
GSRY-IDW09-20221027 (670-8406-9)	10/27/22	14:52 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon out 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southeast, 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
	[redacted]	10/31 1300				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by: [redacted]	Date/Time: 11/1/22 9:09	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.4 IR8

Ver: 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-1144.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Environment Testing Southeast,		Accreditations Required (See note): NELAP - Florida		Job #: 670-8406-1
Address: 3355 McLemore Drive, ,	Due Date Requested: 11/10/2022			
City: Pensacola	TAT Requested (days):			
State, Zip: FL, 32514				
Phone: 850-474-1001(Tel) 850-478-2671(Fax)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY IDW	Project #: 67000867			
Site: NASA KSC GSRY IDW	SSOW#:			

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:

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)	8082A/3511_PCB_1YR TCL PCBs by 8082A	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-IDW10-20221027 (670-8406-10)	10/27/22	15:00 Eastern		Water			X	2	
GSRY-IDW11-20221028 (670-8406-11)	10/28/22	12:15 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon out 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southeast, 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
	10/31 1300				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: Matthew Polyak	Date/Time: 11/1/22 9:09	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.4 IR8

Ver: 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-1140.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-8406-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 11/10/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY IDW	Project #: 67000867			
Site: NASA KSC GSRY IDW	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)	PFC_DA_D5.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-IDW01-20221027 (670-8406-1)	10/27/22	13:50 Eastern		Water			X	2	
GSRY-IDW02-20221027 (670-8406-2)	10/27/22	13:52 Eastern		Water			X	2	
GSRY-IDW03-20221027 (670-8406-3)	10/27/22	14:05 Eastern		Water			X	2	
GSRY-IDW04-20221027 (670-8406-4)	10/27/22	14:15 Eastern		Water			X	2	
GSRY-IDW05-20221027 (670-8406-5)	10/27/22	14:22 Eastern		Water			X	2	
GSRY-IDW06-20221027 (670-8406-6)	10/27/22	14:30 Eastern		Water			X	2	
GSRY-IDW07-20221027 (670-8406-7)	10/27/22	14:38 Eastern		Water			X	2	
GSRY-IDW08-20221027 (670-8406-8)	10/27/22	14:45 Eastern		Water			X	2	
GSRY-IDW09-20221027 (670-8406-9)	10/27/22	14:52 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon out 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southeast, 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
		10/31 1200				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/1/22 10:07	Company EET

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1.5

Ver: 06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-1140.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-8406-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 11/10/2022			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY IDW	Project #: 67000867			
Site: NASA KSC GSRY IDW	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)	PFC_IDA_D5.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-IDW10-20221027 (670-8406-10)	10/27/22	15:00 Eastern		Water			X	2	
GSRY-IDW11-20221028 (670-8406-11)	10/28/22	12:15 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon out 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Southeast, 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: 10/31 1200	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/1/22 10:07	Company ECHT

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.5

DAB

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-8406-1

Login Number: 8406
List Number: 1
Creator: Betancourt, Luis I

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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	
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc. Job Number: 670-8406-1

Login Number: 8406 **List Source: Eurofins Lancaster Laboratories Environment Testing, LLC**
List Number: 2 **List Creation: 11/01/22 03:07 PM**
Creator: Bryan, Debra A

Question	Answer	Comment
The cooler's custody seal is 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 (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
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	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-8406-1

Login Number: 8406
List Number: 3
Creator: Perez, Trina M

List Source: Eurofins Pensacola
List Creation: 11/02/22 08:35 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.4°C IR-8
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

ANALYTICAL REPORT

PREPARED FOR

Attn: Teresa Amentt Jennings
AECOM Technical Services Inc.
150 North Orange Avenue
Suite 200
Orlando, Florida 32801

Generated 7/19/2024 4:38:26 PM Revision 1

JOB DESCRIPTION

NASA KSC GSRY IDW
October Sampling

JOB NUMBER

670-41652-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

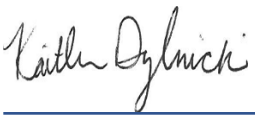
myEOL

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 Southeast, LLC Project Manager.

Authorization



Generated
7/19/2024 4:38:26 PM
Revision 1

Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 6
Detection Summary 8
Client Sample Results 11
Surrogate Summary 23
Isotope Dilution Summary 24
QC Sample Results 26
QC Association Summary 38
Lab Chronicle 41
Certification Summary 44
Method Summary 46
Sample Summary 47
Chain of Custody 48
Receipt Checklists 50

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-41652-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.

General Chemistry

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

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)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-41652-1 Eurofins Orlando

Job Narrative
670-41652-1

REVISION

The report being provided is a revision of the original report sent on 7/18/2024. The report (revision 1) is being revised due to update reporting units for nitrate to ug/L.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 6/13/2024 2:09 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.2°C.

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

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

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

PFAS
Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C4 PFBA, M2-6:2 FTS, M2-8:2 FTS, 13C3 PFBS, M2-4:2 FTS, 13C8 PFOA, 13C8 PFOS, 13C5 PFHxA, 13C9 PFNA, 13C6 PFDA, 13C7 PFUnA and 13C3 PFHxS in the laboratory control spike duplicate samples associated with the following samples: GSRY-IDW01-20240613 (670-41652-1), GSRY-IDW02-20240613 (670-41652-2), GSRY-IDW03-20240613 (670-41652-3) and GSRY-IDW04-20240613 (670-41652-4) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) 13C4 PFBA, M2-6:2 FTS, M2-8:2 FTS, 13C3 PFBS, M2-4:2 FTS, 13C8 PFOA, 13C8 PFOS, 13C5 PFHxA, 13C9 PFNA, 13C6 PFDA, 13C7 PFUnA and 13C3 PFHxS in the re-extracted laboratory control spike sample(s) was within the QC acceptance limits. The recovery for labeled isotope(s) M2-6:2 FTS and M2-8:2 FTS were again outside of the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 PFOA and 13C7 PFUnA in the method blank associated with the following samples: GSRY-IDW01-20240613 (670-41652-1), GSRY-IDW02-20240613 (670-41652-2), GSRY-IDW03-20240613 (670-41652-3) and GSRY-IDW04-20240613 (670-41652-4) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) in the re-extracted method blank is within the QC acceptance limits. .The recovery for labeled isotope(s) M2-6:2 FTS, M2-8:2 FTS, 13C9 PFNA and 13C8 PFOS were again outside of the QC acceptance limits.

Method PFC_IDA_D5.3: Target analyte(s) HFPODA, Perfluorobutanesulfonic acid and Perfluorohexanoic acid were detected in the method blank associated with the following samples: GSRY-IDW05-20240613 (670-41652-5) and GSRY-IDW06-20240613 (670-41652-6). The following action was taken: This sample(s) was re-extracted outside the required holding time and target analyte(s) were not detected in the re-extracted method blank.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) d5-NEtPFOSA in the following sample: GSRY-IDW05-20240613 (670-41652-5) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.The recovery for labeled isotope(s)

Job ID: 670-41652-1 (Continued) Eurofins Orlando

M2-6:2 FTS and M2-4:2 FTS were again outside of the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-4:2 FTS and d5-NEtPFOSA in the following sample: GSRY-IDW06-20240613 (670-41652-6) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits. The recovery for labeled isotope(s) 13C4 PFBA and M2-6:2 FTS were again outside of the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-4:2 FTS and 13C8 PFOA in the following sample: GSRY-IDW01-20240613 (670-41652-1) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits. The recovery for labeled isotope(s) M2-6:2 FTS, M2-8:2 FTS, d5-NEtPFOSA and d3-NMePFOSA were again outside of the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C4 PFHpA, M2-8:2 FTS, 13C3 PFBS, 13C8 PFOA, 13C8 PFOS, 13C6 PFDA and 13C3 PFHxS in the following sample: GSRY-IDW02-20240613 (670-41652-2) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits. The recovery for labeled isotope(s) M2-4:2 FTS and M2-6:2 FTS were again outside of the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 PFOA and 13C3 PFHxS in the following sample: GSRY-IDW03-20240613 (670-41652-3) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits. The recovery for labeled isotope(s) M2-4:2 FTS, M2-6:2 FTS and M2-8:2 FTS were again outside of the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-4:2 FTS, 13C8 PFOA and 13C6 PFDA in the following sample: GSRY-IDW04-20240613 (670-41652-4) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits. The recovery for labeled isotope(s) 13C4 PFBA, M2-6:2 FTS and M2-8:2 FTS were again outside of the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C4 PFBA, d3-NMeFOSAA, M2-8:2 FTS, 13C3 HFPO-DA, 13C5 PFHxA, 13C9 PFNA, 13C6 PFDA, 13C7 PFUnA, 13C3 PFHxS and d5-NEtFOSAA in the laboratory control spike samples associated with the following samples: GSRY-IDW01-20240613 (670-41652-1), GSRY-IDW02-20240613 (670-41652-2), GSRY-IDW03-20240613 (670-41652-3) and GSRY-IDW04-20240613 (670-41652-4) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) 13C4 PFBA, d3-NMeFOSAA, M2-8:2 FTS, 13C3 HFPO-DA, 13C5 PFHxA, 13C9 PFNA, 13C6 PFDA, 13C7 PFUnA, 13C3 PFHxS and d5-NEtFOSAA in the re-extracted laboratory control spike sample(s) was within the QC acceptance limits. The recovery for labeled isotope(s) 13C3 PFBS, 13C8 PFOS, M2-4:2 FTS, 13C8 PFOA, and M2-6:2 FTS were again outside of the QC acceptance limits.

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

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

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-41652-1

Client Sample ID: GSRY-IDW01-20240613 — Lab Sample ID: 670-41652-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trichlorobenzene	0.85	I	2.0	0.70	ug/L	1		8260D	Total/NA
1,3-Dichlorobenzene	26		1.0	0.77	ug/L	1		8260D	Total/NA
1,4-Dichlorobenzene	13		1.0	0.76	ug/L	1		8260D	Total/NA
Chlorobenzene	7.4		1.0	0.72	ug/L	1		8260D	Total/NA
Nitrate as N	530		400	200	ug/L	1		300.0	Total/NA
6:2 Fluorotelomer sulfonic acid	0.0013	I	0.0027	0.00091	ug/L	1		QSM B15	Total/NA
HFPODA	0.00084	I	0.0027	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.00066	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0040	I	0.0046	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0016	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0047		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0034		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00051	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0089		0.0019	0.00091	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0033		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00055	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0023		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Total Phosphorus as P	210		100	40	ug/L	1		365.4	Total/NA

Client Sample ID: GSRY-IDW02-20240613 — Lab Sample ID: 670-41652-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.0037		0.0027	0.00091	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0023		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.011		0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.0015	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.012		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.027		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.023		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0013	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0011	I	0.0018	0.00063	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.076		0.0019	0.00091	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.093		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0024		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.011		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Total Phosphorus as P	350		100	40	ug/L	1		365.4	Total/NA

Client Sample ID: GSRY-IDW03-20240613 — Lab Sample ID: 670-41652-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,3-Trichlorobenzene	1.7	I	2.0	0.86	ug/L	1		8260D	Total/NA
1,2,4-Trichlorobenzene	9.4		2.0	0.70	ug/L	1		8260D	Total/NA
1,2-Dichlorobenzene	1.7		1.0	0.73	ug/L	1		8260D	Total/NA
1,3-Dichlorobenzene	10		1.0	0.77	ug/L	1		8260D	Total/NA
1,4-Dichlorobenzene	27		1.0	0.76	ug/L	1		8260D	Total/NA
Chlorobenzene	7.2		1.0	0.72	ug/L	1		8260D	Total/NA
HFPODA	0.00065	I	0.0027	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.00061	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0018		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0012	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.00069	I	0.0018	0.00063	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0039		0.0019	0.00089	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Client Sample ID: GSRY-IDW03-20240613 (Continued) — Lab Sample ID: 670-41652-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	0.0014	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.00068	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Total Phosphorus as P	330		100	40	ug/L	1		365.4	Total/NA

Client Sample ID: GSRY-IDW04-20240613 — Lab Sample ID: 670-41652-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trichlorobenzene	0.89	I	2.0	0.70	ug/L	1		8260D	Total/NA
1,2-Dichlorobenzene	0.76	I	1.0	0.73	ug/L	1		8260D	Total/NA
1,4-Dichlorobenzene	63		1.0	0.76	ug/L	1		8260D	Total/NA
Chlorobenzene	62		1.0	0.72	ug/L	1		8260D	Total/NA
1,3-Dichlorobenzene - DL	150		2.0	1.5	ug/L	2		8260D	Total/NA
Perfluorobutanesulfonic acid	0.00047	I	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0039	I	0.0047	0.0019	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0014	I	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0035		0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0036		0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.00075	I	0.0019	0.00065	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0062		0.0020	0.00093	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0026		0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0025		0.0019	0.00047	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-IDW05-20240613 — Lab Sample ID: 670-41652-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,3-Dichlorobenzene	12		1.0	0.77	ug/L	1		8260D	Total/NA
1,4-Dichlorobenzene	22		1.0	0.76	ug/L	1		8260D	Total/NA
Chlorobenzene	7.6		1.0	0.72	ug/L	1		8260D	Total/NA
HFPODA	0.0060	V	0.0027	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0021	V	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0077		0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluorodecanoic acid	0.00049	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0039		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0093		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0069	V	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0014	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0017	I	0.0018	0.00063	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.020		0.0019	0.00090	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.024		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00073	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0032		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Total Phosphorus as P	430		100	40	ug/L	1		365.4	Total/NA

Client Sample ID: GSRY-IDW06-20240613 — Lab Sample ID: 670-41652-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,3-Dichlorobenzene	36		1.0	0.77	ug/L	1		8260D	Total/NA
1,4-Dichlorobenzene	21		1.0	0.76	ug/L	1		8260D	Total/NA
Chlorobenzene	17		1.0	0.72	ug/L	1		8260D	Total/NA
HFPODA	0.0068	V	0.0028	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0014	I V	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0036	I	0.0047	0.0019	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: GSRY-IDW06-20240613 (Continued)

Lab Sample ID: 670-41652-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid	0.0012	I	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0031		0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0033	V	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0024		0.0019	0.00066	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0060		0.0020	0.00095	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0027		0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0015	I	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Total Phosphorus as P	730		100	40	ug/L	1		365.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: GSRY-IDW01-20240613

Date Collected: 06/13/24 10:50
Date Received: 06/13/24 14:09

Lab Sample ID: 670-41652-1

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.86	U	2.0	0.86	ug/L			06/14/24 18:24	1
1,2,4-Trichlorobenzene	**0.85**	**I**	2.0	0.70	ug/L			06/14/24 18:24	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			06/14/24 18:24	1
1,3-Dichlorobenzene	**26**		1.0	0.77	ug/L			06/14/24 18:24	1
1,4-Dichlorobenzene	**13**		1.0	0.76	ug/L			06/14/24 18:24	1
Benzene	0.71	U	1.0	0.71	ug/L			06/14/24 18:24	1
Chlorobenzene	**7.4**		1.0	0.72	ug/L			06/14/24 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*41 - 142*		*06/14/24 18:24*	*1*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*06/14/24 18:24*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*06/14/24 18:24*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:23	1
PCB-1221	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:23	1
PCB-1232	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:23	1
PCB-1242	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:23	1
PCB-1248	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:23	1
PCB-1254	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 15:23	1
PCB-1260	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 15:23	1
Polychlorinated biphenyls, Total	0.20	U	0.40	0.20	ug/L		06/13/24 16:03	06/14/24 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*86*		*37 - 170*	*06/13/24 16:03*	*06/14/24 15:23*	*1*
Tetrachloro-m-xylene	*126*		*35 - 140*	*06/13/24 16:03*	*06/14/24 15:23*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**530**		400	200	ug/L			06/13/24 20:36	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
4:2 Fluorotelomer sulfonic acid	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
6:2 Fluorotelomer sulfonic acid	**0.0013**	**I**	0.0027	0.00091	ug/L		06/24/24 11:34	06/28/24 12:00	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		06/24/24 11:34	06/28/24 12:00	1
9Cl-PF3ONS	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
DONA	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
HFPODA	**0.00084**	**I**	0.0027	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
NEtFOSAA	0.00046	U	0.0027	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
NMeFOSAA	0.00055	U	0.0018	0.00055	ug/L		06/24/24 11:34	06/28/24 12:00	1
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorobutanesulfonic acid	**0.00066**	**I**	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorobutanoic acid	**0.0040**	**I**	0.0046	0.0018	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorodecanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorodecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorododecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluoroheptanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluoroheptanoic acid	**0.0016**	**I**	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1

Client Sample ID: GSRY-IDW01-20240613

Lab Sample ID: 670-41652-1

Date Collected: 06/13/24 10:50

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	**0.0047**		0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorohexanoic acid	**0.0034**		0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorononanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorononanoic acid	**0.00051**	**I**	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorooctanesulfonamide	0.00064	U	0.0018	0.00064	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorooctanesulfonic acid	**0.0089**		0.0019	0.00091	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorooctanoic acid	**0.0033**		0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluoropentanesulfonic acid	**0.00055**	**I**	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluoropentanoic acid	**0.0023**		0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorotetradecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluorotridecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1
Perfluoroundecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/24/24 11:34	06/28/24 12:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*56*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C8 FOSA	*119*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C4 PFHpA	*139*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C5 PFPeA	*100*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C2 PFTeDA	*92*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
d3-NMeFOSAA	*130*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
M2-6:2 FTS	*304*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
M2-8:2 FTS	*157*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C3 PFBS	*132*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
M2-4:2 FTS	*234*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C3 HFPO-DA	*131*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C8 PFOA	*151*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C8 PFOS	*147*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C5 PFHxA	*131*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C9 PFNA	*133*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C6 PFDA	*131*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C7 PFUnA	*132*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C3 PFHxS	*146*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
13C2-PFDoDA	*120*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
d5-NEtPFOSA	*36*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
d3-NMePFOSA	*46*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*
d5-NEtFOSAA	*120*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:00*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	**210**		100	40	ug/L		06/20/24 10:02	06/20/24 18:23	1

Client Sample ID: GSRY-IDW02-20240613

Lab Sample ID: 670-41652-2

Date Collected: 06/13/24 10:55

Matrix: Water

Date Received: 06/13/24 14:09

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.86	U	2.0	0.86	ug/L			06/14/24 18:42	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			06/14/24 18:42	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			06/14/24 18:42	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			06/14/24 18:42	1

Client Sample ID: GSRY-IDW02-20240613
Date Collected: 06/13/24 10:55
Date Received: 06/13/24 14:09

Lab Sample ID: 670-41652-2
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			06/14/24 18:42	1
Benzene	0.71	U	1.0	0.71	ug/L			06/14/24 18:42	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			06/14/24 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*06/14/24 18:42*	*1*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*06/14/24 18:42*	*1*
Toluene-d8 (Surr)	*100*		*40 - 146*		*06/14/24 18:42*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:40	1
PCB-1221	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:40	1
PCB-1232	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:40	1
PCB-1242	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:40	1
PCB-1248	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:40	1
PCB-1254	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 15:40	1
PCB-1260	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 15:40	1
Polychlorinated biphenyls, Total	0.20	U	0.40	0.20	ug/L		06/13/24 16:03	06/14/24 15:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*85*		*37 - 170*	*06/13/24 16:03*	*06/14/24 15:40*	*1*
Tetrachloro-m-xylene	*125*		*35 - 140*	*06/13/24 16:03*	*06/14/24 15:40*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U	400	200	ug/L			06/13/24 20:53	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
6:2 Fluorotelomer sulfonic acid	**0.0037**		0.0027	0.00091	ug/L		06/24/24 11:34	06/28/24 12:13	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		06/24/24 11:34	06/28/24 12:13	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
DONA	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
HFPODA	0.00045	U	0.0027	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		06/24/24 11:34	06/28/24 12:13	1
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorobutanesulfonic acid	**0.0023**		0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorobutanoic acid	**0.011**		0.0045	0.0018	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluoroheptanesulfonic acid	**0.0015**	**I**	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluoroheptanoic acid	**0.012**		0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorohexanesulfonic acid	**0.027**		0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorohexanoic acid	**0.023**		0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorononanoic acid	**0.0013**	**I**	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1

Client Sample ID: GSRY-IDW02-20240613

Lab Sample ID: 670-41652-2

Date Collected: 06/13/24 10:55
Matrix: Water
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide	**0.0011**	**I**	0.0018	0.00063	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorooctanesulfonic acid	**0.076**		0.0019	0.00091	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorooctanoic acid	**0.093**		0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluoropentanesulfonic acid	**0.0024**		0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluoropentanoic acid	**0.011**		0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*75*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C8 FOSA	*123*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C4 PFHpA	*151*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C5 PFPeA	*117*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C2 PFTeDA	*104*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
d3-NMeFOSAA	*136*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
M2-6:2 FTS	*348*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
M2-8:2 FTS	*169*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C3 PFBS	*156*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
M2-4:2 FTS	*277*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C3 HFPO-DA	*145*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C8 PFOA	*161*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C8 PFOS	*160*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C5 PFHxA	*142*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C9 PFNA	*147*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C6 PFDA	*151*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C7 PFUnA	*138*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C3 PFHxS	*162*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
13C2-PFDoDA	*128*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
d5-NEtPFOSA	*53*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
d3-NMePFOSA	*59*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*
d5-NEtFOSAA	*135*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:13*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	**350**		100	40	ug/L		06/20/24 10:02	06/20/24 18:24	1

Client Sample ID: GSRY-IDW03-20240613

Lab Sample ID: 670-41652-3

Date Collected: 06/13/24 11:40
Matrix: Water
Date Received: 06/13/24 14:09

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	**1.7**	**I**	2.0	0.86	ug/L			06/14/24 19:00	1
1,2,4-Trichlorobenzene	**9.4**		2.0	0.70	ug/L			06/14/24 19:00	1
1,2-Dichlorobenzene	**1.7**		1.0	0.73	ug/L			06/14/24 19:00	1
1,3-Dichlorobenzene	**10**		1.0	0.77	ug/L			06/14/24 19:00	1
1,4-Dichlorobenzene	**27**		1.0	0.76	ug/L			06/14/24 19:00	1
Benzene	0.71	U	1.0	0.71	ug/L			06/14/24 19:00	1
Chlorobenzene	**7.2**		1.0	0.72	ug/L			06/14/24 19:00	1

Client Sample ID: GSRY-IDW03-20240613

Date Collected: 06/13/24 11:40
Date Received: 06/13/24 14:09

Lab Sample ID: 670-41652-3

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*06/14/24 19:00*	*1*
Dibromofluoromethane (Surr)	*96*		*53 - 146*		*06/14/24 19:00*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*06/14/24 19:00*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:57	1
PCB-1221	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:57	1
PCB-1232	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:57	1
PCB-1242	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:57	1
PCB-1248	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 15:57	1
PCB-1254	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 15:57	1
PCB-1260	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 15:57	1
Polychlorinated biphenyls, Total	0.20	U	0.40	0.20	ug/L		06/13/24 16:03	06/14/24 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*83*		*37 - 170*	*06/13/24 16:03*	*06/14/24 15:57*	*1*
Tetrachloro-m-xylene	*121*		*35 - 140*	*06/13/24 16:03*	*06/14/24 15:57*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U	400	200	ug/L			06/13/24 21:10	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
6:2 Fluorotelomer sulfonic acid	0.00089	U	0.0027	0.00089	ug/L		06/24/24 11:34	06/28/24 12:27	1
8:2 Fluorotelomer sulfonic acid	0.00089	U	0.0027	0.00089	ug/L		06/24/24 11:34	06/28/24 12:27	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
DONA	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
HFPODA	**0.00065**	**I**	0.0027	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		06/24/24 11:34	06/28/24 12:27	1
NMeFOSA	0.00089	U	0.0027	0.00089	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorobutanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorobutanoic acid	0.0018	U	0.0045	0.0018	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluoroheptanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluoroheptanoic acid	**0.00061**	**I**	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorohexanesulfonic acid	**0.0018**		0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorohexanoic acid	**0.0012**	**I**	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorononanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorooctanesulfonamide	**0.00069**	**I**	0.0018	0.00063	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorooctanesulfonic acid	**0.0039**		0.0019	0.00089	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorooctanoic acid	**0.0014**	**I**	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluoropentanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluoropentanoic acid	**0.00068**	**I**	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1

Client Sample ID: GSRY-IDW03-20240613 Lab Sample ID: 670-41652-3

Date Collected: 06/13/24 11:40 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:34	06/28/24 12:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C8 FOSA	*123*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C4 PFHpA	*147*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C5 PFPeA	*105*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C2 PFTeDA	*114*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
d3-NMeFOSAA	*127*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
M2-6:2 FTS	*326*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
M2-8:2 FTS	*166*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C3 PFBS	*134*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
M2-4:2 FTS	*252*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C3 HFPO-DA	*127*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C8 PFOA	*153*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C8 PFOS	*145*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C5 PFHxA	*133*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C9 PFNA	*137*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C6 PFDA	*140*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C7 PFUnA	*139*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C3 PFHxS	*151*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
13C2-PFDoDA	*121*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
d5-NEtPFOSA	*57*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
d3-NMePFOSA	*66*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*
d5-NEtFOSAA	*136*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:27*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	**330**		100	40	ug/L		06/20/24 10:02	06/20/24 18:25	1

Client Sample ID: GSRY-IDW04-20240613 Lab Sample ID: 670-41652-4

Date Collected: 06/13/24 11:45 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.86	U	2.0	0.86	ug/L			06/14/24 19:55	1
1,2,4-Trichlorobenzene	**0.89**	**I**	2.0	0.70	ug/L			06/14/24 19:55	1
1,2-Dichlorobenzene	**0.76**	**I**	1.0	0.73	ug/L			06/14/24 19:55	1
1,4-Dichlorobenzene	**63**		1.0	0.76	ug/L			06/14/24 19:55	1
Benzene	0.71	U	1.0	0.71	ug/L			06/14/24 19:55	1
Chlorobenzene	**62**		1.0	0.72	ug/L			06/14/24 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*41 - 142*		*06/14/24 19:55*	*1*
Dibromofluoromethane (Surr)	*98*		*53 - 146*		*06/14/24 19:55*	*1*
Toluene-d8 (Surr)	*103*		*40 - 146*		*06/14/24 19:55*	*1*

Client Sample ID: GSRY-IDW04-20240613

Date Collected: 06/13/24 11:45
Date Received: 06/13/24 14:09

Lab Sample ID: 670-41652-4

Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	**150**		2.0	1.5	ug/L			06/14/24 20:16	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*		*06/14/24 20:16*	*2*
Dibromofluoromethane (Surr)	*99*		*53 - 146*		*06/14/24 20:16*	*2*
Toluene-d8 (Surr)	*100*		*40 - 146*		*06/14/24 20:16*	*2*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:13	1
PCB-1221	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:13	1
PCB-1232	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:13	1
PCB-1242	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:13	1
PCB-1248	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:13	1
PCB-1254	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 16:13	1
PCB-1260	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 16:13	1
Polychlorinated biphenyls, Total	0.20	U	0.40	0.20	ug/L		06/13/24 16:03	06/14/24 16:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*95*		*37 - 170*	*06/13/24 16:03*	*06/14/24 16:13*	*1*
Tetrachloro-m-xylene	*128*		*35 - 140*	*06/13/24 16:03*	*06/14/24 16:13*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U	400	200	ug/L			06/13/24 21:27	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
4:2 Fluorotelomer sulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
6:2 Fluorotelomer sulfonic acid	0.00093	U	0.0028	0.00093	ug/L		06/24/24 11:34	06/28/24 12:40	1
8:2 Fluorotelomer sulfonic acid	0.00093	U	0.0028	0.00093	ug/L		06/24/24 11:34	06/28/24 12:40	1
9Cl-PF3ONS	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
DONA	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
HFPODA	0.00047	U	0.0028	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
NEtFOSAA	0.00047	U	0.0028	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
NMeFOSAA	0.00056	U	0.0019	0.00056	ug/L		06/24/24 11:34	06/28/24 12:40	1
NMeFOSA	0.00093	U	0.0028	0.00093	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorobutanesulfonic acid	**0.00047**	**I**	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorobutanoic acid	**0.0039**	**I**	0.0047	0.0019	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorodecanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorodecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorododecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluoroheptanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluoroheptanoic acid	**0.0014**	**I**	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorohexanesulfonic acid	**0.0035**		0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorohexanoic acid	**0.0036**		0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorononanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorononanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorooctanesulfonamide	**0.00075**	**I**	0.0019	0.00065	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorooctanesulfonic acid	**0.0062**		0.0020	0.00093	ug/L		06/24/24 11:34	06/28/24 12:40	1

Client Sample ID: GSRY-IDW04-20240613

Lab Sample ID: 670-41652-4

Date Collected: 06/13/24 11:45
Matrix: Water
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	**0.0026**		0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluoropentanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluoropentanoic acid	**0.0025**		0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorotetradecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluorotridecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1
Perfluoroundecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/24/24 11:34	06/28/24 12:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*49*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C8 FOSA	*117*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C4 PFHpA	*145*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C5 PFPeA	*97*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C2 PFTeDA	*104*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
d3-NMeFOSAA	*136*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
M2-6:2 FTS	*314*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
M2-8:2 FTS	*194*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C3 PFBS	*125*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
M2-4:2 FTS	*246*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C3 HFPO-DA	*125*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C8 PFOA	*154*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C8 PFOS	*145*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C5 PFHxA	*126*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C9 PFNA	*134*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C6 PFDA	*151*	*	*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C7 PFUnA	*141*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C3 PFHxS	*145*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
13C2-PFDoDA	*134*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
d5-NEtPFOSA	*55*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
d3-NMePFOSA	*66*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*
d5-NEtFOSAA	*143*		*50 - 150*	*06/24/24 11:34*	*06/28/24 12:40*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	40	U	100	40	ug/L		06/20/24 10:02	06/20/24 18:29	1

Client Sample ID: GSRY-IDW05-20240613

Lab Sample ID: 670-41652-5

Date Collected: 06/13/24 11:50
Matrix: Water
Date Received: 06/13/24 14:09

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.86	U	2.0	0.86	ug/L			06/14/24 19:19	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			06/14/24 19:19	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			06/14/24 19:19	1
1,3-Dichlorobenzene	**12**		1.0	0.77	ug/L			06/14/24 19:19	1
1,4-Dichlorobenzene	**22**		1.0	0.76	ug/L			06/14/24 19:19	1
Benzene	0.71	U	1.0	0.71	ug/L			06/14/24 19:19	1
Chlorobenzene	**7.6**		1.0	0.72	ug/L			06/14/24 19:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*41 - 142*		*06/14/24 19:19*	*1*

Client Sample ID: GSRY-IDW05-20240613 Lab Sample ID: 670-41652-5

Date Collected: 06/13/24 11:50 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*06/14/24 19:19*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*06/14/24 19:19*	*1*

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:30	1
PCB-1221	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:30	1
PCB-1232	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:30	1
PCB-1242	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:30	1
PCB-1248	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:30	1
PCB-1254	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 16:30	1
PCB-1260	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 16:30	1
Polychlorinated biphenyls, Total	0.20	U	0.40	0.20	ug/L		06/13/24 16:03	06/14/24 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*97*		*37 - 170*	*06/13/24 16:03*	*06/14/24 16:30*	*1*
Tetrachloro-m-xylene	*138*		*35 - 140*	*06/13/24 16:03*	*06/14/24 16:30*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U	400	200	ug/L			06/13/24 21:44	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
6:2 Fluorotelomer sulfonic acid	0.00090	U	0.0027	0.00090	ug/L		06/25/24 15:27	06/28/24 04:31	1
8:2 Fluorotelomer sulfonic acid	0.00090	U	0.0027	0.00090	ug/L		06/25/24 15:27	06/28/24 04:31	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
DONA	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
HFPODA	**0.0060**	**V**	0.0027	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		06/25/24 15:27	06/28/24 04:31	1
NMeFOSA	0.00090	U	0.0027	0.00090	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorobutanesulfonic acid	**0.0021**	**V**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorobutanoic acid	**0.0077**		0.0045	0.0018	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorodecanoic acid	**0.00049**	**I**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluoroheptanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluoroheptanoic acid	**0.0039**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorohexanesulfonic acid	**0.0093**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorohexanoic acid	**0.0069**	**V**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorononanoic acid	**0.0014**	**I**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorooctanesulfonamide	**0.0017**	**I**	0.0018	0.00063	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorooctanesulfonic acid	**0.020**		0.0019	0.00090	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorooctanoic acid	**0.024**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluoropentanesulfonic acid	**0.00073**	**I**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluoropentanoic acid	**0.0032**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1

Client Sample ID: GSRY-IDW05-20240613

Lab Sample ID: 670-41652-5

Date Collected: 06/13/24 11:50

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 04:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*55*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C8 FOSA	*91*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C4 PFHpA	*108*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C5 PFPeA	*83*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C2 PFTeDA	*84*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
d3-NMeFOSAA	*99*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
M2-6:2 FTS	*227*	*	*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
M2-8:2 FTS	*127*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C3 PFBS	*100*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
M2-4:2 FTS	*166*	*	*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C3 HFPO-DA	*104*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C8 PFOA	*115*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C8 PFOS	*108*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C5 PFHxA	*101*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C9 PFNA	*105*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C6 PFDA	*106*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C7 PFUnA	*104*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C3 PFHxS	*111*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
13C2-PFDoDA	*99*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
d5-NEtPFOSA	*48*	*	*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
d3-NMePFOSA	*56*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*
d5-NEtFOSAA	*98*		*50 - 150*	*06/25/24 15:27*	*06/28/24 04:31*	*1*

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	**430**		100	40	ug/L		06/20/24 10:02	06/20/24 18:30	1

Client Sample ID: GSRY-IDW06-20240613

Lab Sample ID: 670-41652-6

Date Collected: 06/13/24 11:55

Matrix: Water

Date Received: 06/13/24 14:09

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.86	U	2.0	0.86	ug/L			06/14/24 19:37	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			06/14/24 19:37	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			06/14/24 19:37	1
1,3-Dichlorobenzene	**36**		1.0	0.77	ug/L			06/14/24 19:37	1
1,4-Dichlorobenzene	**21**		1.0	0.76	ug/L			06/14/24 19:37	1
Benzene	0.71	U	1.0	0.71	ug/L			06/14/24 19:37	1
Chlorobenzene	**17**		1.0	0.72	ug/L			06/14/24 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*41 - 142*		*06/14/24 19:37*	*1*
Dibromofluoromethane (Surr)	*97*		*53 - 146*		*06/14/24 19:37*	*1*
Toluene-d8 (Surr)	*101*		*40 - 146*		*06/14/24 19:37*	*1*

Client Sample ID: GSRY-IDW06-20240613

Date Collected: 06/13/24 11:55
Date Received: 06/13/24 14:09

Lab Sample ID: 670-41652-6

Matrix: Water

Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:47	1
PCB-1221	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:47	1
PCB-1232	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:47	1
PCB-1242	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:47	1
PCB-1248	0.12	U	0.25	0.12	ug/L		06/13/24 16:03	06/14/24 16:47	1
PCB-1254	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 16:47	1
PCB-1260	0.21	U	0.40	0.21	ug/L		06/13/24 16:03	06/14/24 16:47	1
Polychlorinated biphenyls, Total	0.20	U	0.40	0.20	ug/L		06/13/24 16:03	06/14/24 16:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*93*		*37 - 170*	*06/13/24 16:03*	*06/14/24 16:47*	*1*
Tetrachloro-m-xylene	*134*		*35 - 140*	*06/13/24 16:03*	*06/14/24 16:47*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U	400	200	ug/L			06/13/24 22:01	1

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
4:2 Fluorotelomer sulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
6:2 Fluorotelomer sulfonic acid	0.00095	U	0.0028	0.00095	ug/L		06/25/24 15:27	06/28/24 04:45	1
8:2 Fluorotelomer sulfonic acid	0.00095	U	0.0028	0.00095	ug/L		06/25/24 15:27	06/28/24 04:45	1
9Cl-PF3ONS	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
DONA	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
HFPODA	**0.0068**	**V**	0.0028	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
NEtFOSAA	0.00047	U	0.0028	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
NMeFOSAA	0.00057	U	0.0019	0.00057	ug/L		06/25/24 15:27	06/28/24 04:45	1
NMeFOSA	0.00095	U	0.0028	0.00095	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorobutanesulfonic acid	**0.0014**	**I V**	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorobutanoic acid	**0.0036**	**I**	0.0047	0.0019	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorodecanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorodecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorododecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluoroheptanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluoroheptanoic acid	**0.0012**	**I**	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorohexanesulfonic acid	**0.0031**		0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorohexanoic acid	**0.0033**	**V**	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorononanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorononanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorooctanesulfonamide	**0.0024**		0.0019	0.00066	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorooctanesulfonic acid	**0.0060**		0.0020	0.00095	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorooctanoic acid	**0.0027**		0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluoropentanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluoropentanoic acid	**0.0015**	**I**	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorotetradecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluorotridecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1
Perfluoroundecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/25/24 15:27	06/28/24 04:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*47*	*	*50 - 150*	*06/25/24 15:27*	*06/28/24 04:45*	*1*

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-41652-1

Client Sample ID: GSRY-IDW06-20240613
Date Collected: 06/13/24 11:55
Date Received: 06/13/24 14:09

Lab Sample ID: 670-41652-6
Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	94		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C4 PFHpA	113		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C5 PFPeA	79		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C2 PFTeDA	85		50 - 150	06/25/24 15:27	06/28/24 04:45	1
d3-NMeFOSAA	104		50 - 150	06/25/24 15:27	06/28/24 04:45	1
M2-6:2 FTS	242	*	50 - 150	06/25/24 15:27	06/28/24 04:45	1
M2-8:2 FTS	141		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C3 PFBS	100		50 - 150	06/25/24 15:27	06/28/24 04:45	1
M2-4:2 FTS	193	*	50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C3 HFPO-DA	105		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C8 PFOA	121		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C8 PFOS	114		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C5 PFHxA	101		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C9 PFNA	111		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C6 PFDA	114		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C7 PFUnA	103		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C3 PFHxS	116		50 - 150	06/25/24 15:27	06/28/24 04:45	1
13C2-PFDoDA	95		50 - 150	06/25/24 15:27	06/28/24 04:45	1
d5-NEtPFOSA	49	*	50 - 150	06/25/24 15:27	06/28/24 04:45	1
d3-NMePFOSA	59		50 - 150	06/25/24 15:27	06/28/24 04:45	1
d5-NEtFOSAA	107		50 - 150	06/25/24 15:27	06/28/24 04:45	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P (EPA 365.4)	730		100	40	ug/L		06/20/24 10:02	06/20/24 18:31	1

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-41652-1

Method: 8260D - Volatile Organic Compounds by GC/MS

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

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(41-142)	(53-146)	(40-146)
670-41644-C-2 DU	Duplicate	105	98	102
670-41644-E-3 MS	Matrix Spike	101	99	101
670-41652-1	GSRY-IDW01-20240613	108	98	100
670-41652-2	GSRY-IDW02-20240613	103	97	100
670-41652-3	GSRY-IDW03-20240613	103	96	101
670-41652-4	GSRY-IDW04-20240613	103	98	103
670-41652-4 - DL	GSRY-IDW04-20240613	105	99	100
670-41652-5	GSRY-IDW05-20240613	108	97	101
670-41652-6	GSRY-IDW06-20240613	109	97	101
LCS 670-95812/4	Lab Control Sample	105	95	103
MB 670-95812/7	Method Blank	108	96	99

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

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

		Percent Surrogate Recovery (Acceptance Limits)	
		DCBP1	TCX1
Lab Sample ID	Client Sample ID	(37-170)	(35-140)
670-41652-1	GSRY-IDW01-20240613	86	126
670-41652-2	GSRY-IDW02-20240613	85	125
670-41652-3	GSRY-IDW03-20240613	83	121
670-41652-4	GSRY-IDW04-20240613	95	128
670-41652-5	GSRY-IDW05-20240613	97	138
670-41652-6	GSRY-IDW06-20240613	93	134
LCS 670-95676/2-A	Lab Control Sample	124	125
LCSD 670-95676/3-A	Lab Control Sample Dup	129	128
MB 670-95676/1-A	Method Blank	106	117

Surrogate Legend

DCBP = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Isotope Dilution Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-41652-1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFOSA	C4PFHA	PFPeA	PFTDA	d3NMFOS	M262FTS	M282FTS
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
410-176376-A-9-C MS	Matrix Spike	107	96	126	110	107	110	315 *	160 *
410-176376-A-9-D MSD	Matrix Spike Duplicate	120	114	152 *	132	135	152 *	348 *	243 *
670-41652-1	GSRY-IDW01-20240613	56	119	139	100	92	130	304 *	157 *
670-41652-2	GSRY-IDW02-20240613	75	123	151 *	117	104	136	348 *	169 *
670-41652-3	GSRY-IDW03-20240613	58	123	147	105	114	127	326 *	166 *
670-41652-4	GSRY-IDW04-20240613	49 *	117	145	97	104	136	314 *	194 *
670-41652-5	GSRY-IDW05-20240613	55	91	108	83	84	99	227 *	127
670-41652-6	GSRY-IDW06-20240613	47 *	94	113	79	85	104	242 *	141
LCS 410-520641/2-A	Lab Control Sample	152 *	147	150	148	146	151 *	360 *	170 *
LCS 410-521304/2-A	Lab Control Sample	121	97	131	121	121	131	150	138
LCSD 410-520641/3-A	Lab Control Sample Dup	145	134	146	144	141	149	404 *	155 *
MB 410-520641/1-A	Method Blank	142	138	146	140	140	139	273 *	158 *
MB 410-521304/1-A	Method Blank	112	82	117	111	98	113	135	132

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C3PFBS	M242FTS	HFPODA	C8PFOA	C8PFOS	13C5PHA	C9PFNA	C6PFDA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
410-176376-A-9-C MS	Matrix Spike	120	224 *	109	127	115	118	123	121
410-176376-A-9-D MSD	Matrix Spike Duplicate	140	446 *	136	142	138	137	164 *	158 *
670-41652-1	GSRY-IDW01-20240613	132	234 *	131	151 *	147	131	133	131
670-41652-2	GSRY-IDW02-20240613	156 *	277 *	145	161 *	160 *	142	147	151 *
670-41652-3	GSRY-IDW03-20240613	134	252 *	127	153 *	145	133	137	140
670-41652-4	GSRY-IDW04-20240613	125	246 *	125	154 *	145	126	134	151 *
670-41652-5	GSRY-IDW05-20240613	100	166 *	104	115	108	101	105	106
670-41652-6	GSRY-IDW06-20240613	100	193 *	105	121	114	101	111	114
LCS 410-520641/2-A	Lab Control Sample	162 *	156 *	153 *	176 *	169 *	155 *	160 *	157 *
LCS 410-521304/2-A	Lab Control Sample	137	135	122	131	135	129	130	126
LCSD 410-520641/3-A	Lab Control Sample Dup	155 *	151 *	147	177 *	159 *	146	154 *	150
MB 410-520641/1-A	Method Blank	150	142	143	158 *	159 *	144	151 *	142
MB 410-521304/1-A	Method Blank	123	122	103	119	125	120	121	118

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		13C7PUA	C3PFHS	PFDoDA	d5NPFSA	d3NMFSA	d5NEFOS		
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)		
410-176376-A-9-C MS	Matrix Spike	116	116	75	67	74	114		
410-176376-A-9-D MSD	Matrix Spike Duplicate	112	134	60	65	66	105		
670-41652-1	GSRY-IDW01-20240613	132	146	120	36 *	46 *	120		
670-41652-2	GSRY-IDW02-20240613	138	162 *	128	53	59	135		
670-41652-3	GSRY-IDW03-20240613	139	151 *	121	57	66	136		
670-41652-4	GSRY-IDW04-20240613	141	145	134	55	66	143		
670-41652-5	GSRY-IDW05-20240613	104	111	99	48 *	56	98		
670-41652-6	GSRY-IDW06-20240613	103	116	95	49 *	59	107		
LCS 410-520641/2-A	Lab Control Sample	163 *	159 *	144	85	86	154 *		
LCS 410-521304/2-A	Lab Control Sample	131	140	118	65	65	124		
LCSD 410-520641/3-A	Lab Control Sample Dup	156 *	156 *	143	87	86	150		
MB 410-520641/1-A	Method Blank	151 *	150	140	82	81	146		
MB 410-521304/1-A	Method Blank	110	124	103	59	58	104		

Surrogate Legend

PFBA = 13C4 PFBA

PFOSA = 13C8 FOSA

Isotope Dilution Summary

Client: AECOM Technical Services Inc.
Job ID: 670-41652-1
Project/Site: NASA KSC GSRY IDW

C4PFHA = 13C4 PFHpA
PFPeA = 13C5 PFPeA
PFTDA = 13C2 PFTeDA
d3NMFOS = d3-NMeFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
C3PFBS = 13C3 PFBS
M242FTS = M2-4:2 FTS
HFPODA = 13C3 HFPO-DA
C8PFOA = 13C8 PFOA
C8PFOS = 13C8 PFOS
13C5PHA = 13C5 PFHxA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
C3PFHS = 13C3 PFHxS
PFDoDA = 13C2-PFDoDA
d5NPFSA = d5-NEtPFOSA
d3NMFSA = d3-NMePFOSA
d5NEFOS = d5-NEtFOSAA

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 670-95812/7
Matrix: Water
Analysis Batch: 95812

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.86	U	2.0	0.86	ug/L			06/14/24 13:46	1
1,2,4-Trichlorobenzene	0.70	U	2.0	0.70	ug/L			06/14/24 13:46	1
1,2-Dichlorobenzene	0.73	U	1.0	0.73	ug/L			06/14/24 13:46	1
1,3-Dichlorobenzene	0.77	U	1.0	0.77	ug/L			06/14/24 13:46	1
1,4-Dichlorobenzene	0.76	U	1.0	0.76	ug/L			06/14/24 13:46	1
Benzene	0.71	U	1.0	0.71	ug/L			06/14/24 13:46	1
Chlorobenzene	0.72	U	1.0	0.72	ug/L			06/14/24 13:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*41 - 142*		*06/14/24 13:46*	*1*
Dibromofluoromethane (Surr)	*96*		*53 - 146*		*06/14/24 13:46*	*1*
Toluene-d8 (Surr)	*99*		*40 - 146*		*06/14/24 13:46*	*1*

Lab Sample ID: LCS 670-95812/4
Matrix: Water
Analysis Batch: 95812

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,2,3-Trichlorobenzene			5.00	5.58		ug/L		112	43 - 168		
1,2,4-Trichlorobenzene			5.00	5.45		ug/L		109	52 - 159		
1,2-Dichlorobenzene			5.00	5.69		ug/L		114	63 - 131		
1,3-Dichlorobenzene			5.00	5.47		ug/L		109	66 - 129		
1,4-Dichlorobenzene			5.00	5.32		ug/L		106	65 - 133		
Benzene			5.00	5.17		ug/L		103	56 - 136		
Chlorobenzene			5.00	5.24		ug/L		105	51 - 139		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*
Dibromofluoromethane (Surr)	*95*		*53 - 146*
Toluene-d8 (Surr)	*103*		*40 - 146*

Lab Sample ID: 670-41644-E-3 MS
Matrix: Water
Analysis Batch: 95812

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichlorobenzene	0.86	U	20.0	26.2		ug/L		131	43 - 168
1,2,4-Trichlorobenzene	0.70	U	20.0	25.7		ug/L		129	52 - 159
1,2-Dichlorobenzene	0.73	U	20.0	24.6		ug/L		123	63 - 131
1,3-Dichlorobenzene	0.77	U	20.0	24.2		ug/L		121	66 - 129
1,4-Dichlorobenzene	0.76	U	20.0	24.3		ug/L		122	65 - 133
Benzene	0.71	U	20.0	24.2		ug/L		121	56 - 136
Chlorobenzene	0.72	U	20.0	24.5		ug/L		122	51 - 139

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*41 - 142*
Dibromofluoromethane (Surr)	*99*		*53 - 146*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-41644-E-3 MS
Matrix: Water
Analysis Batch: 95812

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*40 - 146*

Lab Sample ID: 670-41644-C-2 DU
Matrix: Water
Analysis Batch: 95812

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
1,2,3-Trichlorobenzene	0.86	U	0.86	U	ug/L		NC	30
1,2,4-Trichlorobenzene	0.70	U	0.70	U	ug/L		NC	30
1,2-Dichlorobenzene	0.73	U	0.73	U	ug/L		NC	30
1,3-Dichlorobenzene	0.77	U	0.77	U	ug/L		NC	30
1,4-Dichlorobenzene	0.76	U	0.76	U	ug/L		NC	30
Benzene	0.71	U	0.71	U	ug/L		NC	30
Chlorobenzene	0.72	U	0.72	U	ug/L		NC	30

Surrogate	*DU %Recovery*	*DU Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*41 - 142*
Dibromofluoromethane (Surr)	*98*		*53 - 146*
Toluene-d8 (Surr)	*102*		*40 - 146*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 670-95676/1-A
Matrix: Water
Analysis Batch: 95857

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 95676

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.12	U	0.25	0.12	ug/L		06/13/24 14:58	06/14/24 12:02	1
PCB-1221	0.12	U	0.25	0.12	ug/L		06/13/24 14:58	06/14/24 12:02	1
PCB-1232	0.12	U	0.25	0.12	ug/L		06/13/24 14:58	06/14/24 12:02	1
PCB-1242	0.12	U	0.25	0.12	ug/L		06/13/24 14:58	06/14/24 12:02	1
PCB-1248	0.12	U	0.25	0.12	ug/L		06/13/24 14:58	06/14/24 12:02	1
PCB-1254	0.21	U	0.40	0.21	ug/L		06/13/24 14:58	06/14/24 12:02	1
PCB-1260	0.21	U	0.40	0.21	ug/L		06/13/24 14:58	06/14/24 12:02	1
Polychlorinated biphenyls, Total	0.20	U	0.40	0.20	ug/L		06/13/24 14:58	06/14/24 12:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*106*		*37 - 170*	*06/13/24 14:58*	*06/14/24 12:02*	*1*
Tetrachloro-m-xylene	*117*		*35 - 140*	*06/13/24 14:58*	*06/14/24 12:02*	*1*

Lab Sample ID: LCS 670-95676/2-A
Matrix: Water
Analysis Batch: 95857

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 95676

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
PCB-1016	20.0	21.8		ug/L		109	48 - 165
PCB-1260	20.0	22.2		ug/L		111	43 - 170

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 670-95676/2-A
Matrix: Water
Analysis Batch: 95857

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 95676

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*124*		*37 - 170*
Tetrachloro-m-xylene	*125*		*35 - 140*

Lab Sample ID: LCSD 670-95676/3-A
Matrix: Water
Analysis Batch: 95857

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 95676

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
PCB-1016			20.0	22.4		ug/L		112	48 - 165	3	30
PCB-1260			20.0	23.4		ug/L		117	43 - 170	5	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*129*		*37 - 170*
Tetrachloro-m-xylene	*128*		*35 - 140*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 670-95573/37
Matrix: Water
Analysis Batch: 95573

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U	400	200	ug/L			06/13/24 18:55	1

Lab Sample ID: MB 670-95573/6
Matrix: Water
Analysis Batch: 95573

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

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	200	U	400	200	ug/L			06/13/24 10:10	1

Lab Sample ID: LCS 670-95573/35
Matrix: Water
Analysis Batch: 95573

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate as N			2000	1920		ug/L		96	90 - 110		

Lab Sample ID: LCSD 670-95573/36
Matrix: Water
Analysis Batch: 95573

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N			2000	1920		ug/L		96	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 670-41643-J-1 MS
Matrix: Water
Analysis Batch: 95573

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	210	I	5000	5580		ug/L		107	80 - 120

Lab Sample ID: 670-41643-J-1 MSD
Matrix: Water
Analysis Batch: 95573

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	210	I	5000	5450		ug/L		105	80 - 120	2	20

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Lab Sample ID: MB 410-520641/1-A
Matrix: Water
Analysis Batch: 522493

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 520641

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
6:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/24/24 11:34	06/28/24 07:01	1
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/24/24 11:34	06/28/24 07:01	1
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
DONA	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
HFPODA	0.00050	U	0.0030	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		06/24/24 11:34	06/28/24 07:01	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorobutanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorohexanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:34	06/28/24 07:01	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*142*		*50 - 150*	*06/24/24 11:34*	*06/28/24 07:01*	*1*
13C8 FOSA	*138*		*50 - 150*	*06/24/24 11:34*	*06/28/24 07:01*	*1*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-520641/1-A
Matrix: Water
Analysis Batch: 522493

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 520641

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	146		50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C5 PFPeA	140		50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C2 PFTeDA	140		50 - 150	06/24/24 11:34	06/28/24 07:01	1
d3-NMeFOSAA	139		50 - 150	06/24/24 11:34	06/28/24 07:01	1
M2-6:2 FTS	273	*	50 - 150	06/24/24 11:34	06/28/24 07:01	1
M2-8:2 FTS	158	*	50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C3 PFBS	150		50 - 150	06/24/24 11:34	06/28/24 07:01	1
M2-4:2 FTS	142		50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C3 HFPO-DA	143		50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C8 PFOA	158	*	50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C8 PFOS	159	*	50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C5 PFHxA	144		50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C9 PFNA	151	*	50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C6 PFDA	142		50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C7 PFUnA	151	*	50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C3 PFHxS	150		50 - 150	06/24/24 11:34	06/28/24 07:01	1
13C2-PFDoDA	140		50 - 150	06/24/24 11:34	06/28/24 07:01	1
d5-NEtPFOSA	82		50 - 150	06/24/24 11:34	06/28/24 07:01	1
d3-NMePFOSA	81		50 - 150	06/24/24 11:34	06/28/24 07:01	1
d5-NEtFOSAA	146		50 - 150	06/24/24 11:34	06/28/24 07:01	1

Lab Sample ID: LCS 410-520641/2-A
Matrix: Water
Analysis Batch: 522493

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 520641

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.0238	0.0181		ug/L		76	58 - 127
4:2 Fluorotelomer sulfonic acid	0.0239	0.0193		ug/L		81	63 - 143
6:2 Fluorotelomer sulfonic acid	0.0243	0.0226		ug/L		93	64 - 140
8:2 Fluorotelomer sulfonic acid	0.0245	0.0193		ug/L		79	67 - 138
9Cl-PF3ONS	0.0238	0.0189		ug/L		79	61 - 130
DONA	0.0242	0.0217		ug/L		90	64 - 131
HFPODA	0.0256	0.0217		ug/L		85	54 - 129
NEtFOSAA	0.0256	0.0219		ug/L		85	61 - 135
NMeFOSAA	0.0256	0.0217		ug/L		85	65 - 136
NMeFOSA	0.0256	0.0241		ug/L		94	50 - 175
Perfluorobutanesulfonic acid	0.0227	0.0190		ug/L		84	72 - 130
Perfluorobutanoic acid	0.0256	0.0210		ug/L		82	73 - 129
Perfluorodecanesulfonic acid	0.0247	0.0178		ug/L		72	53 - 142
Perfluorodecanoic acid	0.0256	0.0223		ug/L		87	71 - 129
Perfluorododecanoic acid	0.0256	0.0219		ug/L		86	72 - 134
Perfluoroheptanesulfonic acid	0.0244	0.0210		ug/L		86	69 - 134
Perfluoroheptanoic acid	0.0256	0.0222		ug/L		87	72 - 130
Perfluorohexanesulfonic acid	0.0233	0.0199		ug/L		85	68 - 131
Perfluorohexanoic acid	0.0256	0.0208		ug/L		81	72 - 129
Perfluorononanesulfonic acid	0.0246	0.0193		ug/L		79	69 - 127
Perfluorononanoic acid	0.0256	0.0209		ug/L		82	69 - 130
Perfluorooctanesulfonamide	0.0256	0.0212		ug/L		83	67 - 137
Perfluorooctanesulfonic acid	0.0237	0.0187		ug/L		79	65 - 140

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-520641/2-A
Matrix: Water
Analysis Batch: 522493

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 520641

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanoic acid	0.0256	0.0231		ug/L		90	71 - 133
Perfluoropentanesulfonic acid	0.0240	0.0186		ug/L		77	71 - 127
Perfluoropentanoic acid	0.0256	0.0228		ug/L		89	72 - 129
Perfluorotetradecanoic acid	0.0256	0.0213		ug/L		83	71 - 132
Perfluorotridecanoic acid	0.0256	0.0222		ug/L		87	65 - 144
Perfluoroundecanoic acid	0.0256	0.0208		ug/L		81	69 - 133

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*152*	*	*50 - 150*
13C8 FOSA	*147*		*50 - 150*
13C4 PFHpA	*150*		*50 - 150*
13C5 PFPeA	*148*		*50 - 150*
13C2 PFTeDA	*146*		*50 - 150*
d3-NMeFOSAA	*151*	*	*50 - 150*
M2-6:2 FTS	*360*	*	*50 - 150*
M2-8:2 FTS	*170*	*	*50 - 150*
13C3 PFBS	*162*	*	*50 - 150*
M2-4:2 FTS	*156*	*	*50 - 150*
13C3 HFPO-DA	*153*	*	*50 - 150*
13C8 PFOA	*176*	*	*50 - 150*
13C8 PFOS	*169*	*	*50 - 150*
13C5 PFHxA	*155*	*	*50 - 150*
13C9 PFNA	*160*	*	*50 - 150*
13C6 PFDA	*157*	*	*50 - 150*
13C7 PFUnA	*163*	*	*50 - 150*
13C3 PFHxS	*159*	*	*50 - 150*
13C2-PFDoDA	*144*		*50 - 150*
d5-NEtPFOSA	*85*		*50 - 150*
d3-NMePFOSA	*86*		*50 - 150*
d5-NEtFOSAA	*154*	*	*50 - 150*

Lab Sample ID: LCSD 410-520641/3-A
Matrix: Water
Analysis Batch: 522493

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 520641

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11Cl-PF3OUdS	0.0238	0.0197		ug/L		83	58 - 127	8	30
4:2 Fluorotelomer sulfonic acid	0.0239	0.0186		ug/L		78	63 - 143	4	30
6:2 Fluorotelomer sulfonic acid	0.0243	0.0223		ug/L		92	64 - 140	2	30
8:2 Fluorotelomer sulfonic acid	0.0245	0.0195		ug/L		80	67 - 138	1	30
9Cl-PF3ONS	0.0238	0.0193		ug/L		81	61 - 130	2	30
DONA	0.0242	0.0213		ug/L		88	64 - 131	2	30
HFPODA	0.0256	0.0217		ug/L		85	54 - 129	0	30
NEtFOSAA	0.0256	0.0205		ug/L		80	61 - 135	6	30
NMeFOSAA	0.0256	0.0217		ug/L		85	65 - 136	0	30
NMeFOSA	0.0256	0.0252		ug/L		98	50 - 175	5	30
Perfluorobutanesulfonic acid	0.0227	0.0191		ug/L		84	72 - 130	0	30
Perfluorobutanoic acid	0.0256	0.0207		ug/L		81	73 - 129	1	30
Perfluorodecanesulfonic acid	0.0247	0.0179		ug/L		73	53 - 142	1	30

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCSD 410-520641/3-A
Matrix: Water
Analysis Batch: 522493

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 520641

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorodecanoic acid			0.0256	0.0226		ug/L		88	71 - 129	1	30
Perfluorododecanoic acid			0.0256	0.0230		ug/L		90	72 - 134	5	30
Perfluoroheptanesulfonic acid			0.0244	0.0202		ug/L		83	69 - 134	4	30
Perfluoroheptanoic acid			0.0256	0.0227		ug/L		89	72 - 130	2	30
Perfluorohexanesulfonic acid			0.0233	0.0196		ug/L		84	68 - 131	1	30
Perfluorohexanoic acid			0.0256	0.0212		ug/L		83	72 - 129	2	30
Perfluorononanesulfonic acid			0.0246	0.0192		ug/L		78	69 - 127	1	30
Perfluorononanoic acid			0.0256	0.0217		ug/L		85	69 - 130	4	30
Perfluorooctanesulfonamide			0.0256	0.0222		ug/L		87	67 - 137	5	30
Perfluorooctanesulfonic acid			0.0237	0.0190		ug/L		80	65 - 140	2	30
Perfluorooctanoic acid			0.0256	0.0227		ug/L		89	71 - 133	2	30
Perfluoropentanesulfonic acid			0.0240	0.0189		ug/L		79	71 - 127	2	30
Perfluoropentanoic acid			0.0256	0.0224		ug/L		87	72 - 129	2	30
Perfluorotetradecanoic acid			0.0256	0.0209		ug/L		82	71 - 132	2	30
Perfluorotridecanoic acid			0.0256	0.0224		ug/L		88	65 - 144	1	30
Perfluoroundecanoic acid			0.0256	0.0207		ug/L		81	69 - 133	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*145*		*50 - 150*
13C8 FOSA	*134*		*50 - 150*
13C4 PFHpA	*146*		*50 - 150*
13C5 PFPeA	*144*		*50 - 150*
13C2 PFTeDA	*141*		*50 - 150*
d3-NMeFOSAA	*149*		*50 - 150*
M2-6:2 FTS	*404*	*	*50 - 150*
M2-8:2 FTS	*155*	*	*50 - 150*
13C3 PFBS	*155*	*	*50 - 150*
M2-4:2 FTS	*151*	*	*50 - 150*
13C3 HFPO-DA	*147*		*50 - 150*
13C8 PFOA	*177*	*	*50 - 150*
13C8 PFOS	*159*	*	*50 - 150*
13C5 PFHxA	*146*		*50 - 150*
13C9 PFNA	*154*	*	*50 - 150*
13C6 PFDA	*150*		*50 - 150*
13C7 PFUnA	*156*	*	*50 - 150*
13C3 PFHxS	*156*	*	*50 - 150*
13C2-PFDoDA	*143*		*50 - 150*
d5-NEtPFOSA	*87*		*50 - 150*
d3-NMePFOSA	*86*		*50 - 150*
d5-NEtFOSAA	*150*		*50 - 150*

Lab Sample ID: MB 410-521304/1-A
Matrix: Water
Analysis Batch: 522817

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 521304

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
6:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/25/24 15:27	06/28/24 15:10	1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-521304/1-A
Matrix: Water
Analysis Batch: 522817

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 521304

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/25/24 15:27	06/28/24 15:10	1
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
DONA	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
HFPODA	0.00659		0.0030	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		06/25/24 15:27	06/28/24 15:10	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorobutanesulfonic acid	0.00148	I	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorohexanoic acid	0.00104	I	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*112*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C8 FOSA	*82*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C4 PFHpA	*117*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C5 PFPeA	*111*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C2 PFTeDA	*98*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
d3-NMeFOSAA	*113*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
M2-6:2 FTS	*135*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
M2-8:2 FTS	*132*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C3 PFBS	*123*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
M2-4:2 FTS	*122*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C3 HFPO-DA	*103*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C8 PFOA	*119*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C8 PFOS	*125*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C5 PFHxA	*120*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C9 PFNA	*121*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C6 PFDA	*118*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C7 PFUnA	*110*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C3 PFHxS	*124*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C2-PFDoDA	*103*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
d5-NEtPFOSA	*59*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
d3-NMePFOSA	*58*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-521304/1-A
Matrix: Water
Analysis Batch: 522817

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 521304

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	104		50 - 150	06/25/24 15:27	06/28/24 15:10	1

Lab Sample ID: LCS 410-521304/2-A
Matrix: Water
Analysis Batch: 522817

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 521304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.0238	0.0209		ug/L		88	58 - 127
4:2 Fluorotelomer sulfonic acid	0.0239	0.0204		ug/L		85	63 - 143
6:2 Fluorotelomer sulfonic acid	0.0243	0.0232		ug/L		95	64 - 140
8:2 Fluorotelomer sulfonic acid	0.0245	0.0214		ug/L		87	67 - 138
9Cl-PF3ONS	0.0238	0.0218		ug/L		92	61 - 130
DONA	0.0242	0.0226		ug/L		93	64 - 131
HFPODA	0.0256	0.0302	V	ug/L		118	54 - 129
NEtFOSAA	0.0256	0.0259		ug/L		101	61 - 135
NMeFOSAA	0.0256	0.0226		ug/L		88	65 - 136
NMeFOSA	0.0256	0.0276		ug/L		108	50 - 175
Perfluorobutanesulfonic acid	0.0227	0.0221		ug/L		98	72 - 130
Perfluorobutanoic acid	0.0256	0.0240		ug/L		94	73 - 129
Perfluorodecanesulfonic acid	0.0247	0.0203		ug/L		82	53 - 142
Perfluorodecanoic acid	0.0256	0.0259		ug/L		101	71 - 129
Perfluorododecanoic acid	0.0256	0.0257		ug/L		101	72 - 134
Perfluoroheptanesulfonic acid	0.0244	0.0216		ug/L		89	69 - 134
Perfluoroheptanoic acid	0.0256	0.0246		ug/L		96	72 - 130
Perfluorohexanesulfonic acid	0.0233	0.0214		ug/L		92	68 - 131
Perfluorohexanoic acid	0.0256	0.0242		ug/L		94	72 - 129
Perfluorononanesulfonic acid	0.0246	0.0221		ug/L		90	69 - 127
Perfluorononanoic acid	0.0256	0.0233		ug/L		91	69 - 130
Perfluorooctanesulfonamide	0.0256	0.0247		ug/L		96	67 - 137
Perfluorooctanesulfonic acid	0.0237	0.0217		ug/L		91	65 - 140
Perfluorooctanoic acid	0.0256	0.0242		ug/L		95	71 - 133
Perfluoropentanesulfonic acid	0.0240	0.0201		ug/L		84	71 - 127
Perfluoropentanoic acid	0.0256	0.0257		ug/L		100	72 - 129
Perfluorotetradecanoic acid	0.0256	0.0235		ug/L		92	71 - 132
Perfluorotridecanoic acid	0.0256	0.0268		ug/L		105	65 - 144
Perfluoroundecanoic acid	0.0256	0.0242		ug/L		94	69 - 133

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	121		50 - 150
13C8 FOSA	97		50 - 150
13C4 PFHpA	131		50 - 150
13C5 PFPeA	121		50 - 150
13C2 PFTeDA	121		50 - 150
d3-NMeFOSAA	131		50 - 150
M2-6:2 FTS	150		50 - 150
M2-8:2 FTS	138		50 - 150
13C3 PFBS	137		50 - 150
M2-4:2 FTS	135		50 - 150
13C3 HFPO-DA	122		50 - 150

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-521304/2-A
Matrix: Water
Analysis Batch: 522817

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 521304

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C8 PFOA	131		50 - 150
13C8 PFOS	135		50 - 150
13C5 PFHxA	129		50 - 150
13C9 PFNA	130		50 - 150
13C6 PFDA	126		50 - 150
13C7 PFUnA	131		50 - 150
13C3 PFHxS	140		50 - 150
13C2-PFDoDA	118		50 - 150
d5-NEtPFOSA	65		50 - 150
d3-NMePFOSA	65		50 - 150
d5-NEtFOSAA	124		50 - 150

Lab Sample ID: 410-176376-A-9-C MS
Matrix: Water
Analysis Batch: 522493

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 521304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.00044	U	0.0211	0.0196		ug/L		93	58 - 127
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0212	0.0205		ug/L		97	63 - 143
6:2 Fluorotelomer sulfonic acid	0.00088	U	0.0215	0.0230		ug/L		107	64 - 140
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0217	0.0202		ug/L		93	67 - 138
9Cl-PF3ONS	0.00044	U	0.0211	0.0210		ug/L		100	61 - 130
DONA	0.00044	U	0.0214	0.0217		ug/L		102	64 - 131
HFPODA	0.0042	V	0.0226	0.0292	V	ug/L		110	54 - 129
NEtFOSAA	0.00044	U	0.0226	0.0243		ug/L		107	61 - 135
NMeFOSAA	0.00053	U	0.0226	0.0242		ug/L		107	65 - 136
NMeFOSA	0.00088	U	0.0226	0.0240		ug/L		106	50 - 175
Perfluorobutanesulfonic acid	0.0011	I V	0.0200	0.0219		ug/L		104	72 - 130
Perfluorobutanoic acid	0.0018	U	0.0226	0.0230		ug/L		102	73 - 129
Perfluorodecanesulfonic acid	0.00044	U J3	0.0218	0.0177		ug/L		81	53 - 142
Perfluorodecanoic acid	0.00044	U	0.0226	0.0248		ug/L		109	71 - 129
Perfluorododecanoic acid	0.00044	U	0.0226	0.0235		ug/L		104	72 - 134
Perfluoroheptanesulfonic acid	0.00044	U	0.0216	0.0206		ug/L		96	69 - 134
Perfluoroheptanoic acid	0.00044	U	0.0226	0.0240		ug/L		106	72 - 130
Perfluorohexanesulfonic acid	0.00044	U	0.0207	0.0210		ug/L		102	68 - 131
Perfluorohexanoic acid	0.00054	I V	0.0226	0.0253		ug/L		109	72 - 129
Perfluorononanesulfonic acid	0.00044	U	0.0217	0.0214		ug/L		98	69 - 127
Perfluorononanoic acid	0.00044	U	0.0226	0.0233		ug/L		103	69 - 130
Perfluorooctanesulfonamide	0.00082	I	0.0226	0.0277		ug/L		119	67 - 137
Perfluorooctanesulfonic acid	0.00088	U	0.0210	0.0217		ug/L		104	65 - 140
Perfluorooctanoic acid	0.00044	U	0.0226	0.0260		ug/L		115	71 - 133
Perfluoropentanesulfonic acid	0.00044	U	0.0212	0.0197		ug/L		93	71 - 127
Perfluoropentanoic acid	0.00044	U	0.0226	0.0246		ug/L		109	72 - 129
Perfluorotetradecanoic acid	0.00044	U	0.0226	0.0234		ug/L		103	71 - 132
Perfluorotridecanoic acid	0.00044	U J3	0.0226	0.0332	J3	ug/L		147	65 - 144
Perfluoroundecanoic acid	0.00044	U	0.0226	0.0234		ug/L		103	69 - 133

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C4 PFBA	107		50 - 150

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: 410-176376-A-9-C MS
Matrix: Water
Analysis Batch: 522493

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 521304

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C8 FOSA	96		50 - 150
13C4 PFHpA	126		50 - 150
13C5 PFPeA	110		50 - 150
13C2 PFTeDA	107		50 - 150
d3-NMeFOSAA	110		50 - 150
M2-6:2 FTS	315	*	50 - 150
M2-8:2 FTS	160	*	50 - 150
13C3 PFBS	120		50 - 150
M2-4:2 FTS	224	*	50 - 150
13C3 HFPO-DA	109		50 - 150
13C8 PFOA	127		50 - 150
13C8 PFOS	115		50 - 150
13C5 PFHxA	118		50 - 150
13C9 PFNA	123		50 - 150
13C6 PFDA	121		50 - 150
13C7 PFUnA	116		50 - 150
13C3 PFHxS	116		50 - 150
13C2-PFDoDA	75		50 - 150
d5-NEtPFOSA	67		50 - 150
d3-NMePFOSA	74		50 - 150
d5-NEtFOSAA	114		50 - 150

Lab Sample ID: 410-176376-A-9-D MSD
Matrix: Water
Analysis Batch: 522493

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 521304

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11Cl-PF3OUdS	0.00044	U	0.0224	0.0171		ug/L		76	58 - 127	14	30
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0225	0.0186		ug/L		83	63 - 143	9	30
6:2 Fluorotelomer sulfonic acid	0.00088	U	0.0229	0.0222		ug/L		97	64 - 140	4	30
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0231	0.0189		ug/L		82	67 - 138	7	30
9Cl-PF3ONS	0.00044	U	0.0224	0.0191		ug/L		85	61 - 130	9	30
DONA	0.00044	U	0.0228	0.0220		ug/L		96	64 - 131	1	30
HFPODA	0.0042	V	0.0241	0.0281	V	ug/L		99	54 - 129	4	30
NEtFOSAA	0.00044	U	0.0241	0.0232		ug/L		96	61 - 135	5	30
NMeFOSAA	0.00053	U	0.0241	0.0223		ug/L		92	65 - 136	8	30
NMeFOSA	0.00088	U	0.0241	0.0241		ug/L		100	50 - 175	0	30
Perfluorobutanesulfonic acid	0.0011	I V	0.0214	0.0214		ug/L		95	72 - 130	2	30
Perfluorobutanoic acid	0.0018	U	0.0241	0.0226		ug/L		93	73 - 129	2	30
Perfluorodecanesulfonic acid	0.00044	U J3	0.0233	0.0130	J3	ug/L		56	53 - 142	31	30
Perfluorodecanoic acid	0.00044	U	0.0241	0.0234		ug/L		97	71 - 129	6	30
Perfluorododecanoic acid	0.00044	U	0.0241	0.0217		ug/L		90	72 - 134	8	30
Perfluoroheptanesulfonic acid	0.00044	U	0.0230	0.0187		ug/L		82	69 - 134	10	30
Perfluoroheptanoic acid	0.00044	U	0.0241	0.0228		ug/L		95	72 - 130	5	30
Perfluorohexanesulfonic acid	0.00044	U	0.0220	0.0211		ug/L		96	68 - 131	0	30
Perfluorohexanoic acid	0.00054	I V	0.0241	0.0267		ug/L		108	72 - 129	5	30
Perfluorononanesulfonic acid	0.00044	U	0.0232	0.0205		ug/L		88	69 - 127	4	30
Perfluorononanoic acid	0.00044	U	0.0241	0.0218		ug/L		90	69 - 130	7	30
Perfluorooctanesulfonamide	0.00082	I	0.0241	0.0243		ug/L		97	67 - 137	13	30

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: 410-176376-A-9-D MSD
Matrix: Water
Analysis Batch: 522493

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 521304

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid	0.00088	U	0.0223	0.0217		ug/L		97	65 - 140	0	30
Perfluorooctanoic acid	0.00044	U	0.0241	0.0248		ug/L		103	71 - 133	5	30
Perfluoropentanesulfonic acid	0.00044	U	0.0226	0.0178		ug/L		79	71 - 127	10	30
Perfluoropentanoic acid	0.00044	U	0.0241	0.0229		ug/L		95	72 - 129	7	30
Perfluorotetradecanoic acid	0.00044	U	0.0241	0.0220		ug/L		91	71 - 132	6	30
Perfluorotridecanoic acid	0.00044	U J3	0.0241	0.0372	J3	ug/L		154	65 - 144	11	30
Perfluoroundecanoic acid	0.00044	U	0.0241	0.0222		ug/L		92	69 - 133	5	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*120*		*50 - 150*
13C8 FOSA	*114*		*50 - 150*
13C4 PFHpA	*152*	*	*50 - 150*
13C5 PFPeA	*132*		*50 - 150*
13C2 PFTeDA	*135*		*50 - 150*
d3-NMeFOSAA	*152*	*	*50 - 150*
M2-6:2 FTS	*348*	*	*50 - 150*
M2-8:2 FTS	*243*	*	*50 - 150*
13C3 PFBS	*140*		*50 - 150*
M2-4:2 FTS	*446*	*	*50 - 150*
13C3 HFPO-DA	*136*		*50 - 150*
13C8 PFOA	*142*		*50 - 150*
13C8 PFOS	*138*		*50 - 150*
13C5 PFHxA	*137*		*50 - 150*
13C9 PFNA	*164*	*	*50 - 150*
13C6 PFDA	*158*	*	*50 - 150*
13C7 PFUnA	*112*		*50 - 150*
13C3 PFHxS	*134*		*50 - 150*
13C2-PFDoDA	*60*		*50 - 150*
d5-NEtPFOSA	*65*		*50 - 150*
d3-NMePFOSA	*66*		*50 - 150*
d5-NEtFOSAA	*105*		*50 - 150*

Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 670-96850/12-A
Matrix: Water
Analysis Batch: 97072

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 96850

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	40	U	100	40	ug/L		06/20/24 10:02	06/20/24 18:11	1

Lab Sample ID: LCS 670-96850/11-A
Matrix: Water
Analysis Batch: 97072

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 96850

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Phosphorus as P	1500	1470		ug/L		98	90 - 110

GC/MS VOA

Analysis Batch: 95812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41652-1	GSRY-IDW01-20240613	Total/NA	Water	8260D	
670-41652-2	GSRY-IDW02-20240613	Total/NA	Water	8260D	
670-41652-3	GSRY-IDW03-20240613	Total/NA	Water	8260D	
670-41652-4	GSRY-IDW04-20240613	Total/NA	Water	8260D	
670-41652-4 - DL	GSRY-IDW04-20240613	Total/NA	Water	8260D	
670-41652-5	GSRY-IDW05-20240613	Total/NA	Water	8260D	
670-41652-6	GSRY-IDW06-20240613	Total/NA	Water	8260D	
MB 670-95812/7	Method Blank	Total/NA	Water	8260D	
LCS 670-95812/4	Lab Control Sample	Total/NA	Water	8260D	
670-41644-E-3 MS	Matrix Spike	Total/NA	Water	8260D	
670-41644-C-2 DU	Duplicate	Total/NA	Water	8260D	

GC Semi VOA

Prep Batch: 95676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41652-1	GSRY-IDW01-20240613	Total/NA	Water	3511	
670-41652-2	GSRY-IDW02-20240613	Total/NA	Water	3511	
670-41652-3	GSRY-IDW03-20240613	Total/NA	Water	3511	
670-41652-4	GSRY-IDW04-20240613	Total/NA	Water	3511	
670-41652-5	GSRY-IDW05-20240613	Total/NA	Water	3511	
670-41652-6	GSRY-IDW06-20240613	Total/NA	Water	3511	
MB 670-95676/1-A	Method Blank	Total/NA	Water	3511	
LCS 670-95676/2-A	Lab Control Sample	Total/NA	Water	3511	
LCSD 670-95676/3-A	Lab Control Sample Dup	Total/NA	Water	3511	

Analysis Batch: 95857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41652-1	GSRY-IDW01-20240613	Total/NA	Water	8082A	95676
670-41652-2	GSRY-IDW02-20240613	Total/NA	Water	8082A	95676
670-41652-3	GSRY-IDW03-20240613	Total/NA	Water	8082A	95676
670-41652-4	GSRY-IDW04-20240613	Total/NA	Water	8082A	95676
670-41652-5	GSRY-IDW05-20240613	Total/NA	Water	8082A	95676
670-41652-6	GSRY-IDW06-20240613	Total/NA	Water	8082A	95676
MB 670-95676/1-A	Method Blank	Total/NA	Water	8082A	95676
LCS 670-95676/2-A	Lab Control Sample	Total/NA	Water	8082A	95676
LCSD 670-95676/3-A	Lab Control Sample Dup	Total/NA	Water	8082A	95676

HPLC/IC

Analysis Batch: 95573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41652-1	GSRY-IDW01-20240613	Total/NA	Water	300.0	
670-41652-2	GSRY-IDW02-20240613	Total/NA	Water	300.0	
670-41652-3	GSRY-IDW03-20240613	Total/NA	Water	300.0	
670-41652-4	GSRY-IDW04-20240613	Total/NA	Water	300.0	
670-41652-5	GSRY-IDW05-20240613	Total/NA	Water	300.0	
670-41652-6	GSRY-IDW06-20240613	Total/NA	Water	300.0	
MB 670-95573/37	Method Blank	Total/NA	Water	300.0	
MB 670-95573/6	Method Blank	Total/NA	Water	300.0	
LCS 670-95573/35	Lab Control Sample	Total/NA	Water	300.0	
LCSD 670-95573/36	Lab Control Sample Dup	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 95573 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41643-J-1 MS	Matrix Spike	Total/NA	Water	300.0	
670-41643-J-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

LCMS

Prep Batch: 520641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41652-1	GSRY-IDW01-20240613	Total/NA	Water	537 IDA	
670-41652-2	GSRY-IDW02-20240613	Total/NA	Water	537 IDA	
670-41652-3	GSRY-IDW03-20240613	Total/NA	Water	537 IDA	
670-41652-4	GSRY-IDW04-20240613	Total/NA	Water	537 IDA	
MB 410-520641/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-520641/2-A	Lab Control Sample	Total/NA	Water	537 IDA	
LCSD 410-520641/3-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	

Prep Batch: 521304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41652-5	GSRY-IDW05-20240613	Total/NA	Water	537 IDA	
670-41652-6	GSRY-IDW06-20240613	Total/NA	Water	537 IDA	
MB 410-521304/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-521304/2-A	Lab Control Sample	Total/NA	Water	537 IDA	
410-176376-A-9-C MS	Matrix Spike	Total/NA	Water	537 IDA	
410-176376-A-9-D MSD	Matrix Spike Duplicate	Total/NA	Water	537 IDA	

Analysis Batch: 522493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41652-1	GSRY-IDW01-20240613	Total/NA	Water	QSM B15	520641
670-41652-2	GSRY-IDW02-20240613	Total/NA	Water	QSM B15	520641
670-41652-3	GSRY-IDW03-20240613	Total/NA	Water	QSM B15	520641
670-41652-4	GSRY-IDW04-20240613	Total/NA	Water	QSM B15	520641
670-41652-5	GSRY-IDW05-20240613	Total/NA	Water	QSM B15	521304
670-41652-6	GSRY-IDW06-20240613	Total/NA	Water	QSM B15	521304
MB 410-520641/1-A	Method Blank	Total/NA	Water	QSM B15	520641
LCS 410-520641/2-A	Lab Control Sample	Total/NA	Water	QSM B15	520641
LCSD 410-520641/3-A	Lab Control Sample Dup	Total/NA	Water	QSM B15	520641
410-176376-A-9-C MS	Matrix Spike	Total/NA	Water	QSM B15	521304
410-176376-A-9-D MSD	Matrix Spike Duplicate	Total/NA	Water	QSM B15	521304

Analysis Batch: 522817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-521304/1-A	Method Blank	Total/NA	Water	QSM B15	521304
LCS 410-521304/2-A	Lab Control Sample	Total/NA	Water	QSM B15	521304

Prep Batch: 524256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41652-1 - RE	GSRY-IDW01-20240613	Total/NA	Water	537 IDA	
670-41652-2 - RE	GSRY-IDW02-20240613	Total/NA	Water	537 IDA	
670-41652-3 - RE	GSRY-IDW03-20240613	Total/NA	Water	537 IDA	
670-41652-4 - RE	GSRY-IDW04-20240613	Total/NA	Water	537 IDA	
670-41652-5 - RE	GSRY-IDW05-20240613	Total/NA	Water	537 IDA	
670-41652-6 - RE	GSRY-IDW06-20240613	Total/NA	Water	537 IDA	

LCMS (Continued)

Prep Batch: 524256 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-524256/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-524256/2-A	Lab Control Sample	Total/NA	Water	537 IDA	
LCSD 410-524256/3-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	

Analysis Batch: 528674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41652-1 - RE	GSRY-IDW01-20240613	Total/NA	Water	QSM B15	524256
670-41652-2 - RE	GSRY-IDW02-20240613	Total/NA	Water	QSM B15	524256
670-41652-3 - RE	GSRY-IDW03-20240613	Total/NA	Water	QSM B15	524256
670-41652-4 - RE	GSRY-IDW04-20240613	Total/NA	Water	QSM B15	524256
670-41652-5 - RE	GSRY-IDW05-20240613	Total/NA	Water	QSM B15	524256
670-41652-6 - RE	GSRY-IDW06-20240613	Total/NA	Water	QSM B15	524256
MB 410-524256/1-A	Method Blank	Total/NA	Water	QSM B15	524256
LCS 410-524256/2-A	Lab Control Sample	Total/NA	Water	QSM B15	524256
LCSD 410-524256/3-A	Lab Control Sample Dup	Total/NA	Water	QSM B15	524256

General Chemistry

Prep Batch: 96850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41652-1	GSRY-IDW01-20240613	Total/NA	Water	365.2/365.3/365	
670-41652-2	GSRY-IDW02-20240613	Total/NA	Water	365.2/365.3/365	
670-41652-3	GSRY-IDW03-20240613	Total/NA	Water	365.2/365.3/365	
670-41652-4	GSRY-IDW04-20240613	Total/NA	Water	365.2/365.3/365	
670-41652-5	GSRY-IDW05-20240613	Total/NA	Water	365.2/365.3/365	
670-41652-6	GSRY-IDW06-20240613	Total/NA	Water	365.2/365.3/365	
MB 670-96850/12-A	Method Blank	Total/NA	Water	365.2/365.3/365	
LCS 670-96850/11-A	Lab Control Sample	Total/NA	Water	365.2/365.3/365	

Analysis Batch: 97072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41652-1	GSRY-IDW01-20240613	Total/NA	Water	365.4	96850
670-41652-2	GSRY-IDW02-20240613	Total/NA	Water	365.4	96850
670-41652-3	GSRY-IDW03-20240613	Total/NA	Water	365.4	96850
670-41652-4	GSRY-IDW04-20240613	Total/NA	Water	365.4	96850
670-41652-5	GSRY-IDW05-20240613	Total/NA	Water	365.4	96850
670-41652-6	GSRY-IDW06-20240613	Total/NA	Water	365.4	96850
MB 670-96850/12-A	Method Blank	Total/NA	Water	365.4	96850
LCS 670-96850/11-A	Lab Control Sample	Total/NA	Water	365.4	96850

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-41652-1

Client Sample ID: GSRY-IDW01-20240613

Lab Sample ID: 670-41652-1

Date Collected: 06/13/24 10:50
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	95812	P1K	EET ORL	06/14/24 18:24
Total/NA	Prep	3511			95676	MA	EET ORL	06/13/24 16:03
Total/NA	Analysis	8082A		1	95857	FC	EET ORL	06/14/24 15:23
Total/NA	Analysis	300.0		1	95573	JA	EET ORL	06/13/24 20:36
Total/NA	Prep	537 IDA			520641	D5VP	ELLE	06/24/24 11:34
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 12:00
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 00:08
Total/NA	Prep	365.2/365.3/365			96850	DGS	EET ORL	06/20/24 10:02
Total/NA	Analysis	365.4		1	97072	LD	EET ORL	06/20/24 18:23

Client Sample ID: GSRY-IDW02-20240613

Lab Sample ID: 670-41652-2

Date Collected: 06/13/24 10:55
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	95812	P1K	EET ORL	06/14/24 18:42
Total/NA	Prep	3511			95676	MA	EET ORL	06/13/24 16:03
Total/NA	Analysis	8082A		1	95857	FC	EET ORL	06/14/24 15:40
Total/NA	Analysis	300.0		1	95573	JA	EET ORL	06/13/24 20:53
Total/NA	Prep	537 IDA			520641	D5VP	ELLE	06/24/24 11:34
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 12:13
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 00:22
Total/NA	Prep	365.2/365.3/365			96850	DGS	EET ORL	06/20/24 10:02
Total/NA	Analysis	365.4		1	97072	LD	EET ORL	06/20/24 18:24

Client Sample ID: GSRY-IDW03-20240613

Lab Sample ID: 670-41652-3

Date Collected: 06/13/24 11:40
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	95812	P1K	EET ORL	06/14/24 19:00
Total/NA	Prep	3511			95676	MA	EET ORL	06/13/24 16:03
Total/NA	Analysis	8082A		1	95857	FC	EET ORL	06/14/24 15:57
Total/NA	Analysis	300.0		1	95573	JA	EET ORL	06/13/24 21:10
Total/NA	Prep	537 IDA			520641	D5VP	ELLE	06/24/24 11:34
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 12:27
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 00:35
Total/NA	Prep	365.2/365.3/365			96850	DGS	EET ORL	06/20/24 10:02
Total/NA	Analysis	365.4		1	97072	LD	EET ORL	06/20/24 18:25

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-41652-1

Client Sample ID: GSRY-IDW04-20240613

Lab Sample ID: 670-41652-4

Date Collected: 06/13/24 11:45
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	95812	P1K	EET ORL	06/14/24 19:55
Total/NA	Analysis	8260D	DL	2	95812	P1K	EET ORL	06/14/24 20:16
Total/NA	Prep	3511			95676	MA	EET ORL	06/13/24 16:03
Total/NA	Analysis	8082A		1	95857	FC	EET ORL	06/14/24 16:13
Total/NA	Analysis	300.0		1	95573	JA	EET ORL	06/13/24 21:27
Total/NA	Prep	537 IDA			520641	D5VP	ELLE	06/24/24 11:34
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 12:40
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 00:49
Total/NA	Prep	365.2/365.3/365			96850	DGS	EET ORL	06/20/24 10:02
Total/NA	Analysis	365.4		1	97072	LD	EET ORL	06/20/24 18:29

Client Sample ID: GSRY-IDW05-20240613

Lab Sample ID: 670-41652-5

Date Collected: 06/13/24 11:50
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	95812	P1K	EET ORL	06/14/24 19:19
Total/NA	Prep	3511			95676	MA	EET ORL	06/13/24 16:03
Total/NA	Analysis	8082A		1	95857	FC	EET ORL	06/14/24 16:30
Total/NA	Analysis	300.0		1	95573	JA	EET ORL	06/13/24 21:44
Total/NA	Prep	537 IDA			521304	D8NM	ELLE	06/25/24 15:27
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 04:31
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 01:02
Total/NA	Prep	365.2/365.3/365			96850	DGS	EET ORL	06/20/24 10:02
Total/NA	Analysis	365.4		1	97072	LD	EET ORL	06/20/24 18:30

Client Sample ID: GSRY-IDW06-20240613

Lab Sample ID: 670-41652-6

Date Collected: 06/13/24 11:55
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	95812	P1K	EET ORL	06/14/24 19:37
Total/NA	Prep	3511			95676	MA	EET ORL	06/13/24 16:03
Total/NA	Analysis	8082A		1	95857	FC	EET ORL	06/14/24 16:47
Total/NA	Analysis	300.0		1	95573	JA	EET ORL	06/13/24 22:01
Total/NA	Prep	537 IDA			521304	D8NM	ELLE	06/25/24 15:27
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 04:45
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 01:16
Total/NA	Prep	365.2/365.3/365			96850	DGS	EET ORL	06/20/24 10:02
Total/NA	Analysis	365.4		1	97072	LD	EET ORL	06/20/24 18:31

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-41652-1

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 670-41652-1
Project/Site: NASA KSC GSRY IDW

Laboratory: Eurofins Orlando

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E83018	06-30-24

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
8082A	3511	Water	Polychlorinated biphenyls, Total

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-24
A2LA	ISO/IEC 17025	0001.01	11-30-24
Alabama	State	43200	01-31-25
Alaska	State	PA00009	06-30-25
Alaska (UST)	State	17-027	02-28-25
Arizona	State	AZ0780	03-12-25
Arkansas DEQ	State	88-00660	08-09-24
California	State	2792	11-30-24
Colorado	State	PA00009	06-30-25
Connecticut	State	PH-0746	06-30-25
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-25
Delaware (DW)	State	N/A	01-31-25
Florida	NELAP	E87997	06-30-25
Georgia (DW)	State	C048	01-31-25
Hawaii	State	N/A	01-31-25
Illinois	NELAP	200027	01-31-25
Iowa	State	361	03-01-26
Kansas	NELAP	E-10151	10-31-24
Kentucky (DW)	State	KY90088	12-31-24
Kentucky (UST)	State	0001.01	11-30-24
Kentucky (WW)	State	KY90088	12-31-24
Louisiana (All)	NELAP	02055	06-30-25
Maine	State	2019012	03-12-25
Maryland	State	100	06-30-25
Massachusetts	State	M-PA009	06-30-25
Michigan	State	9930	01-31-25
Minnesota	NELAP	042-999-487	12-31-24
Mississippi	State	023	01-31-25
Missouri	State	450	01-31-25
Montana (DW)	State	0098	01-01-25
Nebraska	State	NE-OS-32-17	01-31-25
New Hampshire	NELAP	2730	01-10-25
New Jersey	NELAP	PA011	06-30-25
New York	NELAP	10670	04-01-25
North Carolina (DW)	State	42705	07-31-25
North Carolina (WW/SW)	State	521	12-31-24
North Dakota	State	R-205	01-31-24 *
Oklahoma	NELAP	9804	08-31-24
Oregon	NELAP	PA200001	09-11-24
Pennsylvania	NELAP	36-00037	01-31-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 670-41652-1
Project/Site: NASA KSC GSRY IDW

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Quebec Ministry of Environment and Fight against Climate Change	PALA	507	09-16-24
Rhode Island	State	LAO00338	12-30-24
South Carolina	State	89002	01-31-25
Tennessee	State	02838	01-31-25
Texas	NELAP	T104704194-23-46	08-31-24
USDA	US Federal Programs	525-22-298-19481	10-25-25
Vermont	State	VT - 36037	10-28-24
Virginia	NELAP	460182	06-14-25
Washington	State	C457	04-11-24 *
West Virginia (DW)	State	9906 C	01-31-25
West Virginia DEP	State	055	07-31-24
Wyoming	State	8TMS-L	01-31-25
Wyoming (UST)	A2LA	0001.01	11-30-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-41652-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET ORL
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	EET ORL
300.0	Anions, Ion Chromatography	EPA	EET ORL
QSM B15	PFAS for QSM 5.4, Table B-15	DOD 5.4	ELLE
365.4	Phosphorus, Total	EPA	EET ORL
3511	Microextraction of Organic Compounds	SW846	EET ORL
365.2/365.3/365	Phosphorus, Total	EPA	EET ORL
5030C	Purge and Trap	SW846	EET ORL
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE

Protocol References:

DOD 5.4 = Department of Defense Quality Systems Manual V5.4

EPA = US Environmental Protection Agency

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

Laboratory References:

EET ORL = Eurofins Orlando, 481 Newburyport Avenue, Altamonte Springs, FL 32701, TEL (407)339-5984

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY IDW

Job ID: 670-41652-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-41652-1	GSRY-IDW01-20240613	Water	06/13/24 10:50	06/13/24 14:09
670-41652-2	GSRY-IDW02-20240613	Water	06/13/24 10:55	06/13/24 14:09
670-41652-3	GSRY-IDW03-20240613	Water	06/13/24 11:40	06/13/24 14:09
670-41652-4	GSRY-IDW04-20240613	Water	06/13/24 11:45	06/13/24 14:09
670-41652-5	GSRY-IDW05-20240613	Water	06/13/24 11:50	06/13/24 14:09
670-41652-6	GSRY-IDW06-20240613	Water	06/13/24 11:55	06/13/24 14:09

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

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Project Name: NASA KSC - GSA Reclamation Yard			COC No.	Page: 1 of 1	
Site Location: GSRY - IDW			PO No. 148674	Project No. 60614327.4	Phase:
TO No.: 80KSC019F0078	AECOM Project Manager: **Chad Lee**		Send Invoice To: Instructions in MSA# 21S-27172-GV03	EDD to: Jennifer Chastain	Cc: Teresa Amentt Jennings
Sampler/Phone #	Patrick Bendl / 724-591-6324		Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain	Cc: Teresa Amentt Jennings
Lab Name: Eurofins	Turnaround Time(specify): Standard 14 day		Deliver Samples To: Eurofins Orlando	Site-Spicific WS#15 from QAPP: 15-2 and 15-17A	

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Not Preserved)	4 DEG PCBs by SW8082A	4 DEG Select PFAS by 537	4 DEG Nitrate by 300.0	4 DEG Total Phosphorus by 345.6	HCl Select VOCs by SW8260B Pres.	
	GSRY-IDW01-20240613	GSRY-IDW01	20240613	1050	IDW	IDW	G	10 PB	2	2	2	1	1	2	
	GSRY-IDW02-20240613	GSRY-IDW02	20240613	1055	IDW	IDW	G	10 PB	2	2	2	1	1	2	
	GSRY-IDW03-20240613	GSRY-IDW03	20240613	1140 FB	IDW	IDW	G	10 PB	2	2	2	1	1	2	
	GSRY-IDW04-20240613	GSRY-IDW04	20240613	1145 FB	IDW	IDW	G	10 PB	2	2	2	1	1	2	
	GSRY-IDW05-20240613	GSRY-IDW05	20240613	1150 FB	IDW	IDW	G	10 PB	2	2	2	1	1	2	
	GSRY-IDW06-20240613	GSRY-IDW06	20240613	1155 FB	IDW	IDW	G	10 PB	2	2	2	1	1	2	
	~~GSRY-IDW07-~~	~~GSRY-IDW07~~	~~202406~~		IDW	IDW	G	9	3	2	2	1	1		
	~~GSRY-IDW08-~~	~~GSRY-IDW08~~	~~202406~~		IDW	IDW	G	9	3	2	2	1	1		
	~~GSRY-IDW09-~~	~~GSRY-IDW09~~	~~202406~~		IDW	IDW	G	9	3	2	2	1	1		
	~~GSRY-IDW10-~~	~~GSRY-IDW10~~	~~202406~~		IDW	IDW	G	9	3	2	2	1	1		
	~~GSRY-IDW11-~~	~~GSRY-IDW11~~	~~202406~~		IDW	IDW	G	9	3	2	2	1	1		
	~~GSRY-IDW12-~~	~~GSRY-IDW12~~	~~202406~~		IDW	IDW	G	9	3	2	2	1	1		

670-41652-01 Chain of Custody

***Field* Comments:**
Report only per QAPP WS #15-17A

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		6/13/24	1230		06/13/24	1232
2						
3	M. Lawson	6/13/24	1709		6/13/24	1709

Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

0.6/0.6 0.2/0.2 SAG
0.8/0.8

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-30848.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-41652-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 6/27/2024			Preservation Codes: -
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY IDW	Project #: 67000867			
Site: NASA KSC GSRY IDW	SSOW#:			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)	PFC_IDA_D5.3/5535_PFC (MOD) NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-IDW01- (670-41652-1)	6/13/24	10:50 Eastern		Water			X	2	
GSRY-IDW02- (670-41652-2)	6/13/24	10:55 Eastern		Water			X	2	
GSRY-IDW03- (670-41652-3)	6/13/24	11:40 Eastern		Water			X	2	
GSRY-IDW04- (670-41652-4)	6/13/24	11:45 Eastern		Water			X	2	
GSRY-IDW05- (670-41652-5)	6/13/24	11:50 Eastern		Water			X	2	
GSRY-IDW06- (670-41652-6)	6/13/24	11:55 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, 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 Southeast, 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
1		6.13.24 1700				
2						
3					6/14/24 0930	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: Raw 0.9 - COR 0.9

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-41652-1

Login Number: 41652
List Number: 1
Creator: Bittle, David W

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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	
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.	N/A	

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-41652-1

Login Number: 41652
List Number: 2
Creator: Ballard, Megan

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC
List Creation: 06/14/24 05:34 PM

Question	Answer	Comment
The cooler's custody seal is 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 acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	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	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Teresa Amentt Jennings
AECOM Technical Services Inc.
150 North Orange Avenue
Suite 200
Orlando, Florida 32801

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JOB DESCRIPTION

NASA KSC GSRY PFAS MW

JOB NUMBER

670-41653-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

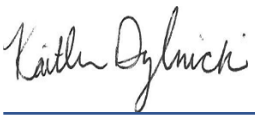
See page two for job notes and contact information.

Job Notes

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

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

Authorization



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Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Detection Summary 8
Client Sample Results 14
Isotope Dilution Summary 40
QC Sample Results 44
QC Association Summary 57
Lab Chronicle 61
Certification Summary 66
Method Summary 68
Sample Summary 69
Chain of Custody 70
Receipt Checklists 75

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 670-41653-1
Project/Site: NASA KSC GSRY PFAS MW

Qualifiers

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J	Estimated value; value may not be accurate.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.

Glossary

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

Job ID: 670-41653-1 Eurofins Orlando

Job Narrative
670-41653-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 6/13/2024 2:09 PM. 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 0.6°C and 0.8°C.

PFAS
Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS, 13C8 PFOA and 13C8 PFOS in the method blank associated with the following samples: GSRY-MW0077-015.0-20240611 (670-41653-16), GSRY-FB-20240611-01 (670-41653-19) and GSRY-EB-20240611-01 (670-41653-20) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) in the re-extracted method blank/laboratory control spike sample(s) is outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C4 PFBA, 13C3 PFBS, 13C6 PFDA and 13C3 PFHxS in the method blank associated with the following samples: GSRY-MW0077-015.0-20240611 (670-41653-16), GSRY-FB-20240611-01 (670-41653-19) and GSRY-EB-20240611-01 (670-41653-20) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) in the re-extracted method blank/laboratory control spike sample(s) is within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C2 PFTeDA in the method blank associated with the following samples: GSRY-MW0078-012.0-20240610 (670-41653-17) and GSRY-FD-20240610-01 (670-41653-18) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) in the re-extracted method blank is within the QC acceptance limits.

Method PFC_IDA_D5.3: Target analyte(s) HFPODA were detected in the method blank associated with the following samples: GSRY-MW0078-012.0-20240610 (670-41653-17) and GSRY-FD-20240610-01 (670-41653-18). The following action was taken: This sample(s) was re-extracted outside the required holding time and target analyte(s) were not detected in the re-extracted method blank.

Method PFC_IDA_D5.3: Target analyte(s) HFPODA, Perfluorobutanesulfonic acid and Perfluorohexanoic acid were detected in the method blank associated with the following samples: GSRY-FD-20240613-02 (670-41653-21) and GSRY-EB-20240613-02 (670-41653-22). The following action was taken: This sample(s) was re-extracted outside the required holding time and target analyte(s) were not detected in the re-extracted method blank.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) d3-NMeFOSAA, 13C8 PFOA, 13C8 PFOS and 13C6 PFDA in the laboratory control spike samples associated with the following samples: GSRY-MW0077-015.0-20240611 (670-41653-16), GSRY-FB-20240611-01 (670-41653-19) and GSRY-EB-20240611-01 (670-41653-20) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) in the re-extracted laboratory control spike sample(s) is within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS in the laboratory control spike samples associated with the following samples: GSRY-MW0077-015.0-20240611 (670-41653-16), GSRY-FB-20240611-01 (670-41653-19) and GSRY-EB-20240611-01 (670-41653-20) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) in the re-extracted laboratory control spike sample(s) is outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 PFOA in the following sample: GSRY-

Job ID: 670-41653-1 (Continued) Eurofins Orlando

MW0077-015.0-20240611 (670-41653-16) and GSRY-EB-20240611-01 (670-41653-20) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) d3-NMeFOSAA, 13C3 PFBS and 13C8 PFOA in the following sample: GSRY-FB-20240611-01 (670-41653-19) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C2 PFTeDA, d3-NMeFOSAA, 13C6 PFDA, 13C7 PFUnA, 13C2-PFDoDA, d3-NMePFOSA and d5-NEtFOSAA in the following sample: GSRY-MW0078-012.0-20240610 (670-41653-17) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C2 PFTeDA, d3-NMeFOSAA, 13C7 PFUnA, 13C2-PFDoDA, d3-NMePFOSA and d5-NEtFOSAA in the following sample: GSRY-FD-20240610-01 (670-41653-18) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) d3-NMeFOSAA, M2-6:2 FTS, 13C8 PFOA, 13C8 PFOS and 13C6 PFDA in the laboratory control spike samples associated with the following samples: GSRY-MW0002S-007.0-20240611 (670-41653-1), GSRY-MW0008S-007.0-20240611 (670-41653-2), GSRY-MW0079-007.0-20240611 (670-41653-4), GSRY-MW0080-007.0-20240611 (670-41653-5), GSRY-MW0069-015.0-20240611 (670-41653-11), GSRY-MW0070-015.0-20240611 (670-41653-12), GSRY-MW0073-022.0-20240611 (670-41653-13), GSRY-MW0074-012.0-20240611 (670-41653-14) and GSRY-MW0076-015.0-20240611 (670-41653-15) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) in the re-extracted method blank/laboratory control spike sample(s) is outside the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C4 PFBA, M2-6:2 FTS, 13C3 PFBS, 13C8 PFOA, 13C8 PFOS, 13C6 PFDA and 13C3 PFHxS in the method blank associated with the following samples: GSRY-MW0002S-007.0-20240611 (670-41653-1), GSRY-MW0008S-007.0-20240611 (670-41653-2), GSRY-MW0079-007.0-20240611 (670-41653-4), GSRY-MW0080-007.0-20240611 (670-41653-5), GSRY-MW0069-015.0-20240611 (670-41653-11), GSRY-MW0070-015.0-20240611 (670-41653-12), GSRY-MW0073-022.0-20240611 (670-41653-13), GSRY-MW0074-012.0-20240611 (670-41653-14) and GSRY-MW0076-015.0-20240611 (670-41653-15) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) in the re-extracted method blank/laboratory control spike sample(s) is outside the QC acceptance limits.

Method PFC_IDA_D5.3: Target analyte(s) HFPODA, Perfluorobutanesulfonic acid and Perfluorohexanoic acid were detected in the method blank associated with the following samples: GSRY-MW0064-025.0-20240613 (670-41653-3), GSRY-MW0081-007.0-20240613 (670-41653-6), GSRY-MW0082-007.0-20240613 (670-41653-7), GSRY-MW0083-007.0-20240613 (670-41653-8) and GSRY-FB-20240613-02 (670-41653-10). The following action was taken: This sample(s) was re-extracted outside the required holding time and target analyte(s) were not detected in the re-extracted method blank.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS in the following sample: GSRY-MW0081-007.0-20240613 (670-41653-6) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS, M2-4:2 FTS and 13C8 PFOA in the following sample: GSRY-MW0002S-007.0-20240611 (670-41653-1) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS, M2-4:2 FTS, 13C8 PFOA and 13C3 PFHxS in the following sample: GSRY-MW0008S-007.0-20240611 (670-41653-2) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-6:2 FTS was again outside of the QC acceptance limits

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS, M2-8:2 FTS, M2-4:2 FTS and 13C6 PFDA in the following sample: GSRY-MW0079-007.0-20240611 (670-41653-4) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-6:2

FTS M2-4:2 FTS was again outside of the QC acceptance limits

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C4 PFBA, M2-6:2 FTS and M2-4:2 FTS in the following sample: GSRY-MW0080-007.0-20240611 (670-41653-5) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-6:2 FTS 13C4 PFBA was again outside of the QC acceptance limits

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C4 PFHpA, M2-6:2 FTS, M2-8:2 FTS, M2-4:2 FTS, 13C8 PFOA, 13C9 PFNA, 13C6 PFDA, 13C3 PFHxS and d3-NMePFOSA in the following sample: GSRY-MW0069-015.0-20240611 (670-41653-11) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-8:2 FTS M2-4:2 FTS M2-6:2 FTS was again outside of the QC acceptance limits

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS and M2-4:2 FTS in the following sample: GSRY-MW0070-015.0-20240611 (670-41653-12) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-6:2 FTS was again outside of the QC acceptance limits

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS, M2-8:2 FTS, M2-4:2 FTS, 13C8 PFOA and 13C3 PFHxS in the following sample: GSRY-MW0073-022.0-20240611 (670-41653-13) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-6:2 FTS M2-4:2 FTS was again outside of the QC acceptance limits

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C4 PFHpA, M2-6:2 FTS, M2-8:2 FTS, M2-4:2 FTS, 13C8 PFOA, 13C6 PFDA and 13C3 PFHxS in the following sample: GSRY-MW0074-012.0-20240611 (670-41653-14) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-8:2 FTS M2-4:2 FTS M2-6:2 FTS was again outside of the QC acceptance limits

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS, M2-8:2 FTS and M2-4:2 FTS in the following sample: GSRY-MW0076-015.0-20240611 (670-41653-15) are outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) M2-8:2 FTS M2-4:2 FTS was again outside of the QC acceptance limits

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C4 PFBA, M2-6:2 FTS and M2-4:2 FTS in the following sample: GSRY-MW0064-025.0-20240613 (670-41653-3) and GSRY-MW0083-007.0-20240613 (670-41653-8) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) 13C4 PFBA M2-6:2 FTS were again outside of the QC acceptance limits. The recovery for labeled isotope M2-4:2 FTS was within the QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) M2-6:2 FTS in the following sample: GSRY-MW0082-007.0-20240613 (670-41653-7) and GSRY-FB-20240613-02 (670-41653-10) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was again outside within QC acceptance limits.

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C4 PFBA, 13C8 FOSA, 13C2 PFTeDA and d3-NMePFOSA in the following sample: GSRY-MW0084-025.0-20240613 (670-41653-9), GSRY-MW0084-025.0-20240613 (670-41653-9[MS]) and GSRY-MW0084-025.0-20240613 (670-41653-9[MSD]) are outside of the QC limits. Since the recovery for the labeled isotope(s) in the matrix spike and matrix spike duplicate are also outside of the QC limits, the data is reported.

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

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS MW

Job ID: 670-41653-1

Client Sample ID: GSRY-MW0002S-007.0-20240611 — Lab Sample ID: 670-41653-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.0017	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.010		0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.0011	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0033		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.025		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0062		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00050	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0013	I	0.0018	0.00063	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.072		0.0019	0.00091	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.013		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0014	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0038		0.0018	0.00045	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0008S-007.0-20240611 — Lab Sample ID: 670-41653-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	0.0014	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0038	I	0.0044	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0011	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.029		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0065		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.00089	I	0.0018	0.00062	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0031		0.0019	0.00088	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0046		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0014	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0032		0.0018	0.00044	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0064-025.0-20240613 — Lab Sample ID: 670-41653-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0055	V	0.0026	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0013	I V	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0028	I	0.0043	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.00048	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0029		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0016	I V	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.00090	I	0.0017	0.00060	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0061		0.0018	0.00086	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0014	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.00063	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0079-007.0-20240611 — Lab Sample ID: 670-41653-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.0027		0.0027	0.00090	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0033		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.016		0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluorodecanoic acid	0.00056	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.0032		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.027		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.048		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.037		0.0018	0.00045	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Client Sample ID: GSRY-MW0079-007.0-20240611 (Continued)
Lab Sample ID: 670-41653-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid	0.0060		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0010	I	0.0018	0.00063	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.069		0.0019	0.00090	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.27		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0041		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.017		0.0018	0.00045	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0080-007.0-20240611
Lab Sample ID: 670-41653-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.00095	I	0.0026	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.00068	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0097		0.0044	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00049	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0011	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.018		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0027		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00051	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.00091	I	0.0018	0.00062	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.046		0.0019	0.00088	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0063		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.00085	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0081-007.0-20240613
Lab Sample ID: 670-41653-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
4:2 Fluorotelomer sulfonic acid	0.00053	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
HFPODA	0.0065	V	0.0027	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0038	V	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.013		0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00049	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0055		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0045		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0086	V	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0030		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.035		0.0019	0.00090	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.018		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0065		0.0018	0.00045	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0082-007.0-20240613
Lab Sample ID: 670-41653-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
4:2 Fluorotelomer sulfonic acid	0.00049	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
HFPODA	0.0058	V	0.0027	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0020	V	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.011		0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluorodecanoic acid	0.00078	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0029		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0032		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0050	V	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0022		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.037		0.0019	0.00091	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: GSRY-MW0082-007.0-20240613 (Continued) — Lab Sample ID: 670-41653-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	0.0085		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0014	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0083-007.0-20240613 — Lab Sample ID: 670-41653-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0062	V	0.0025	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0019	V	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0058		0.0042	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0013	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0086		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0038	V	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00061	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0013	I	0.0017	0.00058	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.010		0.0018	0.00084	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0057		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00085	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0019		0.0017	0.00042	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0084-025.0-20240613 — Lab Sample ID: 670-41653-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.00054	I V	0.0025	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0018	I	0.0042	0.0017	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0012	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.00062	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0013	I	0.0017	0.00059	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0037		0.0018	0.00084	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.00085	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-FB-20240613-02 — Lab Sample ID: 670-41653-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0048	V	0.0026	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0013	I V	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.00084	I V	0.0017	0.00043	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0069-015.0-20240611 — Lab Sample ID: 670-41653-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.0026		0.0026	0.00088	ug/L	1		QSM B15	Total/NA
HFPODA	0.00053	I	0.0026	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0013	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0061		0.0044	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.0011	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.010		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.016		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.015		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0032		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.059		0.0018	0.00088	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.067		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0016	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0073		0.0018	0.00044	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS MW

Job ID: 670-41653-1

Client Sample ID: GSRY-MW0070-015.0-20240611 — Lab Sample ID: 670-41653-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid	0.00045	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0024		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.00091	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.00080	I	0.0017	0.00060	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0035		0.0018	0.00085	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0017		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.00050	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0073-022.0-20240611 — Lab Sample ID: 670-41653-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.00064	I	0.0026	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0015	I	0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.00047	I	0.0017	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.00067	I	0.0017	0.00061	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0073		0.0018	0.00087	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0033		0.0017	0.00044	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0074-012.0-20240611 — Lab Sample ID: 670-41653-14

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.00094	I	0.0026	0.00085	ug/L	1		QSM B15	Total/NA
HFPODA	0.00086	I	0.0026	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0016	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0079		0.0043	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00079	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.010		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.016		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.020		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0016	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.027		0.0018	0.00085	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.072		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0018		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0085		0.0017	0.00043	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0076-015.0-20240611 — Lab Sample ID: 670-41653-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.0067		0.0027	0.00089	ug/L	1		QSM B15	Total/NA
HFPODA	0.00089	I	0.0027	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0067		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.067		0.0044	0.0018	ug/L	1		QSM B15	Total/NA
Perfluorodecanoic acid	0.00047	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.0040		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.053		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.084		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.10		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0045		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.078		0.0019	0.00089	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0087		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.045		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid - DL	0.71		0.018	0.0044	ug/L	10		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS MW

Job ID: 670-41653-1

Client Sample ID: GSRY-MW0077-015.0-20240611 — Lab Sample ID: 670-41653-16

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonamide	0.00081	I	0.0017	0.00061	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.00096	I	0.0018	0.00087	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-MW0078-012.0-20240610 — Lab Sample ID: 670-41653-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0012	I V	0.0026	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0010	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0048		0.0043	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0013	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0096		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0030		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0021		0.0017	0.00060	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.019		0.0018	0.00086	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0071		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00062	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0019		0.0017	0.00043	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-FD-20240610-01 — Lab Sample ID: 670-41653-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0011	I V	0.0025	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0010	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0049		0.0042	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0015	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0093		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0031		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0019		0.0017	0.00058	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.017		0.0017	0.00083	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0070		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.00057	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0019		0.0017	0.00042	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-FB-20240611-01 — Lab Sample ID: 670-41653-19

No Detections.

Client Sample ID: GSRY-EB-20240611-01 — Lab Sample ID: 670-41653-20

No Detections.

Client Sample ID: GSRY-FD-20240613-02 — Lab Sample ID: 670-41653-21

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0075	V	0.0025	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0018	V	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0052		0.0042	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0013	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0074		0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0035	V	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00059	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0013	I	0.0017	0.00059	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0093		0.0018	0.00085	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0045		0.0017	0.00042	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Client Sample ID: GSRY-FD-20240613-02 (Continued)
Lab Sample ID: 670-41653-21

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanesulfonic acid	0.00074	I	0.0017	0.00042	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0018		0.0017	0.00042	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-EB-20240613-02
Lab Sample ID: 670-41653-22

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0046	V	0.0026	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0012	I V	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.00084	I V	0.0018	0.00044	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS MW

Job ID: 670-41653-1

Client Sample ID: GSRY-MW0002S-007.0-20240611
Date Collected: 06/11/24 10:21
Date Received: 06/13/24 14:09

Lab Sample ID: 670-41653-1
Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
6:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		06/24/24 11:06	06/26/24 21:56	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		06/24/24 11:06	06/26/24 21:56	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
DONA	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
HFPODA	0.00045	U	0.0027	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		06/24/24 11:06	06/26/24 21:56	1
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorobutanesulfonic acid	**0.0017**	**I**	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorobutanoic acid	**0.010**		0.0045	0.0018	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluoroheptanesulfonic acid	**0.0011**	**I**	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluoroheptanoic acid	**0.0033**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorohexanesulfonic acid	**0.025**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorohexanoic acid	**0.0062**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorononanoic acid	**0.00050**	**I**	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorooctanesulfonamide	**0.0013**	**I**	0.0018	0.00063	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorooctanesulfonic acid	**0.072**		0.0019	0.00091	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorooctanoic acid	**0.013**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluoropentanesulfonic acid	**0.0014**	**I**	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluoropentanoic acid	**0.0038**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 21:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C8 FOSA	*113*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C4 PFHpA	*143*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C5 PFPeA	*115*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C2 PFTeDA	*113*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
d3-NMeFOSAA	*146*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
M2-6:2 FTS	*327*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
M2-8:2 FTS	*136*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C3 PFBS	*141*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
M2-4:2 FTS	*276*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C3 HFPO-DA	*131*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C8 PFOA	*152*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C8 PFOS	*140*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C5 PFHxA	*136*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C9 PFNA	*130*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C6 PFDA	*136*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C7 PFUnA	*127*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C3 PFHxS	*150*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
13C2-PFDoDA	*118*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*

Client Sample ID: GSRY-MW0002S-007.0-20240611 **Lab Sample ID: 670-41653-1**
Date Collected: 06/11/24 10:21 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMePFOSA	*87*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*
d5-NEtFOSAA	*121*		*50 - 150*	*06/24/24 11:06*	*06/26/24 21:56*	*1*

Client Sample ID: GSRY-MW0008S-007.0-20240611 **Lab Sample ID: 670-41653-2**
Date Collected: 06/11/24 09:25 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
6:2 Fluorotelomer sulfonic acid	0.00088	U	0.0027	0.00088	ug/L		06/24/24 11:06	06/26/24 22:09	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0027	0.00088	ug/L		06/24/24 11:06	06/26/24 22:09	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
DONA	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
HFPODA	0.00044	U	0.0027	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
NEtFOSAA	0.00044	U	0.0027	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		06/24/24 11:06	06/26/24 22:09	1
NMeFOSA	0.00088	U	0.0027	0.00088	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorobutanesulfonic acid	**0.0014**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorobutanoic acid	**0.0038**	**I**	0.0044	0.0018	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluoroheptanoic acid	**0.0011**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorohexanesulfonic acid	**0.029**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorohexanoic acid	**0.0065**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorononanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorooctanesulfonamide	**0.00089**	**I**	0.0018	0.00062	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorooctanesulfonic acid	**0.0031**		0.0019	0.00088	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorooctanoic acid	**0.0046**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluoropentanesulfonic acid	**0.0014**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluoropentanoic acid	**0.0032**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 22:09	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	*57*		*50 - 150*	*06/24/24 11:06*	*06/26/24 22:09*	*1*
13C8 FOSA	*115*		*50 - 150*	*06/24/24 11:06*	*06/26/24 22:09*	*1*
13C4 PFHpA	*142*		*50 - 150*	*06/24/24 11:06*	*06/26/24 22:09*	*1*
13C5 PFPeA	*97*		*50 - 150*	*06/24/24 11:06*	*06/26/24 22:09*	*1*
13C2 PFTeDA	*86*		*50 - 150*	*06/24/24 11:06*	*06/26/24 22:09*	*1*
d3-NMeFOSAA	*140*		*50 - 150*	*06/24/24 11:06*	*06/26/24 22:09*	*1*
M2-6:2 FTS	*322*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 22:09*	*1*
M2-8:2 FTS	*147*		*50 - 150*	*06/24/24 11:06*	*06/26/24 22:09*	*1*
13C3 PFBS	*126*		*50 - 150*	*06/24/24 11:06*	*06/26/24 22:09*	*1*
M2-4:2 FTS	*292*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 22:09*	*1*
13C3 HFPO-DA	*133*		*50 - 150*	*06/24/24 11:06*	*06/26/24 22:09*	*1*

Client Sample ID: GSRY-MW0008S-007.0-20240611 Lab Sample ID: 670-41653-2

Date Collected: 06/11/24 09:25 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	154	*	50 - 150	06/24/24 11:06	06/26/24 22:09	1
13C8 PFOS	145		50 - 150	06/24/24 11:06	06/26/24 22:09	1
13C5 PFHxA	131		50 - 150	06/24/24 11:06	06/26/24 22:09	1
13C9 PFNA	132		50 - 150	06/24/24 11:06	06/26/24 22:09	1
13C6 PFDA	144		50 - 150	06/24/24 11:06	06/26/24 22:09	1
13C7 PFUnA	129		50 - 150	06/24/24 11:06	06/26/24 22:09	1
13C3 PFHxS	151	*	50 - 150	06/24/24 11:06	06/26/24 22:09	1
13C2-PFDoDA	107		50 - 150	06/24/24 11:06	06/26/24 22:09	1
d3-NMePFOSA	81		50 - 150	06/24/24 11:06	06/26/24 22:09	1
d5-NEtFOSAA	119		50 - 150	06/24/24 11:06	06/26/24 22:09	1

Client Sample ID: GSRY-MW0064-025.0-20240613 Lab Sample ID: 670-41653-3

Date Collected: 06/13/24 10:07 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
6:2 Fluorotelomer sulfonic acid	0.00086	U	0.0026	0.00086	ug/L		06/25/24 15:27	06/28/24 04:59	1
8:2 Fluorotelomer sulfonic acid	0.00086	U	0.0026	0.00086	ug/L		06/25/24 15:27	06/28/24 04:59	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
DONA	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
HFPODA	**0.0055**	**V**	0.0026	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		06/25/24 15:27	06/28/24 04:59	1
NMeFOSA	0.00086	U	0.0026	0.00086	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorobutanesulfonic acid	**0.0013**	**I V**	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorobutanoic acid	**0.0028**	**I**	0.0043	0.0017	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluoroheptanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluoroheptanoic acid	**0.00048**	**I**	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorohexanesulfonic acid	**0.0029**		0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorohexanoic acid	**0.0016**	**I V**	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorononanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorooctanesulfonamide	**0.00090**	**I**	0.0017	0.00060	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorooctanesulfonic acid	**0.0061**		0.0018	0.00086	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorooctanoic acid	**0.0014**	**I**	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluoropentanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluoropentanoic acid	**0.00063**	**I**	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 04:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	43	*	50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C8 FOSA	98		50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C4 PFHpA	120		50 - 150	06/25/24 15:27	06/28/24 04:59	1

Client Sample ID: GSRY-MW0064-025.0-20240613

Lab Sample ID: 670-41653-3

Date Collected: 06/13/24 10:07

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	81		50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C2 PFTeDA	102		50 - 150	06/25/24 15:27	06/28/24 04:59	1
d3-NMeFOSAA	116		50 - 150	06/25/24 15:27	06/28/24 04:59	1
M2-6:2 FTS	230	*	50 - 150	06/25/24 15:27	06/28/24 04:59	1
M2-8:2 FTS	138		50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C3 PFBS	100		50 - 150	06/25/24 15:27	06/28/24 04:59	1
M2-4:2 FTS	202	*	50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C3 HFPO-DA	113		50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C8 PFOA	127		50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C8 PFOS	125		50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C5 PFHxA	105		50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C9 PFNA	120		50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C6 PFDA	120		50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C7 PFUnA	117		50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C3 PFHxS	120		50 - 150	06/25/24 15:27	06/28/24 04:59	1
13C2-PFDoDA	116		50 - 150	06/25/24 15:27	06/28/24 04:59	1
d3-NMePFOSA	79		50 - 150	06/25/24 15:27	06/28/24 04:59	1
d5-NEtFOSAA	117		50 - 150	06/25/24 15:27	06/28/24 04:59	1

Client Sample ID: GSRY-MW0079-007.0-20240611

Lab Sample ID: 670-41653-4

Date Collected: 06/11/24 11:56

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
6:2 Fluorotelomer sulfonic acid	**0.0027**		0.0027	0.00090	ug/L		06/24/24 11:06	06/26/24 23:17	1
8:2 Fluorotelomer sulfonic acid	0.00090	U	0.0027	0.00090	ug/L		06/24/24 11:06	06/26/24 23:17	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
DONA	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
HFPODA	0.00045	U	0.0027	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		06/24/24 11:06	06/26/24 23:17	1
NMeFOSA	0.00090	U	0.0027	0.00090	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorobutanesulfonic acid	**0.0033**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorobutanoic acid	**0.016**		0.0045	0.0018	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorodecanoic acid	**0.00056**	**I**	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluoroheptanesulfonic acid	**0.0032**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluoroheptanoic acid	**0.027**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorohexanesulfonic acid	**0.048**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorohexanoic acid	**0.037**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorononanoic acid	**0.0060**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorooctanesulfonamide	**0.0010**	**I**	0.0018	0.00063	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorooctanesulfonic acid	**0.069**		0.0019	0.00090	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorooctanoic acid	**0.27**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluoropentanesulfonic acid	**0.0041**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1

Client Sample ID: GSRY-MW0079-007.0-20240611 **Lab Sample ID: 670-41653-4**
Date Collected: 06/11/24 11:56 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid	**0.017**		0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/24/24 11:06	06/26/24 23:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*73*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C8 FOSA	*116*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C4 PFHpA	*139*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C5 PFPeA	*105*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C2 PFTeDA	*90*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
d3-NMeFOSAA	*137*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
M2-6:2 FTS	*377*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
M2-8:2 FTS	*201*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C3 PFBS	*139*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
M2-4:2 FTS	*359*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C3 HFPO-DA	*125*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C8 PFOA	*144*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C8 PFOS	*147*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C5 PFHxA	*130*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C9 PFNA	*142*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C6 PFDA	*153*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C7 PFUnA	*120*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C3 PFHxS	*150*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
13C2-PFDoDA	*104*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
d3-NMePFOSA	*76*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*
d5-NEtFOSAA	*123*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:17*	*1*

Client Sample ID: GSRY-MW0080-007.0-20240611 **Lab Sample ID: 670-41653-5**
Date Collected: 06/11/24 12:54 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
6:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		06/24/24 11:06	06/26/24 23:31	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		06/24/24 11:06	06/26/24 23:31	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
DONA	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
HFPODA	**0.00095**	**I**	0.0026	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		06/24/24 11:06	06/26/24 23:31	1
NMeFOSA	0.00088	U	0.0026	0.00088	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorobutanesulfonic acid	**0.00068**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorobutanoic acid	**0.0097**		0.0044	0.0018	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluoroheptanesulfonic acid	**0.00049**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluoroheptanoic acid	**0.0011**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1

Client Sample ID: GSRY-MW0080-007.0-20240611 Lab Sample ID: 670-41653-5

Date Collected: 06/11/24 12:54 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	**0.018**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorohexanoic acid	**0.0027**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorononanoic acid	**0.00051**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorooctanesulfonamide	**0.00091**	**I**	0.0018	0.00062	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorooctanesulfonic acid	**0.046**		0.0019	0.00088	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorooctanoic acid	**0.0063**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluoropentanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluoropentanoic acid	**0.00085**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*40*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C8 FOSA	*113*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C4 PFHpA	*135*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C5 PFPeA	*77*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C2 PFTeDA	*71*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
d3-NMeFOSAA	*134*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
M2-6:2 FTS	*300*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
M2-8:2 FTS	*148*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C3 PFBS	*107*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
M2-4:2 FTS	*266*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C3 HFPO-DA	*118*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C8 PFOA	*145*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C8 PFOS	*141*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C5 PFHxA	*117*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C9 PFNA	*128*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C6 PFDA	*136*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C7 PFUnA	*126*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C3 PFHxS	*141*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
13C2-PFDoDA	*100*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
d3-NMePFOSA	*64*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*
d5-NEtFOSAA	*119*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:31*	*1*

Client Sample ID: GSRY-MW0081-007.0-20240613 Lab Sample ID: 670-41653-6

Date Collected: 06/13/24 09:39 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
4:2 Fluorotelomer sulfonic acid	**0.00053**	**I**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
6:2 Fluorotelomer sulfonic acid	0.00090	U	0.0027	0.00090	ug/L		06/25/24 15:27	06/28/24 05:12	1
8:2 Fluorotelomer sulfonic acid	0.00090	U	0.0027	0.00090	ug/L		06/25/24 15:27	06/28/24 05:12	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
DONA	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
HFPODA	**0.0065**	**V**	0.0027	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		06/25/24 15:27	06/28/24 05:12	1

Client Sample ID: GSRY-MW0081-007.0-20240613

Lab Sample ID: 670-41653-6

Date Collected: 06/13/24 09:39

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	0.00090	U	0.0027	0.00090	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorobutanesulfonic acid	**0.0038**	**V**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorobutanoic acid	**0.013**		0.0045	0.0018	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluoroheptanesulfonic acid	**0.00049**	**I**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluoroheptanoic acid	**0.0055**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorohexanesulfonic acid	**0.0045**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorohexanoic acid	**0.0086**	**V**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorononanoic acid	**0.0030**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorooctanesulfonamide	0.00063	U	0.0018	0.00063	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorooctanesulfonic acid	**0.035**		0.0019	0.00090	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorooctanoic acid	**0.018**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluoropentanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluoropentanoic acid	**0.0065**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C8 FOSA	*93*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C4 PFHpA	*108*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C5 PFPeA	*98*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C2 PFTeDA	*96*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
d3-NMeFOSAA	*104*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
M2-6:2 FTS	*242*	*	*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
M2-8:2 FTS	*126*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C3 PFBS	*114*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
M2-4:2 FTS	*130*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C3 HFPO-DA	*108*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C8 PFOA	*120*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C8 PFOS	*113*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C5 PFHxA	*102*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C9 PFNA	*108*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C6 PFDA	*112*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C7 PFUnA	*109*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C3 PFHxS	*114*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
13C2-PFDoDA	*100*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
d3-NMePFOSA	*64*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*
d5-NEtFOSAA	*101*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:12*	*1*

Client Sample ID: GSRY-MW0082-007.0-20240613

Lab Sample ID: 670-41653-7

Date Collected: 06/13/24 09:13

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1

Client Sample ID: GSRY-MW0082-007.0-20240613
Lab Sample ID: 670-41653-7
Date Collected: 06/13/24 09:13
Matrix: Water
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 Fluorotelomer sulfonic acid	**0.00049**	**I**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
6:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		06/25/24 15:27	06/28/24 05:26	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		06/25/24 15:27	06/28/24 05:26	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
DONA	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
HFPODA	**0.0058**	**V**	0.0027	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		06/25/24 15:27	06/28/24 05:26	1
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorobutanesulfonic acid	**0.0020**	**V**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorobutanoic acid	**0.011**		0.0045	0.0018	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorodecanoic acid	**0.00078**	**I**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluoroheptanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluoroheptanoic acid	**0.0029**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorohexanesulfonic acid	**0.0032**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorohexanoic acid	**0.0050**	**V**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorononanoic acid	**0.0022**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorooctanesulfonamide	0.00064	U	0.0018	0.00064	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorooctanesulfonic acid	**0.037**		0.0019	0.00091	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorooctanoic acid	**0.0085**		0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluoropentanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluoropentanoic acid	**0.0014**	**I**	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/25/24 15:27	06/28/24 05:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C8 FOSA	*85*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C4 PFHpA	*100*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C5 PFPeA	*91*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C2 PFTeDA	*83*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
d3-NMeFOSAA	*96*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
M2-6:2 FTS	*230*	*	*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
M2-8:2 FTS	*113*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C3 PFBS	*109*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
M2-4:2 FTS	*115*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C3 HFPO-DA	*96*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C8 PFOA	*108*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C8 PFOS	*105*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C5 PFHxA	*97*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C9 PFNA	*97*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C6 PFDA	*96*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C7 PFUnA	*98*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C3 PFHxS	*107*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
13C2-PFDoDA	*90*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*
d3-NMePFOSA	*66*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:26*	*1*

Client Sample ID: GSRY-MW0082-007.0-20240613 Lab Sample ID: 670-41653-7

Date Collected: 06/13/24 09:13 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	97		50 - 150	06/25/24 15:27	06/28/24 05:26	1

Client Sample ID: GSRY-MW0083-007.0-20240613 Lab Sample ID: 670-41653-8

Date Collected: 06/13/24 09:22 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
4:2 Fluorotelomer sulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
6:2 Fluorotelomer sulfonic acid	0.00084	U	0.0025	0.00084	ug/L		06/25/24 15:27	06/28/24 05:39	1
8:2 Fluorotelomer sulfonic acid	0.00084	U	0.0025	0.00084	ug/L		06/25/24 15:27	06/28/24 05:39	1
9Cl-PF3ONS	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
DONA	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
HFPODA	**0.0062**	**V**	0.0025	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
NEtFOSAA	0.00042	U	0.0025	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
NMeFOSAA	0.00050	U	0.0017	0.00050	ug/L		06/25/24 15:27	06/28/24 05:39	1
NMeFOSA	0.00084	U	0.0025	0.00084	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorobutanesulfonic acid	**0.0019**	**V**	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorobutanoic acid	**0.0058**		0.0042	0.0017	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorodecanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorodecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorododecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluoroheptanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluoroheptanoic acid	**0.0013**	**I**	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorohexanesulfonic acid	**0.0086**		0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorohexanoic acid	**0.0038**	**V**	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorononanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorononanoic acid	**0.00061**	**I**	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorooctanesulfonamide	**0.0013**	**I**	0.0017	0.00058	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorooctanesulfonic acid	**0.010**		0.0018	0.00084	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorooctanoic acid	**0.0057**		0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluoropentanesulfonic acid	**0.00085**	**I**	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluoropentanoic acid	**0.0019**		0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorotetradecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluorotridecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1
Perfluoroundecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 05:39	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	45	*	50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C8 FOSA	105		50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C4 PFHpA	123		50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C5 PFPeA	81		50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C2 PFTeDA	100		50 - 150	06/25/24 15:27	06/28/24 05:39	1
d3-NMeFOSAA	116		50 - 150	06/25/24 15:27	06/28/24 05:39	1
M2-6:2 FTS	244	*	50 - 150	06/25/24 15:27	06/28/24 05:39	1
M2-8:2 FTS	136		50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C3 PFBS	104		50 - 150	06/25/24 15:27	06/28/24 05:39	1
M2-4:2 FTS	217	*	50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C3 HFPO-DA	119		50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C8 PFOA	127		50 - 150	06/25/24 15:27	06/28/24 05:39	1

Client Sample ID: GSRY-MW0083-007.0-20240613

Lab Sample ID: 670-41653-8

Date Collected: 06/13/24 09:22

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOS	131		50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C5 PFHxA	110		50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C9 PFNA	121		50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C6 PFDA	119		50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C7 PFUnA	123		50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C3 PFHxS	127		50 - 150	06/25/24 15:27	06/28/24 05:39	1
13C2-PFDoDA	116		50 - 150	06/25/24 15:27	06/28/24 05:39	1
d3-NMePFOSA	76		50 - 150	06/25/24 15:27	06/28/24 05:39	1
d5-NEtFOSAA	118		50 - 150	06/25/24 15:27	06/28/24 05:39	1

Client Sample ID: GSRY-MW0084-025.0-20240613

Lab Sample ID: 670-41653-9

Date Collected: 06/13/24 10:12

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
4:2 Fluorotelomer sulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
6:2 Fluorotelomer sulfonic acid	0.00084	U	0.0025	0.00084	ug/L		06/26/24 15:06	07/16/24 08:31	1
8:2 Fluorotelomer sulfonic acid	0.00084	U	0.0025	0.00084	ug/L		06/26/24 15:06	07/16/24 08:31	1
9Cl-PF3ONS	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
DONA	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
HFPODA	**0.00054**	**I V**	0.0025	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
NEtFOSAA	0.00042	U	0.0025	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
NMeFOSAA	0.00051	U	0.0017	0.00051	ug/L		06/26/24 15:06	07/16/24 08:31	1
NMeFOSA	0.00084	U	0.0025	0.00084	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorobutanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorobutanoic acid	**0.0018**	**I**	0.0042	0.0017	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorodecanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorodecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorododecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluoroheptanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluoroheptanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorohexanesulfonic acid	**0.0012**	**I**	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorohexanoic acid	**0.00062**	**I**	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorononanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorononanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorooctanesulfonamide	**0.0013**	**I**	0.0017	0.00059	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorooctanesulfonic acid	**0.0037**		0.0018	0.00084	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorooctanoic acid	**0.00085**	**I**	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluoropentanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluoropentanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorotetradecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluorotridecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1
Perfluoroundecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/26/24 15:06	07/16/24 08:31	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	27	*	50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C8 FOSA	19	*	50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C4 PFHpA	105		50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C5 PFPeA	57		50 - 150	06/26/24 15:06	07/16/24 08:31	1

Client Sample ID: GSRY-MW0084-025.0-20240613 **Lab Sample ID: 670-41653-9**
Date Collected: 06/13/24 10:12 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	38	*	50 - 150	06/26/24 15:06	07/16/24 08:31	1
d3-NMeFOSAA	79		50 - 150	06/26/24 15:06	07/16/24 08:31	1
M2-6:2 FTS	117		50 - 150	06/26/24 15:06	07/16/24 08:31	1
M2-8:2 FTS	99		50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C3 PFBS	72		50 - 150	06/26/24 15:06	07/16/24 08:31	1
M2-4:2 FTS	126		50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C3 HFPO-DA	94		50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C8 PFOA	99		50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C8 PFOS	105		50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C5 PFHxA	93		50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C9 PFNA	104		50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C6 PFDA	95		50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C7 PFUnA	86		50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C3 PFHxS	106		50 - 150	06/26/24 15:06	07/16/24 08:31	1
13C2-PFDoDA	72		50 - 150	06/26/24 15:06	07/16/24 08:31	1
d3-NMePFOSA	0.2	*	50 - 150	06/26/24 15:06	07/16/24 08:31	1
d5-NEtFOSAA	75		50 - 150	06/26/24 15:06	07/16/24 08:31	1

Client Sample ID: GSRY-FB-20240613-02 **Lab Sample ID: 670-41653-10**
Date Collected: 06/13/24 12:25 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
6:2 Fluorotelomer sulfonic acid	0.00086	U	0.0026	0.00086	ug/L		06/25/24 15:27	06/28/24 05:53	1
8:2 Fluorotelomer sulfonic acid	0.00086	U	0.0026	0.00086	ug/L		06/25/24 15:27	06/28/24 05:53	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
DONA	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
HFPODA	**0.0048**	**V**	0.0026	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		06/25/24 15:27	06/28/24 05:53	1
NMeFOSA	0.00086	U	0.0026	0.00086	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorobutanesulfonic acid	**0.0013**	**I V**	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorobutanoic acid	0.0017	U	0.0043	0.0017	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluoroheptanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluoroheptanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorohexanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorohexanoic acid	**0.00084**	**I V**	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorononanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorooctanesulfonamide	0.00060	U	0.0017	0.00060	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorooctanesulfonic acid	0.00086	U	0.0018	0.00086	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorooctanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluoropentanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluoropentanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1

Client Sample ID: GSRY-FB-20240613-02 **Lab Sample ID: 670-41653-10**
Date Collected: 06/13/24 12:25 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/25/24 15:27	06/28/24 05:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*111*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C8 FOSA	*88*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C4 PFHpA	*114*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C5 PFPeA	*107*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C2 PFTeDA	*106*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
d3-NMeFOSAA	*109*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
M2-6:2 FTS	*313*	*	*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
M2-8:2 FTS	*123*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C3 PFBS	*117*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
M2-4:2 FTS	*118*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C3 HFPO-DA	*108*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C8 PFOA	*136*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C8 PFOS	*121*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C5 PFHxA	*111*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C9 PFNA	*116*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C6 PFDA	*111*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C7 PFUnA	*109*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C3 PFHxS	*116*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
13C2-PFDoDA	*111*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
d3-NMePFOSA	*69*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*
d5-NEtFOSAA	*108*		*50 - 150*	*06/25/24 15:27*	*06/28/24 05:53*	*1*

Client Sample ID: GSRY-MW0069-015.0-20240611 **Lab Sample ID: 670-41653-11**
Date Collected: 06/11/24 11:24 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
6:2 Fluorotelomer sulfonic acid	**0.0026**		0.0026	0.00088	ug/L		06/24/24 11:06	06/26/24 23:44	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		06/24/24 11:06	06/26/24 23:44	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
DONA	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
HFPODA	**0.00053**	**I**	0.0026	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		06/24/24 11:06	06/26/24 23:44	1
NMeFOSA	0.00088	U	0.0026	0.00088	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorobutanesulfonic acid	**0.0013**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorobutanoic acid	**0.0061**		0.0044	0.0018	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluoroheptanesulfonic acid	**0.0011**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluoroheptanoic acid	**0.010**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorohexanesulfonic acid	**0.016**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1

Client Sample ID: GSRY-MW0069-015.0-20240611 **Lab Sample ID: 670-41653-11**
Date Collected: 06/11/24 11:24 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	**0.015**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorononanoic acid	**0.0032**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorooctanesulfonamide	0.00061	U	0.0018	0.00061	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorooctanesulfonic acid	**0.059**		0.0018	0.00088	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorooctanoic acid	**0.067**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluoropentanesulfonic acid	**0.0016**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluoropentanoic acid	**0.0073**		0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/26/24 23:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*70*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C8 FOSA	*116*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C4 PFHpA	*158*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C5 PFPeA	*103*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C2 PFTeDA	*90*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
d3-NMeFOSAA	*144*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
M2-6:2 FTS	*419*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
M2-8:2 FTS	*217*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C3 PFBS	*142*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
M2-4:2 FTS	*443*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C3 HFPO-DA	*132*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C8 PFOA	*162*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C8 PFOS	*147*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C5 PFHxA	*138*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C9 PFNA	*153*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C6 PFDA	*166*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C7 PFUnA	*122*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C3 PFHxS	*155*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
13C2-PFDoDA	*110*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
d3-NMePFOSA	*20*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*
d5-NEtFOSAA	*126*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:44*	*1*

Client Sample ID: GSRY-MW0070-015.0-20240611 **Lab Sample ID: 670-41653-12**
Date Collected: 06/11/24 10:37 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
6:2 Fluorotelomer sulfonic acid	0.00085	U	0.0026	0.00085	ug/L		06/24/24 11:06	06/26/24 23:58	1
8:2 Fluorotelomer sulfonic acid	0.00085	U	0.0026	0.00085	ug/L		06/24/24 11:06	06/26/24 23:58	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
DONA	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
HFPODA	0.00043	U	0.0026	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
NMeFOSAA	0.00051	U	0.0017	0.00051	ug/L		06/24/24 11:06	06/26/24 23:58	1
NMeFOSA	0.00085	U	0.0026	0.00085	ug/L		06/24/24 11:06	06/26/24 23:58	1

Client Sample ID: GSRY-MW0070-015.0-20240611 Lab Sample ID: 670-41653-12

Date Collected: 06/11/24 10:37 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorobutanoic acid	0.0017	U	0.0043	0.0017	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluoroheptanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluoroheptanoic acid	**0.00045**	**I**	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorohexanesulfonic acid	**0.0024**		0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorohexanoic acid	**0.00091**	**I**	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorononanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorooctanesulfonamide	**0.00080**	**I**	0.0017	0.00060	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorooctanesulfonic acid	**0.0035**		0.0018	0.00085	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorooctanoic acid	**0.0017**		0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluoropentanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluoropentanoic acid	**0.00050**	**I**	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/26/24 23:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*57*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C8 FOSA	*108*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C4 PFHpA	*135*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C5 PFPeA	*95*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C2 PFTeDA	*107*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
d3-NMeFOSAA	*129*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
M2-6:2 FTS	*352*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
M2-8:2 FTS	*137*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C3 PFBS	*126*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
M2-4:2 FTS	*288*	*	*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C3 HFPO-DA	*123*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C8 PFOA	*140*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C8 PFOS	*136*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C5 PFHxA	*122*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C9 PFNA	*120*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C6 PFDA	*126*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C7 PFUnA	*119*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C3 PFHxS	*145*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
13C2-PFDoDA	*116*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
d3-NMePFOSA	*88*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*
d5-NEtFOSAA	*126*		*50 - 150*	*06/24/24 11:06*	*06/26/24 23:58*	*1*

Client Sample ID: GSRY-MW0073-022.0-20240611 Lab Sample ID: 670-41653-13

Date Collected: 06/11/24 09:27 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1

Client Sample ID: GSRY-MW0073-022.0-20240611
Lab Sample ID: 670-41653-13
Date Collected: 06/11/24 09:27
Matrix: Water
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
6:2 Fluorotelomer sulfonic acid	0.00087	U	0.0026	0.00087	ug/L		06/24/24 11:06	06/27/24 00:11	1
8:2 Fluorotelomer sulfonic acid	0.00087	U	0.0026	0.00087	ug/L		06/24/24 11:06	06/27/24 00:11	1
9Cl-PF3ONS	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
DONA	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
HFPODA	**0.00064**	**I**	0.0026	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		06/24/24 11:06	06/27/24 00:11	1
NMeFOSA	0.00087	U	0.0026	0.00087	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorobutanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorobutanoic acid	0.0017	U	0.0044	0.0017	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorodecanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorodecanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorododecanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluoroheptanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorohexanesulfonic acid	**0.0015**	**I**	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorohexanoic acid	**0.00047**	**I**	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorononanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorononanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorooctanesulfonamide	**0.00067**	**I**	0.0017	0.00061	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorooctanesulfonic acid	**0.0073**		0.0018	0.00087	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorooctanoic acid	**0.0033**		0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluoropentanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluoropentanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorotetradecanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluorotridecanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1
Perfluoroundecanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*60*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C8 FOSA	*115*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C4 PFHpA	*146*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C5 PFPeA	*99*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C2 PFTeDA	*102*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
d3-NMeFOSAA	*144*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
M2-6:2 FTS	*370*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
M2-8:2 FTS	*193*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C3 PFBS	*135*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
M2-4:2 FTS	*347*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C3 HFPO-DA	*131*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C8 PFOA	*151*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C8 PFOS	*146*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C5 PFHxA	*128*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C9 PFNA	*133*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C6 PFDA	*139*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C7 PFUnA	*128*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C3 PFHxS	*153*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
13C2-PFDoDA	*118*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
d3-NMePFOSA	*73*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*
d5-NEtFOSAA	*128*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:11*	*1*

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS MW

Job ID: 670-41653-1

Client Sample ID: GSRY-MW0074-012.0-20240611
Date Collected: 06/11/24 11:17
Date Received: 06/13/24 14:09

Lab Sample ID: 670-41653-14
Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
6:2 Fluorotelomer sulfonic acid	**0.00094**	**I**	0.0026	0.00085	ug/L		06/24/24 11:06	06/27/24 00:25	1
8:2 Fluorotelomer sulfonic acid	0.00085	U	0.0026	0.00085	ug/L		06/24/24 11:06	06/27/24 00:25	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
DONA	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
HFPODA	**0.00086**	**I**	0.0026	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
NMeFOSAA	0.00051	U	0.0017	0.00051	ug/L		06/24/24 11:06	06/27/24 00:25	1
NMeFOSA	0.00085	U	0.0026	0.00085	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorobutanesulfonic acid	**0.0016**	**I**	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorobutanoic acid	**0.0079**		0.0043	0.0017	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluoroheptanesulfonic acid	**0.00079**	**I**	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluoroheptanoic acid	**0.010**		0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorohexanesulfonic acid	**0.016**		0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorohexanoic acid	**0.020**		0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorononanoic acid	**0.0016**	**I**	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorooctanesulfonamide	0.00060	U	0.0017	0.00060	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorooctanesulfonic acid	**0.027**		0.0018	0.00085	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorooctanoic acid	**0.072**		0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluoropentanesulfonic acid	**0.0018**		0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluoropentanoic acid	**0.0085**		0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 00:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C8 FOSA	*130*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C4 PFHpA	*157*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C5 PFPeA	*94*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C2 PFTeDA	*104*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
d3-NMeFOSAA	*142*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
M2-6:2 FTS	*446*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
M2-8:2 FTS	*257*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C3 PFBS	*134*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
M2-4:2 FTS	*369*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C3 HFPO-DA	*128*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C8 PFOA	*157*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C8 PFOS	*149*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C5 PFHxA	*132*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C9 PFNA	*146*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C6 PFDA	*164*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C7 PFUnA	*127*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C3 PFHxS	*155*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
13C2-PFDoDA	*119*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*

Client Sample ID: GSRY-MW0074-012.0-20240611 Lab Sample ID: 670-41653-14

Date Collected: 06/11/24 11:17 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMePFOSA	*85*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*
d5-NEtFOSAA	*125*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:25*	*1*

Client Sample ID: GSRY-MW0076-015.0-20240611 Lab Sample ID: 670-41653-15

Date Collected: 06/11/24 10:52 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
6:2 Fluorotelomer sulfonic acid	**0.0067**		0.0027	0.00089	ug/L		06/24/24 11:06	06/27/24 00:38	1
8:2 Fluorotelomer sulfonic acid	0.00089	U	0.0027	0.00089	ug/L		06/24/24 11:06	06/27/24 00:38	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
DONA	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
HFPODA	**0.00089**	**I**	0.0027	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
NEtFOSAA	0.00044	U	0.0027	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		06/24/24 11:06	06/27/24 00:38	1
NMeFOSA	0.00089	U	0.0027	0.00089	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorobutanesulfonic acid	**0.0067**		0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorobutanoic acid	**0.067**		0.0044	0.0018	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorodecanoic acid	**0.00047**	**I**	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluoroheptanesulfonic acid	**0.0040**		0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluoroheptanoic acid	**0.053**		0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorohexanesulfonic acid	**0.084**		0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorohexanoic acid	**0.10**		0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorononanoic acid	**0.0045**		0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorooctanesulfonamide	0.00062	U	0.0018	0.00062	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorooctanesulfonic acid	**0.078**		0.0019	0.00089	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluoropentanesulfonic acid	**0.0087**		0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluoropentanoic acid	**0.045**		0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 00:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	*62*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C8 FOSA	*103*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C4 PFHpA	*129*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C5 PFPeA	*85*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C2 PFTeDA	*75*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
d3-NMeFOSAA	*119*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
M2-6:2 FTS	*257*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
M2-8:2 FTS	*154*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C3 PFBS	*125*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
M2-4:2 FTS	*363*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C3 HFPO-DA	*106*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C8 PFOA	*119*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*

Client Sample ID: GSRY-MW0076-015.0-20240611 Lab Sample ID: 670-41653-15

Date Collected: 06/11/24 10:52 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*128*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C5 PFHxA	*110*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C9 PFNA	*134*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C6 PFDA	*129*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C7 PFUnA	*107*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C3 PFHxS	*130*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
13C2-PFDoDA	*93*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
d3-NMePFOSA	*59*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*
d5-NEtFOSAA	*109*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:38*	*1*

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	**0.71**		0.018	0.0044	ug/L		06/24/24 11:06	06/28/24 00:13	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOA	*146*		*50 - 150*	*06/24/24 11:06*	*06/28/24 00:13*	*10*

Client Sample ID: GSRY-MW0077-015.0-20240611 Lab Sample ID: 670-41653-16

Date Collected: 06/11/24 08:47 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
6:2 Fluorotelomer sulfonic acid	0.00087	U	0.0026	0.00087	ug/L		06/24/24 11:06	06/27/24 00:52	1
8:2 Fluorotelomer sulfonic acid	0.00087	U	0.0026	0.00087	ug/L		06/24/24 11:06	06/27/24 00:52	1
9Cl-PF3ONS	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
DONA	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
HFPODA	0.00044	U	0.0026	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		06/24/24 11:06	06/27/24 00:52	1
NMeFOSA	0.00087	U	0.0026	0.00087	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorobutanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorobutanoic acid	0.0017	U	0.0044	0.0017	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorodecanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorodecanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorododecanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluoroheptanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorohexanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorohexanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorononanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorononanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorooctanesulfonamide	**0.00081**	**I**	0.0017	0.00061	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorooctanesulfonic acid	**0.00096**	**I**	0.0018	0.00087	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorooctanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluoropentanesulfonic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluoropentanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorotetradecanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1
Perfluorotridecanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1

Client Sample ID: GSRY-MW0077-015.0-20240611

Lab Sample ID: 670-41653-16

Date Collected: 06/11/24 08:47

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid	0.00044	U	0.0017	0.00044	ug/L		06/24/24 11:06	06/27/24 00:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*65*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C8 FOSA	*113*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C4 PFHpA	*137*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C5 PFPeA	*101*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C2 PFTeDA	*85*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
d3-NMeFOSAA	*144*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
M2-6:2 FTS	*373*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
M2-8:2 FTS	*157*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C3 PFBS	*135*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
M2-4:2 FTS	*301*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C3 HFPO-DA	*130*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C8 PFOA	*152*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C8 PFOS	*144*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C5 PFHxA	*128*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C9 PFNA	*131*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C6 PFDA	*146*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C7 PFUnA	*131*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C3 PFHxS	*147*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
13C2-PFDoDA	*115*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
d3-NMePFOSA	*87*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*
d5-NEtFOSAA	*130*		*50 - 150*	*06/24/24 11:06*	*06/27/24 00:52*	*1*

Client Sample ID: GSRY-MW0078-012.0-20240610

Lab Sample ID: 670-41653-17

Date Collected: 06/10/24 14:27

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
6:2 Fluorotelomer sulfonic acid	0.00086	U	0.0026	0.00086	ug/L		06/20/24 12:16	06/28/24 22:25	1
8:2 Fluorotelomer sulfonic acid	0.00086	U	0.0026	0.00086	ug/L		06/20/24 12:16	06/28/24 22:25	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
DONA	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
HFPODA	**0.0012**	**I V**	0.0026	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		06/20/24 12:16	06/28/24 22:25	1
NMeFOSA	0.00086	U	0.0026	0.00086	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorobutanesulfonic acid	**0.0010**	**I**	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorobutanoic acid	**0.0048**		0.0043	0.0017	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluoroheptanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluoroheptanoic acid	**0.0013**	**I**	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorohexanesulfonic acid	**0.0096**		0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorohexanoic acid	**0.0030**		0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1

Client Sample ID: GSRY-MW0078-012.0-20240610 **Lab Sample ID: 670-41653-17**
Date Collected: 06/10/24 14:27 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorooctanesulfonamide	**0.0021**		0.0017	0.00060	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorooctanesulfonic acid	**0.019**		0.0018	0.00086	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorooctanoic acid	**0.0071**		0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluoropentanesulfonic acid	**0.00062**	**I**	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluoropentanoic acid	**0.0019**		0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/20/24 12:16	06/28/24 22:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*80*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C8 FOSA	*10*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C4 PFHpA	*116*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C5 PFPeA	*118*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C2 PFTeDA	*0.9*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
d3-NMeFOSAA	*17*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
M2-6:2 FTS	*102*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
M2-8:2 FTS	*39*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C3 PFBS	*138*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
M2-4:2 FTS	*163*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C3 HFPO-DA	*121*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C8 PFOA	*95*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C8 PFOS	*63*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C5 PFHxA	*125*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C9 PFNA	*68*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C6 PFDA	*41*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C7 PFUnA	*18*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C3 PFHxS	*117*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
13C2-PFDoDA	*7*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
d3-NMePFOSA	*0.009*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*
d5-NEtFOSAA	*11*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:25*	*1*

Client Sample ID: GSRY-FD-20240610-01 **Lab Sample ID: 670-41653-18**
Date Collected: 06/10/24 14:30 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
4:2 Fluorotelomer sulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
6:2 Fluorotelomer sulfonic acid	0.00083	U	0.0025	0.00083	ug/L		06/20/24 12:16	06/28/24 22:39	1
8:2 Fluorotelomer sulfonic acid	0.00083	U	0.0025	0.00083	ug/L		06/20/24 12:16	06/28/24 22:39	1
9Cl-PF3ONS	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
DONA	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
HFPODA	**0.0011**	**I V**	0.0025	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
NEtFOSAA	0.00042	U	0.0025	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
NMeFOSAA	0.00050	U	0.0017	0.00050	ug/L		06/20/24 12:16	06/28/24 22:39	1
NMeFOSA	0.00083	U	0.0025	0.00083	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorobutanesulfonic acid	**0.0010**	**I**	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorobutanoic acid	**0.0049**		0.0042	0.0017	ug/L		06/20/24 12:16	06/28/24 22:39	1

Client Sample ID: GSRY-FD-20240610-01 **Lab Sample ID: 670-41653-18**
Date Collected: 06/10/24 14:30 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorodecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorododecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluoroheptanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluoroheptanoic acid	**0.0015**	**I**	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorohexanesulfonic acid	**0.0093**		0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorohexanoic acid	**0.0031**		0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorononanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorononanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorooctanesulfonamide	**0.0019**		0.0017	0.00058	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorooctanesulfonic acid	**0.017**		0.0017	0.00083	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorooctanoic acid	**0.0070**		0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluoropentanesulfonic acid	**0.00057**	**I**	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluoropentanoic acid	**0.0019**		0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorotetradecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluorotridecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1
Perfluoroundecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/20/24 12:16	06/28/24 22:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*73*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C8 FOSA	*11*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C4 PFHpA	*115*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C5 PFPeA	*113*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C2 PFTeDA	*5*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
d3-NMeFOSAA	*28*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
M2-6:2 FTS	*116*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
M2-8:2 FTS	*65*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C3 PFBS	*135*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
M2-4:2 FTS	*168*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C3 HFPO-DA	*116*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C8 PFOA	*105*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C8 PFOS	*89*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C5 PFHxA	*120*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C9 PFNA	*89*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C6 PFDA	*61*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C7 PFUnA	*37*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C3 PFHxS	*121*		*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
13C2-PFDoDA	*18*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
d3-NMePFOSA	*0.03*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*
d5-NEtFOSAA	*16*	*	*50 - 150*	*06/20/24 12:16*	*06/28/24 22:39*	*1*

Client Sample ID: GSRY-FB-20240611-01 **Lab Sample ID: 670-41653-19**
Date Collected: 06/11/24 11:00 **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
6:2 Fluorotelomer sulfonic acid	0.00086	U	0.0026	0.00086	ug/L		06/24/24 11:06	06/27/24 01:06	1
8:2 Fluorotelomer sulfonic acid	0.00086	U	0.0026	0.00086	ug/L		06/24/24 11:06	06/27/24 01:06	1

Client Sample ID: GSRY-FB-20240611-01
Lab Sample ID: 670-41653-19
Date Collected: 06/11/24 11:00
Matrix: Water
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
DONA	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
HFPODA	0.00043	U	0.0026	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
NMeFOSAA	0.00052	U	0.0017	0.00052	ug/L		06/24/24 11:06	06/27/24 01:06	1
NMeFOSA	0.00086	U	0.0026	0.00086	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorobutanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorobutanoic acid	0.0017	U	0.0043	0.0017	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluoroheptanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluoroheptanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorohexanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorohexanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorononanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorooctanesulfonamide	0.00060	U	0.0017	0.00060	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorooctanesulfonic acid	0.00086	U	0.0018	0.00086	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorooctanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluoropentanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluoropentanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/24/24 11:06	06/27/24 01:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*145*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C8 FOSA	*124*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C4 PFHpA	*143*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C5 PFPeA	*138*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C2 PFTeDA	*114*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
d3-NMeFOSAA	*156*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
M2-6:2 FTS	*349*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
M2-8:2 FTS	*134*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C3 PFBS	*151*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
M2-4:2 FTS	*137*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C3 HFPO-DA	*143*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C8 PFOA	*167*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C8 PFOS	*147*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C5 PFHxA	*138*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C9 PFNA	*130*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C6 PFDA	*150*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C7 PFUnA	*133*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C3 PFHxS	*144*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
13C2-PFDoDA	*133*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
d3-NMePFOSA	*66*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*
d5-NEtFOSAA	*131*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:06*	*1*

Client: AECOM Technical Services Inc.
Job ID: 670-41653-1
Project/Site: NASA KSC GSRY PFAS MW

Client Sample ID: GSRY-EB-20240611-01
Lab Sample ID: 670-41653-20
Date Collected: 06/11/24 08:55
Matrix: Water
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
6:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		06/24/24 11:06	06/27/24 01:19	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		06/24/24 11:06	06/27/24 01:19	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
DONA	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
HFPODA	0.00044	U	0.0026	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		06/24/24 11:06	06/27/24 01:19	1
NMeFOSA	0.00088	U	0.0026	0.00088	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorobutanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorobutanoic acid	0.0018	U	0.0044	0.0018	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluoroheptanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorohexanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorohexanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorononanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorooctanesulfonamide	0.00061	U	0.0018	0.00061	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorooctanesulfonic acid	0.00088	U	0.0018	0.00088	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorooctanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluoropentanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluoropentanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/24/24 11:06	06/27/24 01:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*140*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C8 FOSA	*122*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C4 PFHpA	*138*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C5 PFPeA	*133*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C2 PFTeDA	*115*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
d3-NMeFOSAA	*138*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
M2-6:2 FTS	*452*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
M2-8:2 FTS	*136*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C3 PFBS	*141*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
M2-4:2 FTS	*136*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C3 HFPO-DA	*135*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C8 PFOA	*160*	*	*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C8 PFOS	*140*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C5 PFHxA	*137*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C9 PFNA	*123*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C6 PFDA	*139*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C7 PFUnA	*131*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C3 PFHxS	*136*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
13C2-PFDoDA	*119*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*

Client Sample ID: GSRY-EB-20240611-01 — Lab Sample ID: 670-41653-20

Date Collected: 06/11/24 08:55 — **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMePFOSA	*59*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*
d5-NEtFOSAA	*129*		*50 - 150*	*06/24/24 11:06*	*06/27/24 01:19*	*1*

Client Sample ID: GSRY-FD-20240613-02 — Lab Sample ID: 670-41653-21

Date Collected: 06/13/24 09:00 — **Matrix: Water**
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
4:2 Fluorotelomer sulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
6:2 Fluorotelomer sulfonic acid	0.00085	U	0.0025	0.00085	ug/L		06/25/24 15:27	06/28/24 06:07	1
8:2 Fluorotelomer sulfonic acid	0.00085	U	0.0025	0.00085	ug/L		06/25/24 15:27	06/28/24 06:07	1
9Cl-PF3ONS	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
DONA	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
HFPODA	**0.0075**	**V**	0.0025	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
NEtFOSAA	0.00042	U	0.0025	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
NMeFOSAA	0.00051	U	0.0017	0.00051	ug/L		06/25/24 15:27	06/28/24 06:07	1
NMeFOSA	0.00085	U	0.0025	0.00085	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorobutanesulfonic acid	**0.0018**	**V**	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorobutanoic acid	**0.0052**		0.0042	0.0017	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorodecanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorodecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorododecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluoroheptanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluoroheptanoic acid	**0.0013**	**I**	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorohexanesulfonic acid	**0.0074**		0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorohexanoic acid	**0.0035**	**V**	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorononanesulfonic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorononanoic acid	**0.00059**	**I**	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorooctanesulfonamide	**0.0013**	**I**	0.0017	0.00059	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorooctanesulfonic acid	**0.0093**		0.0018	0.00085	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorooctanoic acid	**0.0045**		0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluoropentanesulfonic acid	**0.00074**	**I**	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluoropentanoic acid	**0.0018**		0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorotetradecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluorotridecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1
Perfluoroundecanoic acid	0.00042	U	0.0017	0.00042	ug/L		06/25/24 15:27	06/28/24 06:07	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	*50*		*50 - 150*	*06/25/24 15:27*	*06/28/24 06:07*	*1*
13C8 FOSA	*106*		*50 - 150*	*06/25/24 15:27*	*06/28/24 06:07*	*1*
13C4 PFHpA	*133*		*50 - 150*	*06/25/24 15:27*	*06/28/24 06:07*	*1*
13C5 PFPeA	*87*		*50 - 150*	*06/25/24 15:27*	*06/28/24 06:07*	*1*
13C2 PFTeDA	*112*		*50 - 150*	*06/25/24 15:27*	*06/28/24 06:07*	*1*
d3-NMeFOSAA	*127*		*50 - 150*	*06/25/24 15:27*	*06/28/24 06:07*	*1*
M2-6:2 FTS	*279*	*	*50 - 150*	*06/25/24 15:27*	*06/28/24 06:07*	*1*
M2-8:2 FTS	*144*		*50 - 150*	*06/25/24 15:27*	*06/28/24 06:07*	*1*
13C3 PFBS	*111*		*50 - 150*	*06/25/24 15:27*	*06/28/24 06:07*	*1*
M2-4:2 FTS	*219*	*	*50 - 150*	*06/25/24 15:27*	*06/28/24 06:07*	*1*
13C3 HFPO-DA	*116*		*50 - 150*	*06/25/24 15:27*	*06/28/24 06:07*	*1*

Client Sample ID: GSRY-FD-20240613-02

Lab Sample ID: 670-41653-21

Date Collected: 06/13/24 09:00

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	139		50 - 150	06/25/24 15:27	06/28/24 06:07	1
13C8 PFOS	136		50 - 150	06/25/24 15:27	06/28/24 06:07	1
13C5 PFHxA	116		50 - 150	06/25/24 15:27	06/28/24 06:07	1
13C9 PFNA	133		50 - 150	06/25/24 15:27	06/28/24 06:07	1
13C6 PFDA	131		50 - 150	06/25/24 15:27	06/28/24 06:07	1
13C7 PFUnA	130		50 - 150	06/25/24 15:27	06/28/24 06:07	1
13C3 PFHxS	133		50 - 150	06/25/24 15:27	06/28/24 06:07	1
13C2-PFDoDA	122		50 - 150	06/25/24 15:27	06/28/24 06:07	1
d3-NMePFOSA	64		50 - 150	06/25/24 15:27	06/28/24 06:07	1
d5-NEtFOSAA	131		50 - 150	06/25/24 15:27	06/28/24 06:07	1

Client Sample ID: GSRY-EB-20240613-02

Lab Sample ID: 670-41653-22

Date Collected: 06/13/24 10:20

Matrix: Water

Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
6:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		06/25/24 15:27	06/28/24 06:20	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		06/25/24 15:27	06/28/24 06:20	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
DONA	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
HFPODA	**0.0046**	**V**	0.0026	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		06/25/24 15:27	06/28/24 06:20	1
NMeFOSA	0.00088	U	0.0026	0.00088	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorobutanesulfonic acid	**0.0012**	**I V**	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorobutanoic acid	0.0018	U	0.0044	0.0018	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluoroheptanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorohexanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorohexanoic acid	**0.00084**	**I V**	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorononanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorooctanesulfonamide	0.00061	U	0.0018	0.00061	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorooctanesulfonic acid	0.00088	U	0.0018	0.00088	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorooctanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluoropentanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluoropentanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/25/24 15:27	06/28/24 06:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	124		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C8 FOSA	103		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C4 PFHpA	129		50 - 150	06/25/24 15:27	06/28/24 06:20	1

Client Sample ID: GSRY-EB-20240613-02
Lab Sample ID: 670-41653-22
Date Collected: 06/13/24 10:20
Matrix: Water
Date Received: 06/13/24 14:09

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	123		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C2 PFTeDA	120		50 - 150	06/25/24 15:27	06/28/24 06:20	1
d3-NMeFOSAA	126		50 - 150	06/25/24 15:27	06/28/24 06:20	1
M2-6:2 FTS	374	*	50 - 150	06/25/24 15:27	06/28/24 06:20	1
M2-8:2 FTS	138		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C3 PFBS	136		50 - 150	06/25/24 15:27	06/28/24 06:20	1
M2-4:2 FTS	132		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C3 HFPO-DA	124		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C8 PFOA	150		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C8 PFOS	136		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C5 PFHxA	124		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C9 PFNA	126		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C6 PFDA	126		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C7 PFUnA	135		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C3 PFHxS	133		50 - 150	06/25/24 15:27	06/28/24 06:20	1
13C2-PFDoDA	123		50 - 150	06/25/24 15:27	06/28/24 06:20	1
d3-NMePFOSA	81		50 - 150	06/25/24 15:27	06/28/24 06:20	1
d5-NEtFOSAA	127		50 - 150	06/25/24 15:27	06/28/24 06:20	1

Isotope Dilution Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS MW

Job ID: 670-41653-1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFOSA	C4PFHA	PFPeA	PFTDA	d3NMFOS	M262FTS	M282FTS
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
670-41653-1	GSRY-MW0002S-007.0-20240611	83	113	143	115	113	146	327 *	136
670-41653-2	GSRY-MW0008S-007.0-20240611	57	115	142	97	86	140	322 *	147
670-41653-3	GSRY-MW0064-025.0-20240613	43 *	98	120	81	102	116	230 *	138
670-41653-4	GSRY-MW0079-007.0-20240611	73	116	139	105	90	137	377 *	201 *
670-41653-5	GSRY-MW0080-007.0-20240611	40 *	113	135	77	71	134	300 *	148
670-41653-6	GSRY-MW0081-007.0-20240613	84	93	108	98	96	104	242 *	126
670-41653-7	GSRY-MW0082-007.0-20240613	83	85	100	91	83	96	230 *	113
670-41653-8	GSRY-MW0083-007.0-20240613	45 *	105	123	81	100	116	244 *	136
670-41653-9	GSRY-MW0084-025.0-20240613	27 *	19 *	105	57	38 *	79	117	99
670-41653-9 MS	GSRY-MW0084-025.0-20240613	35 *	26 *	108	73	36 *	75	117	92
670-41653-9 MSD	GSRY-MW0084-025.0-20240613	31 *	19 *	95	62	52	76	109	102
670-41653-10	GSRY-FB-20240613-02	111	88	114	107	106	109	313 *	123
670-41653-11	GSRY-MW0069-015.0-20240611	70	116	158 *	103	90	144	419 *	217 *
670-41653-12	GSRY-MW0070-015.0-20240611	57	108	135	95	107	129	352 *	137
670-41653-13	GSRY-MW0073-022.0-20240611	60	115	146	99	102	144	370 *	193 *
670-41653-14	GSRY-MW0074-012.0-20240611	58	130	157 *	94	104	142	446 *	257 *
670-41653-15	GSRY-MW0076-015.0-20240611	62	103	129	85	75	119	257 *	154 *
670-41653-15 - DL	GSRY-MW0076-015.0-20240611								
670-41653-16	GSRY-MW0077-015.0-20240611	65	113	137	101	85	144	373 *	157 *
670-41653-17	GSRY-MW0078-012.0-20240610	80	10 *	116	118	0.9 *	17 *	102	39 *
670-41653-18	GSRY-FD-20240610-01	73	11 *	115	113	5 *	28 *	116	65
670-41653-19	GSRY-FB-20240611-01	145	124	143	138	114	156 *	349 *	134
670-41653-20	GSRY-EB-20240611-01	140	122	138	133	115	138	452 *	136
670-41653-21	GSRY-FD-20240613-02	50	106	133	87	112	127	279 *	144
670-41653-22	GSRY-EB-20240613-02	124	103	129	123	120	126	374 *	138
LCS 410-519621/2-A	Lab Control Sample	125	113	123	121	80	124	140	136
LCS 410-520630/2-A	Lab Control Sample	149	128	146	147	137	151 *	310 *	139
LCS 410-521304/2-A	Lab Control Sample	121	97	131	121	121	131	150	138
LCS 410-521833/2-A	Lab Control Sample	122	107	112	113	103	105	123	107
LCSD 410-520630/3-A	Lab Control Sample Dup	140	117	142	134	126	142	422 *	134
MB 410-519621/1-A	Method Blank	136	113	128	131	47 *	102	148	121
MB 410-520630/1-A	Method Blank	152 *	128	147	145	131	148	398 *	134
MB 410-521304/1-A	Method Blank	112	82	117	111	98	113	135	132
MB 410-521833/1-A	Method Blank	117	108	117	115	102	119	67	122

Isotope Dilution Summary

Client: AECOM Technical Services Inc. Job ID: 670-41653-1
Project/Site: NASA KSC GSRY PFAS MW

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C3PFBS (50-150)	M242FTS (50-150)	HFPODA (50-150)	C8PFOA (50-150)	C8PFOS (50-150)	13C5PHA (50-150)	C9PFNA (50-150)	C6PFDA (50-150)
670-41653-1	GSRY-MW0002S-007.0-20240611	141	276 *	131	152 *	140	136	130	136
670-41653-2	GSRY-MW0008S-007.0-20240611	126	292 *	133	154 *	145	131	132	144
670-41653-3	GSRY-MW0064-025.0-20240613	100	202 *	113	127	125	105	120	120
670-41653-4	GSRY-MW0079-007.0-20240611	139	359 *	125	144	147	130	142	153 *
670-41653-5	GSRY-MW0080-007.0-20240611	107	266 *	118	145	141	117	128	136
670-41653-6	GSRY-MW0081-007.0-20240613	114	130	108	120	113	102	108	112
670-41653-7	GSRY-MW0082-007.0-20240613	109	115	96	108	105	97	97	96
670-41653-8	GSRY-MW0083-007.0-20240613	104	217 *	119	127	131	110	121	119
670-41653-9	GSRY-MW0084-025.0-20240613	72	126	94	99	105	93	104	95
670-41653-9 MS	GSRY-MW0084-025.0-20240613	88	127	104	102	108	99	106	95
670-41653-9 MSD	GSRY-MW0084-025.0-20240613	77	112	88	89	100	86	101	89
670-41653-10	GSRY-FB-20240613-02	117	118	108	136	121	111	116	111
670-41653-11	GSRY-MW0069-015.0-20240611	142	443 *	132	162 *	147	138	153 *	166 *
670-41653-12	GSRY-MW0070-015.0-20240611	126	288 *	123	140	136	122	120	126
670-41653-13	GSRY-MW0073-022.0-20240611	135	347 *	131	151 *	146	128	133	139
670-41653-14	GSRY-MW0074-012.0-20240611	134	369 *	128	157 *	149	132	146	164 *
670-41653-15	GSRY-MW0076-015.0-20240611	125	363 *	106	119	128	110	134	129
670-41653-15 - DL	GSRY-MW0076-015.0-20240611				146				
670-41653-16	GSRY-MW0077-015.0-20240611	135	301 *	130	152 *	144	128	131	146
670-41653-17	GSRY-MW0078-012.0-20240610	138	163 *	121	95	63	125	68	41 *
670-41653-18	GSRY-FD-20240610-01	135	168 *	116	105	89	120	89	61
670-41653-19	GSRY-FB-20240611-01	151 *	137	143	167 *	147	138	130	150
670-41653-20	GSRY-EB-20240611-01	141	136	135	160 *	140	137	123	139
670-41653-21	GSRY-FD-20240613-02	111	219 *	116	139	136	116	133	131
670-41653-22	GSRY-EB-20240613-02	136	132	124	150	136	124	126	126
LCS 410-519621/2-A	Lab Control Sample	138	132	125	124	136	126	133	120
LCS 410-520630/2-A	Lab Control Sample	150	150	144	168 *	153 *	147	141	151 *
LCS 410-521304/2-A	Lab Control Sample	137	135	122	131	135	129	130	126
LCS 410-521833/2-A	Lab Control Sample	125	126	117	112	119	114	117	108
LCSD 410-520630/3-A	Lab Control Sample Dup	142	142	142	164 *	148	146	133	144
MB 410-519621/1-A	Method Blank	145	134	135	131	136	135	137	125
MB 410-520630/1-A	Method Blank	152 *	143	146	171 *	154 *	148	139	153 *
MB 410-521304/1-A	Method Blank	123	122	103	119	125	120	121	118
MB 410-521833/1-A	Method Blank	121	120	101	122	122	113	128	125

Isotope Dilution Summary

Client: AECOM Technical Services Inc. Job ID: 670-41653-1
Project/Site: NASA KSC GSRY PFAS MW

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)				
Lab Sample ID	Client Sample ID	13C7PUA (50-150)	C3PFHS (50-150)	PFDoDA (50-150)	d3NMFSA (50-150)	d5NEFOS (50-150)
670-41653-1	GSRY-MW0002S-007.0-20240611	127	150	118	87	121
670-41653-2	GSRY-MW0008S-007.0-20240611	129	151 *	107	81	119
670-41653-3	GSRY-MW0064-025.0-20240613	117	120	116	79	117
670-41653-4	GSRY-MW0079-007.0-20240611	120	150	104	76	123
670-41653-5	GSRY-MW0080-007.0-20240611	126	141	100	64	119
670-41653-6	GSRY-MW0081-007.0-20240613	109	114	100	64	101
670-41653-7	GSRY-MW0082-007.0-20240613	98	107	90	66	97
670-41653-8	GSRY-MW0083-007.0-20240613	123	127	116	76	118
670-41653-9	GSRY-MW0084-025.0-20240613	86	106	72	0.2 *	75
670-41653-9 MS	GSRY-MW0084-025.0-20240613	88	115	66	0.2 *	63
670-41653-9 MSD	GSRY-MW0084-025.0-20240613	84	99	73	0.2 *	73
670-41653-10	GSRY-FB-20240613-02	109	116	111	69	108
670-41653-11	GSRY-MW0069-015.0-20240611	122	155 *	110	20 *	126
670-41653-12	GSRY-MW0070-015.0-20240611	119	145	116	88	126
670-41653-13	GSRY-MW0073-022.0-20240611	128	153 *	118	73	128
670-41653-14	GSRY-MW0074-012.0-20240611	127	155 *	119	85	125
670-41653-15	GSRY-MW0076-015.0-20240611	107	130	93	59	109
670-41653-15 - DL	GSRY-MW0076-015.0-20240611					
670-41653-16	GSRY-MW0077-015.0-20240611	131	147	115	87	130
670-41653-17	GSRY-MW0078-012.0-20240610	18 *	117	7 *	0.009 *	11 *
670-41653-18	GSRY-FD-20240610-01	37 *	121	18 *	0.03 *	16 *
670-41653-19	GSRY-FB-20240611-01	133	144	133	66	131
670-41653-20	GSRY-EB-20240611-01	131	136	119	59	129
670-41653-21	GSRY-FD-20240613-02	130	133	122	64	131
670-41653-22	GSRY-EB-20240613-02	135	133	123	81	127
LCS 410-519621/2-A	Lab Control Sample	130	137	106	69	117
LCS 410-520630/2-A	Lab Control Sample	145	147	136	70	141
LCS 410-521304/2-A	Lab Control Sample	131	140	118	65	124
LCS 410-521833/2-A	Lab Control Sample	111	119	100	57	114
LCSD 410-520630/3-A	Lab Control Sample Dup	132	142	131	67	125
MB 410-519621/1-A	Method Blank	116	142	85	63	82
MB 410-520630/1-A	Method Blank	142	151 *	132	73	139
MB 410-521304/1-A	Method Blank	110	124	103	58	104
MB 410-521833/1-A	Method Blank	116	121	114	67	112

Surrogate Legend

PFBA = 13C4 PFBA

Isotope Dilution Summary

Client: AECOM Technical Services Inc.
Job ID: 670-41653-1
Project/Site: NASA KSC GSRY PFAS MW

PFOSA = 13C8 FOSA
C4PFHA = 13C4 PFHpA
PFPeA = 13C5 PFPeA
PFTDA = 13C2 PFTeDA
d3NMFOS = d3-NMeFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
C3PFBS = 13C3 PFBS
M242FTS = M2-4:2 FTS
HFPODA = 13C3 HFPO-DA
C8PFOA = 13C8 PFOA
C8PFOS = 13C8 PFOS
13C5PHA = 13C5 PFHxA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
C3PFHS = 13C3 PFHxS
PFDoDA = 13C2-PFDoDA
d3NMFSA = d3-NMePFOSA
d5NEFOS = d5-NEtFOSAA

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Lab Sample ID: MB 410-519621/1-A
Matrix: Water
Analysis Batch: 523089

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 519621

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
6:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/20/24 12:16	06/29/24 23:41	1
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/20/24 12:16	06/29/24 23:41	1
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
DONA	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
HFPODA	0.00115	I	0.0030	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		06/20/24 12:16	06/29/24 23:41	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorobutanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorohexanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/20/24 12:16	06/29/24 23:41	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*136*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C8 FOSA	*113*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C4 PFHpA	*128*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C5 PFPeA	*131*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C2 PFTeDA	*47*	*	*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
d3-NMeFOSAA	*102*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
M2-6:2 FTS	*148*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
M2-8:2 FTS	*121*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C3 PFBS	*145*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
M2-4:2 FTS	*134*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C3 HFPO-DA	*135*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C8 PFOA	*131*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C8 PFOS	*136*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C5 PFHxA	*135*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C9 PFNA	*137*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C6 PFDA	*125*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*
13C7 PFUnA	*116*		*50 - 150*	*06/20/24 12:16*	*06/29/24 23:41*	*1*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-519621/1-A
Matrix: Water
Analysis Batch: 523089

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 519621

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	142		50 - 150	06/20/24 12:16	06/29/24 23:41	1
13C2-PFDoDA	85		50 - 150	06/20/24 12:16	06/29/24 23:41	1
d3-NMePFOSA	63		50 - 150	06/20/24 12:16	06/29/24 23:41	1
d5-NEtFOSAA	82		50 - 150	06/20/24 12:16	06/29/24 23:41	1

Lab Sample ID: LCS 410-519621/2-A
Matrix: Water
Analysis Batch: 523089

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 519621

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.0238	0.0193		ug/L		81	58 - 127
4:2 Fluorotelomer sulfonic acid	0.0239	0.0210		ug/L		88	63 - 143
6:2 Fluorotelomer sulfonic acid	0.0243	0.0229		ug/L		94	64 - 140
8:2 Fluorotelomer sulfonic acid	0.0245	0.0196		ug/L		80	67 - 138
9Cl-PF3ONS	0.0238	0.0207		ug/L		87	61 - 130
DONA	0.0242	0.0249		ug/L		103	64 - 131
HFPODA	0.0256	0.0255		ug/L		99	54 - 129
NEtFOSAA	0.0256	0.0233		ug/L		91	61 - 135
NMeFOSAA	0.0256	0.0230		ug/L		90	65 - 136
NMeFOSA	0.0256	0.0257		ug/L		101	50 - 175
Perfluorobutanesulfonic acid	0.0227	0.0208		ug/L		92	72 - 130
Perfluorobutanoic acid	0.0256	0.0237		ug/L		93	73 - 129
Perfluorodecanesulfonic acid	0.0247	0.0176		ug/L		71	53 - 142
Perfluorodecanoic acid	0.0256	0.0254		ug/L		99	71 - 129
Perfluorododecanoic acid	0.0256	0.0249		ug/L		97	72 - 134
Perfluoroheptanesulfonic acid	0.0244	0.0223		ug/L		92	69 - 134
Perfluoroheptanoic acid	0.0256	0.0264		ug/L		103	72 - 130
Perfluorohexanesulfonic acid	0.0233	0.0218		ug/L		93	68 - 131
Perfluorohexanoic acid	0.0256	0.0247		ug/L		97	72 - 129
Perfluorononanesulfonic acid	0.0246	0.0226		ug/L		92	69 - 127
Perfluorononanoic acid	0.0256	0.0237		ug/L		93	69 - 130
Perfluorooctanesulfonamide	0.0256	0.0256		ug/L		100	67 - 137
Perfluorooctanesulfonic acid	0.0237	0.0207		ug/L		87	65 - 140
Perfluorooctanoic acid	0.0256	0.0254		ug/L		99	71 - 133
Perfluoropentanesulfonic acid	0.0240	0.0208		ug/L		86	71 - 127
Perfluoropentanoic acid	0.0256	0.0260		ug/L		101	72 - 129
Perfluorotetradecanoic acid	0.0256	0.0243		ug/L		95	71 - 132
Perfluorotridecanoic acid	0.0256	0.0231		ug/L		90	65 - 144
Perfluoroundecanoic acid	0.0256	0.0244		ug/L		95	69 - 133

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	125		50 - 150
13C8 FOSA	113		50 - 150
13C4 PFHpA	123		50 - 150
13C5 PFPeA	121		50 - 150
13C2 PFTeDA	80		50 - 150
d3-NMeFOSAA	124		50 - 150
M2-6:2 FTS	140		50 - 150
M2-8:2 FTS	136		50 - 150

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-519621/2-A
Matrix: Water
Analysis Batch: 523089

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 519621

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 PFBS	138		50 - 150
M2-4:2 FTS	132		50 - 150
13C3 HFPO-DA	125		50 - 150
13C8 PFOA	124		50 - 150
13C8 PFOS	136		50 - 150
13C5 PFHxA	126		50 - 150
13C9 PFNA	133		50 - 150
13C6 PFDA	120		50 - 150
13C7 PFUnA	130		50 - 150
13C3 PFHxS	137		50 - 150
13C2-PFDoDA	106		50 - 150
d3-NMePFOSA	69		50 - 150
d5-NEtFOSAA	117		50 - 150

Lab Sample ID: MB 410-520630/1-A
Matrix: Water
Analysis Batch: 521854

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 520630

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
6:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/24/24 11:06	06/26/24 19:26	1
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/24/24 11:06	06/26/24 19:26	1
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
DONA	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
HFPODA	0.00050	U	0.0030	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		06/24/24 11:06	06/26/24 19:26	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorobutanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorohexanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/24/24 11:06	06/26/24 19:26	1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	152	*	50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C8 FOSA	128		50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C4 PFHpA	147		50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C5 PFPeA	145		50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C2 PFTeDA	131		50 - 150	06/24/24 11:06	06/26/24 19:26	1
d3-NMeFOSAA	148		50 - 150	06/24/24 11:06	06/26/24 19:26	1
M2-6:2 FTS	398	*	50 - 150	06/24/24 11:06	06/26/24 19:26	1
M2-8:2 FTS	134		50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C3 PFBS	152	*	50 - 150	06/24/24 11:06	06/26/24 19:26	1
M2-4:2 FTS	143		50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C3 HFPO-DA	146		50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C8 PFOA	171	*	50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C8 PFOS	154	*	50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C5 PFHxA	148		50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C9 PFNA	139		50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C6 PFDA	153	*	50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C7 PFUnA	142		50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C3 PFHxS	151	*	50 - 150	06/24/24 11:06	06/26/24 19:26	1
13C2-PFDoDA	132		50 - 150	06/24/24 11:06	06/26/24 19:26	1
d3-NMePFOSA	73		50 - 150	06/24/24 11:06	06/26/24 19:26	1
d5-NEtFOSAA	139		50 - 150	06/24/24 11:06	06/26/24 19:26	1

Lab Sample ID: LCS 410-520630/2-A
Matrix: Water
Analysis Batch: 521854

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 520630

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.0238	0.0179		ug/L		75	58 - 127
4:2 Fluorotelomer sulfonic acid	0.0239	0.0182		ug/L		76	63 - 143
6:2 Fluorotelomer sulfonic acid	0.0243	0.0206		ug/L		85	64 - 140
8:2 Fluorotelomer sulfonic acid	0.0245	0.0213		ug/L		87	67 - 138
9Cl-PF3ONS	0.0238	0.0190		ug/L		80	61 - 130
DONA	0.0242	0.0186		ug/L		77	64 - 131
HFPODA	0.0256	0.0184		ug/L		72	54 - 129
NEtFOSAA	0.0256	0.0217		ug/L		85	61 - 135
NMeFOSAA	0.0256	0.0210		ug/L		82	65 - 136
NMeFOSA	0.0256	0.0255		ug/L		99	50 - 175
Perfluorobutanesulfonic acid	0.0227	0.0189		ug/L		83	72 - 130
Perfluorobutanoic acid	0.0256	0.0206		ug/L		81	73 - 129
Perfluorodecanesulfonic acid	0.0247	0.0178		ug/L		72	53 - 142
Perfluorodecanoic acid	0.0256	0.0208		ug/L		81	71 - 129
Perfluorododecanoic acid	0.0256	0.0228		ug/L		89	72 - 134
Perfluoroheptanesulfonic acid	0.0244	0.0219		ug/L		90	69 - 134
Perfluoroheptanoic acid	0.0256	0.0197		ug/L		77	72 - 130
Perfluorohexanesulfonic acid	0.0233	0.0194		ug/L		83	68 - 131
Perfluorohexanoic acid	0.0256	0.0189		ug/L		74	72 - 129
Perfluorononanesulfonic acid	0.0246	0.0193		ug/L		78	69 - 127
Perfluorononanoic acid	0.0256	0.0211		ug/L		82	69 - 130
Perfluorooctanesulfonamide	0.0256	0.0218		ug/L		85	67 - 137
Perfluorooctanesulfonic acid	0.0237	0.0184		ug/L		77	65 - 140
Perfluorooctanoic acid	0.0256	0.0197		ug/L		77	71 - 133
Perfluoropentanesulfonic acid	0.0240	0.0181		ug/L		75	71 - 127

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-520630/2-A
Matrix: Water
Analysis Batch: 521854

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 520630

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanoic acid			0.0256	0.0216		ug/L		84	72 - 129		
Perfluorotetradecanoic acid			0.0256	0.0215		ug/L		84	71 - 132		
Perfluorotridecanoic acid			0.0256	0.0210		ug/L		82	65 - 144		
Perfluoroundecanoic acid			0.0256	0.0214		ug/L		83	69 - 133		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*149*		*50 - 150*
13C8 FOSA	*128*		*50 - 150*
13C4 PFHpA	*146*		*50 - 150*
13C5 PFPeA	*147*		*50 - 150*
13C2 PFTeDA	*137*		*50 - 150*
d3-NMeFOSAA	*151*	*	*50 - 150*
M2-6:2 FTS	*310*	*	*50 - 150*
M2-8:2 FTS	*139*		*50 - 150*
13C3 PFBS	*150*		*50 - 150*
M2-4:2 FTS	*150*		*50 - 150*
13C3 HFPO-DA	*144*		*50 - 150*
13C8 PFOA	*168*	*	*50 - 150*
13C8 PFOS	*153*	*	*50 - 150*
13C5 PFHxA	*147*		*50 - 150*
13C9 PFNA	*141*		*50 - 150*
13C6 PFDA	*151*	*	*50 - 150*
13C7 PFUnA	*145*		*50 - 150*
13C3 PFHxS	*147*		*50 - 150*
13C2-PFDoDA	*136*		*50 - 150*
d3-NMePFOSA	*70*		*50 - 150*
d5-NEtFOSAA	*141*		*50 - 150*

Lab Sample ID: LCSD 410-520630/3-A
Matrix: Water
Analysis Batch: 521854

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 520630

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11Cl-PF3OUdS			0.0238	0.0191		ug/L		80	58 - 127	6	30
4:2 Fluorotelomer sulfonic acid			0.0239	0.0194		ug/L		81	63 - 143	6	30
6:2 Fluorotelomer sulfonic acid			0.0243	0.0220		ug/L		90	64 - 140	7	30
8:2 Fluorotelomer sulfonic acid			0.0245	0.0208		ug/L		85	67 - 138	2	30
9Cl-PF3ONS			0.0238	0.0194		ug/L		81	61 - 130	2	30
DONA			0.0242	0.0191		ug/L		79	64 - 131	3	30
HFPODA			0.0256	0.0177		ug/L		69	54 - 129	4	30
NEtFOSAA			0.0256	0.0223		ug/L		87	61 - 135	3	30
NMeFOSAA			0.0256	0.0206		ug/L		81	65 - 136	2	30
NMeFOSA			0.0256	0.0266		ug/L		104	50 - 175	5	30
Perfluorobutanesulfonic acid			0.0227	0.0193		ug/L		85	72 - 130	2	30
Perfluorobutanoic acid			0.0256	0.0216		ug/L		84	73 - 129	4	30
Perfluorodecanesulfonic acid			0.0247	0.0180		ug/L		73	53 - 142	1	30
Perfluorodecanoic acid			0.0256	0.0218		ug/L		85	71 - 129	5	30
Perfluorododecanoic acid			0.0256	0.0225		ug/L		88	72 - 134	1	30
Perfluoroheptanesulfonic acid			0.0244	0.0223		ug/L		91	69 - 134	2	30

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCSD 410-520630/3-A
Matrix: Water
Analysis Batch: 521854

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 520630

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroheptanoic acid			0.0256	0.0197		ug/L		77	72 - 130	0	30
Perfluorohexanesulfonic acid			0.0233	0.0195		ug/L		83	68 - 131	0	30
Perfluorohexanoic acid			0.0256	0.0186		ug/L		73	72 - 129	2	30
Perfluorononanesulfonic acid			0.0246	0.0192		ug/L		78	69 - 127	0	30
Perfluorononanoic acid			0.0256	0.0213		ug/L		83	69 - 130	1	30
Perfluorooctanesulfonamide			0.0256	0.0230		ug/L		90	67 - 137	5	30
Perfluorooctanesulfonic acid			0.0237	0.0185		ug/L		78	65 - 140	1	30
Perfluorooctanoic acid			0.0256	0.0209		ug/L		82	71 - 133	6	30
Perfluoropentanesulfonic acid			0.0240	0.0188		ug/L		78	71 - 127	4	30
Perfluoropentanoic acid			0.0256	0.0222		ug/L		87	72 - 129	3	30
Perfluorotetradecanoic acid			0.0256	0.0227		ug/L		89	71 - 132	5	30
Perfluorotridecanoic acid			0.0256	0.0210		ug/L		82	65 - 144	0	30
Perfluoroundecanoic acid			0.0256	0.0223		ug/L		87	69 - 133	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*140*		*50 - 150*
13C8 FOSA	*117*		*50 - 150*
13C4 PFHpA	*142*		*50 - 150*
13C5 PFPeA	*134*		*50 - 150*
13C2 PFTeDA	*126*		*50 - 150*
d3-NMeFOSAA	*142*		*50 - 150*
M2-6:2 FTS	*422*	*	*50 - 150*
M2-8:2 FTS	*134*		*50 - 150*
13C3 PFBS	*142*		*50 - 150*
M2-4:2 FTS	*142*		*50 - 150*
13C3 HFPO-DA	*142*		*50 - 150*
13C8 PFOA	*164*	*	*50 - 150*
13C8 PFOS	*148*		*50 - 150*
13C5 PFHxA	*146*		*50 - 150*
13C9 PFNA	*133*		*50 - 150*
13C6 PFDA	*144*		*50 - 150*
13C7 PFUnA	*132*		*50 - 150*
13C3 PFHxS	*142*		*50 - 150*
13C2-PFDoDA	*131*		*50 - 150*
d3-NMePFOSA	*67*		*50 - 150*
d5-NEtFOSAA	*125*		*50 - 150*

Lab Sample ID: MB 410-521304/1-A
Matrix: Water
Analysis Batch: 522817

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 521304

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
6:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/25/24 15:27	06/28/24 15:10	1
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/25/24 15:27	06/28/24 15:10	1
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
DONA	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
HFPODA	0.00659		0.0030	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-521304/1-A
Matrix: Water
Analysis Batch: 522817

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 521304

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		06/25/24 15:27	06/28/24 15:10	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorobutanesulfonic acid	0.00148	I	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorohexanoic acid	0.00104	I	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/25/24 15:27	06/28/24 15:10	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*112*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C8 FOSA	*82*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C4 PFHpA	*117*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C5 PFPeA	*111*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C2 PFTeDA	*98*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
d3-NMeFOSAA	*113*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
M2-6:2 FTS	*135*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
M2-8:2 FTS	*132*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C3 PFBS	*123*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
M2-4:2 FTS	*122*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C3 HFPO-DA	*103*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C8 PFOA	*119*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C8 PFOS	*125*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C5 PFHxA	*120*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C9 PFNA	*121*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C6 PFDA	*118*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C7 PFUnA	*110*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C3 PFHxS	*124*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
13C2-PFDoDA	*103*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
d3-NMePFOSA	*58*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*
d5-NEtFOSAA	*104*		*50 - 150*	*06/25/24 15:27*	*06/28/24 15:10*	*1*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-521304/2-A
Matrix: Water
Analysis Batch: 522817

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 521304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.0238	0.0209		ug/L		88	58 - 127
4:2 Fluorotelomer sulfonic acid	0.0239	0.0204		ug/L		85	63 - 143
6:2 Fluorotelomer sulfonic acid	0.0243	0.0232		ug/L		95	64 - 140
8:2 Fluorotelomer sulfonic acid	0.0245	0.0214		ug/L		87	67 - 138
9Cl-PF3ONS	0.0238	0.0218		ug/L		92	61 - 130
DONA	0.0242	0.0226		ug/L		93	64 - 131
HFPODA	0.0256	0.0302	V	ug/L		118	54 - 129
NEtFOSAA	0.0256	0.0259		ug/L		101	61 - 135
NMeFOSAA	0.0256	0.0226		ug/L		88	65 - 136
NMeFOSA	0.0256	0.0276		ug/L		108	50 - 175
Perfluorobutanesulfonic acid	0.0227	0.0221		ug/L		98	72 - 130
Perfluorobutanoic acid	0.0256	0.0240		ug/L		94	73 - 129
Perfluorodecanesulfonic acid	0.0247	0.0203		ug/L		82	53 - 142
Perfluorodecanoic acid	0.0256	0.0259		ug/L		101	71 - 129
Perfluorododecanoic acid	0.0256	0.0257		ug/L		101	72 - 134
Perfluoroheptanesulfonic acid	0.0244	0.0216		ug/L		89	69 - 134
Perfluoroheptanoic acid	0.0256	0.0246		ug/L		96	72 - 130
Perfluorohexanesulfonic acid	0.0233	0.0214		ug/L		92	68 - 131
Perfluorohexanoic acid	0.0256	0.0242		ug/L		94	72 - 129
Perfluorononanesulfonic acid	0.0246	0.0221		ug/L		90	69 - 127
Perfluorononanoic acid	0.0256	0.0233		ug/L		91	69 - 130
Perfluorooctanesulfonamide	0.0256	0.0247		ug/L		96	67 - 137
Perfluorooctanesulfonic acid	0.0237	0.0217		ug/L		91	65 - 140
Perfluorooctanoic acid	0.0256	0.0242		ug/L		95	71 - 133
Perfluoropentanesulfonic acid	0.0240	0.0201		ug/L		84	71 - 127
Perfluoropentanoic acid	0.0256	0.0257		ug/L		100	72 - 129
Perfluorotetradecanoic acid	0.0256	0.0235		ug/L		92	71 - 132
Perfluorotridecanoic acid	0.0256	0.0268		ug/L		105	65 - 144
Perfluoroundecanoic acid	0.0256	0.0242		ug/L		94	69 - 133

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*121*		*50 - 150*
13C8 FOSA	*97*		*50 - 150*
13C4 PFHpA	*131*		*50 - 150*
13C5 PFPeA	*121*		*50 - 150*
13C2 PFTeDA	*121*		*50 - 150*
d3-NMeFOSAA	*131*		*50 - 150*
M2-6:2 FTS	*150*		*50 - 150*
M2-8:2 FTS	*138*		*50 - 150*
13C3 PFBS	*137*		*50 - 150*
M2-4:2 FTS	*135*		*50 - 150*
13C3 HFPO-DA	*122*		*50 - 150*
13C8 PFOA	*131*		*50 - 150*
13C8 PFOS	*135*		*50 - 150*
13C5 PFHxA	*129*		*50 - 150*
13C9 PFNA	*130*		*50 - 150*
13C6 PFDA	*126*		*50 - 150*
13C7 PFUnA	*131*		*50 - 150*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-521304/2-A
Matrix: Water
Analysis Batch: 522817

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 521304

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 PFHxS	140		50 - 150
13C2-PFDoDA	118		50 - 150
d3-NMePFOSA	65		50 - 150
d5-NEtFOSAA	124		50 - 150

Lab Sample ID: MB 410-521833/1-A
Matrix: Water
Analysis Batch: 529256

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 521833

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
6:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/26/24 15:06	07/17/24 13:03	1
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/26/24 15:06	07/17/24 13:03	1
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
DONA	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
HFPODA	0.000822	I J	0.0030	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		06/26/24 15:06	07/17/24 13:03	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorobutanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorohexanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	117		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C8 FOSA	108		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C4 PFHpA	117		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C5 PFPeA	115		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C2 PFTeDA	102		50 - 150	06/26/24 15:06	07/17/24 13:03	1
d3-NMeFOSAA	119		50 - 150	06/26/24 15:06	07/17/24 13:03	1
M2-6:2 FTS	67		50 - 150	06/26/24 15:06	07/17/24 13:03	1
M2-8:2 FTS	122		50 - 150	06/26/24 15:06	07/17/24 13:03	1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-521833/1-A
Matrix: Water
Analysis Batch: 529256

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 521833

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	121		50 - 150	06/26/24 15:06	07/17/24 13:03	1
M2-4:2 FTS	120		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C3 HFPO-DA	101		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C8 PFOA	122		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C8 PFOS	122		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C5 PFHxA	113		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C9 PFNA	128		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C6 PFDA	125		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C7 PFUnA	116		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C3 PFHxS	121		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C2-PFDoDA	114		50 - 150	06/26/24 15:06	07/17/24 13:03	1
d3-NMePFOSA	67		50 - 150	06/26/24 15:06	07/17/24 13:03	1
d5-NEtFOSAA	112		50 - 150	06/26/24 15:06	07/17/24 13:03	1

Lab Sample ID: LCS 410-521833/2-A
Matrix: Water
Analysis Batch: 528674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 521833

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.0238	0.0194		ug/L		82	58 - 127
4:2 Fluorotelomer sulfonic acid	0.0239	0.0208		ug/L		87	63 - 143
6:2 Fluorotelomer sulfonic acid	0.0243	0.0223		ug/L		92	64 - 140
8:2 Fluorotelomer sulfonic acid	0.0245	0.0221		ug/L		90	67 - 138
9Cl-PF3ONS	0.0238	0.0197		ug/L		83	61 - 130
DONA	0.0242	0.0222		ug/L		92	64 - 131
HFPODA	0.0256	0.0235		ug/L		92	54 - 129
NEtFOSAA	0.0256	0.0215		ug/L		84	61 - 135
NMeFOSAA	0.0256	0.0243		ug/L		95	65 - 136
NMeFOSA	0.0256	0.0275		ug/L		107	50 - 175
Perfluorobutanesulfonic acid	0.0227	0.0207		ug/L		91	72 - 130
Perfluorobutanoic acid	0.0256	0.0212		ug/L		83	73 - 129
Perfluorodecanesulfonic acid	0.0247	0.0187		ug/L		76	53 - 142
Perfluorodecanoic acid	0.0256	0.0242		ug/L		95	71 - 129
Perfluorododecanoic acid	0.0256	0.0241		ug/L		94	72 - 134
Perfluoroheptanesulfonic acid	0.0244	0.0213		ug/L		88	69 - 134
Perfluoroheptanoic acid	0.0256	0.0250		ug/L		98	72 - 130
Perfluorohexanesulfonic acid	0.0233	0.0217		ug/L		93	68 - 131
Perfluorohexanoic acid	0.0256	0.0229		ug/L		90	72 - 129
Perfluorononanesulfonic acid	0.0246	0.0210		ug/L		85	69 - 127
Perfluorononanoic acid	0.0256	0.0234		ug/L		92	69 - 130
Perfluorooctanesulfonamide	0.0256	0.0235		ug/L		92	67 - 137
Perfluorooctanesulfonic acid	0.0237	0.0197		ug/L		83	65 - 140
Perfluorooctanoic acid	0.0256	0.0234		ug/L		91	71 - 133
Perfluoropentanesulfonic acid	0.0240	0.0190		ug/L		79	71 - 127
Perfluoropentanoic acid	0.0256	0.0237		ug/L		92	72 - 129
Perfluorotetradecanoic acid	0.0256	0.0221		ug/L		86	71 - 132
Perfluorotridecanoic acid	0.0256	0.0243		ug/L		95	65 - 144
Perfluoroundecanoic acid	0.0256	0.0229		ug/L		90	69 - 133

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	122		50 - 150
13C8 FOSA	107		50 - 150
13C4 PFHpA	112		50 - 150
13C5 PFPeA	113		50 - 150
13C2 PFTeDA	103		50 - 150
d3-NMeFOSAA	105		50 - 150
M2-6:2 FTS	123		50 - 150
M2-8:2 FTS	107		50 - 150
13C3 PFBS	125		50 - 150
M2-4:2 FTS	126		50 - 150
13C3 HFPO-DA	117		50 - 150
13C8 PFOA	112		50 - 150
13C8 PFOS	119		50 - 150
13C5 PFHxA	114		50 - 150
13C9 PFNA	117		50 - 150
13C6 PFDA	108		50 - 150
13C7 PFUnA	111		50 - 150
13C3 PFHxS	119		50 - 150
13C2-PFDoDA	100		50 - 150
d3-NMePFOSA	57		50 - 150
d5-NEtFOSAA	114		50 - 150

Lab Sample ID: 670-41653-9 MS — **Client Sample ID: GSRY-MW0084-025.0-20240613**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 528674 — **Prep Batch: 521833**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.00042	U	0.0204	0.0136		ug/L		66	58 - 127
4:2 Fluorotelomer sulfonic acid	0.00042	U	0.0205	0.0173		ug/L		84	63 - 143
6:2 Fluorotelomer sulfonic acid	0.00084	U	0.0208	0.0212		ug/L		102	64 - 140
8:2 Fluorotelomer sulfonic acid	0.00084	U	0.0210	0.0196		ug/L		93	67 - 138
9Cl-PF3ONS	0.00042	U	0.0204	0.0172		ug/L		84	61 - 130
DONA	0.00042	U	0.0208	0.0208		ug/L		100	64 - 131
HFPODA	0.00054	I V	0.0220	0.0287		ug/L		128	54 - 129
NEtFOSAA	0.00042	U	0.0220	0.0204		ug/L		93	61 - 135
NMeFOSAA	0.00051	U	0.0220	0.0209		ug/L		95	65 - 136
NMeFOSA	0.00084	U	0.0220	0.0167		ug/L		76	50 - 175
Perfluorobutanesulfonic acid	0.00042	U	0.0194	0.0183		ug/L		94	72 - 130
Perfluorobutanoic acid	0.0018	I	0.0220	0.0208		ug/L		86	73 - 129
Perfluorodecanesulfonic acid	0.00042	U	0.0212	0.0142		ug/L		67	53 - 142
Perfluorodecanoic acid	0.00042	U	0.0220	0.0205		ug/L		93	71 - 129
Perfluorododecanoic acid	0.00042	U	0.0220	0.0213		ug/L		97	72 - 134
Perfluoroheptanesulfonic acid	0.00042	U	0.0209	0.0181		ug/L		86	69 - 134
Perfluoroheptanoic acid	0.00042	U	0.0220	0.0219		ug/L		100	72 - 130
Perfluorohexanesulfonic acid	0.0012	I	0.0200	0.0197		ug/L		93	68 - 131
Perfluorohexanoic acid	0.00062	I	0.0220	0.0247		ug/L		110	72 - 129
Perfluorononanesulfonic acid	0.00042	U	0.0211	0.0172		ug/L		82	69 - 127
Perfluorononanoic acid	0.00042	U	0.0220	0.0201		ug/L		92	69 - 130
Perfluorooctanesulfonamide	0.0013	I	0.0220	0.0238		ug/L		103	67 - 137
Perfluorooctanesulfonic acid	0.0037		0.0203	0.0211		ug/L		85	65 - 140
Perfluorooctanoic acid	0.00085	I	0.0220	0.0238		ug/L		105	71 - 133
Perfluoropentanesulfonic acid	0.00042	U	0.0206	0.0223		ug/L		108	71 - 127

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: 670-41653-9 MS
Matrix: Water
Analysis Batch: 528674

Client Sample ID: GSRY-MW0084-025.0-20240613
Prep Type: Total/NA
Prep Batch: 521833

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoropentanoic acid	0.00042	U	0.0220	0.0224		ug/L		102	72 - 129
Perfluorotetradecanoic acid	0.00042	U	0.0220	0.0207		ug/L		94	71 - 132
Perfluorotridecanoic acid	0.00042	U	0.0220	0.0160		ug/L		73	65 - 144
Perfluoroundecanoic acid	0.00042	U	0.0220	0.0201		ug/L		91	69 - 133

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA	*35*	*	*50 - 150*
13C8 FOSA	*26*	*	*50 - 150*
13C4 PFHpA	*108*		*50 - 150*
13C5 PFPeA	*73*		*50 - 150*
13C2 PFTeDA	*36*	*	*50 - 150*
d3-NMeFOSAA	*75*		*50 - 150*
M2-6:2 FTS	*117*		*50 - 150*
M2-8:2 FTS	*92*		*50 - 150*
13C3 PFBS	*88*		*50 - 150*
M2-4:2 FTS	*127*		*50 - 150*
13C3 HFPO-DA	*104*		*50 - 150*
13C8 PFOA	*102*		*50 - 150*
13C8 PFOS	*108*		*50 - 150*
13C5 PFHxA	*99*		*50 - 150*
13C9 PFNA	*106*		*50 - 150*
13C6 PFDA	*95*		*50 - 150*
13C7 PFUnA	*88*		*50 - 150*
13C3 PFHxS	*115*		*50 - 150*
13C2-PFDoDA	*66*		*50 - 150*
d3-NMePFOSA	*0.2*	*	*50 - 150*
d5-NEtFOSAA	*63*		*50 - 150*

Lab Sample ID: 670-41653-9 MSD
Matrix: Water
Analysis Batch: 528674

Client Sample ID: GSRY-MW0084-025.0-20240613
Prep Type: Total/NA
Prep Batch: 521833

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11Cl-PF3OUdS	0.00042	U	0.0203	0.0177		ug/L		87	58 - 127	26	30
4:2 Fluorotelomer sulfonic acid	0.00042	U	0.0203	0.0197		ug/L		97	63 - 143	13	30
6:2 Fluorotelomer sulfonic acid	0.00084	U	0.0206	0.0212		ug/L		103	64 - 140	0	30
8:2 Fluorotelomer sulfonic acid	0.00084	U	0.0209	0.0195		ug/L		94	67 - 138	0	30
9Cl-PF3ONS	0.00042	U	0.0203	0.0198		ug/L		98	61 - 130	14	30
DONA	0.00042	U	0.0206	0.0223		ug/L		108	64 - 131	7	30
HFPODA	0.00054	I V	0.0218	0.0347	J3	ug/L		157	54 - 129	19	30
NEtFOSAA	0.00042	U	0.0218	0.0220		ug/L		101	61 - 135	8	30
NMeFOSAA	0.00051	U	0.0218	0.0239		ug/L		110	65 - 136	14	30
NMeFOSA	0.00084	U	0.0218	0.0301	J3	ug/L		138	50 - 175	57	30
Perfluorobutanesulfonic acid	0.00042	U	0.0193	0.0192		ug/L		100	72 - 130	5	30
Perfluorobutanoic acid	0.0018	I	0.0218	0.0228		ug/L		96	73 - 129	9	30
Perfluorodecanesulfonic acid	0.00042	U	0.0210	0.0166		ug/L		79	53 - 142	16	30
Perfluorodecanoic acid	0.00042	U	0.0218	0.0241		ug/L		111	71 - 129	16	30
Perfluorododecanoic acid	0.00042	U	0.0218	0.0234		ug/L		108	72 - 134	10	30
Perfluoroheptanesulfonic acid	0.00042	U	0.0207	0.0209		ug/L		101	69 - 134	15	30

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: 670-41653-9 MSD
Matrix: Water
Analysis Batch: 528674

Client Sample ID: GSRY-MW0084-025.0-20240613
Prep Type: Total/NA
Prep Batch: 521833

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluoroheptanoic acid	0.00042	U	0.0218	0.0235		ug/L		108	72 - 130	7	30
Perfluorohexanesulfonic acid	0.0012	I	0.0199	0.0229		ug/L		109	68 - 131	15	30
Perfluorohexanoic acid	0.00062	I	0.0218	0.0288		ug/L		129	72 - 129	15	30
Perfluorononanesulfonic acid	0.00042	U	0.0209	0.0205		ug/L		98	69 - 127	18	30
Perfluorononanoic acid	0.00042	U	0.0218	0.0221		ug/L		102	69 - 130	10	30
Perfluorooctanesulfonamide	0.0013	I	0.0218	0.0260		ug/L		114	67 - 137	9	30
Perfluorooctanesulfonic acid	0.0037		0.0202	0.0231		ug/L		96	65 - 140	9	30
Perfluorooctanoic acid	0.00085	I	0.0218	0.0277		ug/L		123	71 - 133	15	30
Perfluoropentanesulfonic acid	0.00042	U	0.0204	0.0238		ug/L		116	71 - 127	6	30
Perfluoropentanoic acid	0.00042	U	0.0218	0.0240		ug/L		110	72 - 129	7	30
Perfluorotetradecanoic acid	0.00042	U	0.0218	0.0228		ug/L		105	71 - 132	10	30
Perfluorotridecanoic acid	0.00042	U	0.0218	0.0191		ug/L		88	65 - 144	18	30
Perfluoroundecanoic acid	0.00042	U	0.0218	0.0232		ug/L		106	69 - 133	14	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*31*	*	*50 - 150*
13C8 FOSA	*19*	*	*50 - 150*
13C4 PFHpA	*95*		*50 - 150*
13C5 PFPeA	*62*		*50 - 150*
13C2 PFTeDA	*52*		*50 - 150*
d3-NMeFOSAA	*76*		*50 - 150*
M2-6:2 FTS	*109*		*50 - 150*
M2-8:2 FTS	*102*		*50 - 150*
13C3 PFBS	*77*		*50 - 150*
M2-4:2 FTS	*112*		*50 - 150*
13C3 HFPO-DA	*88*		*50 - 150*
13C8 PFOA	*89*		*50 - 150*
13C8 PFOS	*100*		*50 - 150*
13C5 PFHxA	*86*		*50 - 150*
13C9 PFNA	*101*		*50 - 150*
13C6 PFDA	*89*		*50 - 150*
13C7 PFUnA	*84*		*50 - 150*
13C3 PFHxS	*99*		*50 - 150*
13C2-PFDoDA	*73*		*50 - 150*
d3-NMePFOSA	*0.2*	*	*50 - 150*
d5-NEtFOSAA	*73*		*50 - 150*

LCMS

Prep Batch: 519621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-17	GSRY-MW0078-012.0-20240610	Total/NA	Water	537 IDA	
670-41653-18	GSRY-FD-20240610-01	Total/NA	Water	537 IDA	
MB 410-519621/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-519621/2-A	Lab Control Sample	Total/NA	Water	537 IDA	

Prep Batch: 520630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-1	GSRY-MW0002S-007.0-20240611	Total/NA	Water	537 IDA	
670-41653-2	GSRY-MW0008S-007.0-20240611	Total/NA	Water	537 IDA	
670-41653-4	GSRY-MW0079-007.0-20240611	Total/NA	Water	537 IDA	
670-41653-5	GSRY-MW0080-007.0-20240611	Total/NA	Water	537 IDA	
670-41653-11	GSRY-MW0069-015.0-20240611	Total/NA	Water	537 IDA	
670-41653-12	GSRY-MW0070-015.0-20240611	Total/NA	Water	537 IDA	
670-41653-13	GSRY-MW0073-022.0-20240611	Total/NA	Water	537 IDA	
670-41653-14	GSRY-MW0074-012.0-20240611	Total/NA	Water	537 IDA	
670-41653-15 - DL	GSRY-MW0076-015.0-20240611	Total/NA	Water	537 IDA	
670-41653-15	GSRY-MW0076-015.0-20240611	Total/NA	Water	537 IDA	
670-41653-16	GSRY-MW0077-015.0-20240611	Total/NA	Water	537 IDA	
670-41653-19	GSRY-FB-20240611-01	Total/NA	Water	537 IDA	
670-41653-20	GSRY-EB-20240611-01	Total/NA	Water	537 IDA	
MB 410-520630/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-520630/2-A	Lab Control Sample	Total/NA	Water	537 IDA	
LCSD 410-520630/3-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	

Prep Batch: 521304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-3	GSRY-MW0064-025.0-20240613	Total/NA	Water	537 IDA	
670-41653-6	GSRY-MW0081-007.0-20240613	Total/NA	Water	537 IDA	
670-41653-7	GSRY-MW0082-007.0-20240613	Total/NA	Water	537 IDA	
670-41653-8	GSRY-MW0083-007.0-20240613	Total/NA	Water	537 IDA	
670-41653-10	GSRY-FB-20240613-02	Total/NA	Water	537 IDA	
670-41653-21	GSRY-FD-20240613-02	Total/NA	Water	537 IDA	
670-41653-22	GSRY-EB-20240613-02	Total/NA	Water	537 IDA	
MB 410-521304/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-521304/2-A	Lab Control Sample	Total/NA	Water	537 IDA	

Prep Batch: 521833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-9	GSRY-MW0084-025.0-20240613	Total/NA	Water	537 IDA	
MB 410-521833/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-521833/2-A	Lab Control Sample	Total/NA	Water	537 IDA	
670-41653-9 MS	GSRY-MW0084-025.0-20240613	Total/NA	Water	537 IDA	
670-41653-9 MSD	GSRY-MW0084-025.0-20240613	Total/NA	Water	537 IDA	

Analysis Batch: 521854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-1	GSRY-MW0002S-007.0-20240611	Total/NA	Water	QSM B15	520630
670-41653-2	GSRY-MW0008S-007.0-20240611	Total/NA	Water	QSM B15	520630
670-41653-4	GSRY-MW0079-007.0-20240611	Total/NA	Water	QSM B15	520630
670-41653-5	GSRY-MW0080-007.0-20240611	Total/NA	Water	QSM B15	520630
670-41653-11	GSRY-MW0069-015.0-20240611	Total/NA	Water	QSM B15	520630

LCMS (Continued)

Analysis Batch: 521854 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-12	GSRY-MW0070-015.0-20240611	Total/NA	Water	QSM B15	520630
670-41653-13	GSRY-MW0073-022.0-20240611	Total/NA	Water	QSM B15	520630
670-41653-14	GSRY-MW0074-012.0-20240611	Total/NA	Water	QSM B15	520630
670-41653-15	GSRY-MW0076-015.0-20240611	Total/NA	Water	QSM B15	520630
670-41653-16	GSRY-MW0077-015.0-20240611	Total/NA	Water	QSM B15	520630
670-41653-19	GSRY-FB-20240611-01	Total/NA	Water	QSM B15	520630
670-41653-20	GSRY-EB-20240611-01	Total/NA	Water	QSM B15	520630
MB 410-520630/1-A	Method Blank	Total/NA	Water	QSM B15	520630
LCS 410-520630/2-A	Lab Control Sample	Total/NA	Water	QSM B15	520630
LCSD 410-520630/3-A	Lab Control Sample Dup	Total/NA	Water	QSM B15	520630

Analysis Batch: 522493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-3	GSRY-MW0064-025.0-20240613	Total/NA	Water	QSM B15	521304
670-41653-6	GSRY-MW0081-007.0-20240613	Total/NA	Water	QSM B15	521304
670-41653-7	GSRY-MW0082-007.0-20240613	Total/NA	Water	QSM B15	521304
670-41653-8	GSRY-MW0083-007.0-20240613	Total/NA	Water	QSM B15	521304
670-41653-10	GSRY-FB-20240613-02	Total/NA	Water	QSM B15	521304
670-41653-15 - DL	GSRY-MW0076-015.0-20240611	Total/NA	Water	QSM B15	520630
670-41653-21	GSRY-FD-20240613-02	Total/NA	Water	QSM B15	521304
670-41653-22	GSRY-EB-20240613-02	Total/NA	Water	QSM B15	521304

Analysis Batch: 522817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-17	GSRY-MW0078-012.0-20240610	Total/NA	Water	QSM B15	519621
670-41653-18	GSRY-FD-20240610-01	Total/NA	Water	QSM B15	519621
MB 410-521304/1-A	Method Blank	Total/NA	Water	QSM B15	521304
LCS 410-521304/2-A	Lab Control Sample	Total/NA	Water	QSM B15	521304

Analysis Batch: 523089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-519621/1-A	Method Blank	Total/NA	Water	QSM B15	519621
LCS 410-519621/2-A	Lab Control Sample	Total/NA	Water	QSM B15	519621

Prep Batch: 524247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-16 - RE	GSRY-MW0077-015.0-20240611	Total/NA	Water	537 IDA	
670-41653-17 - RE	GSRY-MW0078-012.0-20240610	Total/NA	Water	537 IDA	
670-41653-18 - RE	GSRY-FD-20240610-01	Total/NA	Water	537 IDA	
670-41653-19 - RE	GSRY-FB-20240611-01	Total/NA	Water	537 IDA	
670-41653-20 - RE	GSRY-EB-20240611-01	Total/NA	Water	537 IDA	
670-41653-21 - RE	GSRY-FD-20240613-02	Total/NA	Water	537 IDA	
670-41653-22 - RE	GSRY-EB-20240613-02	Total/NA	Water	537 IDA	
MB 410-524247/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-524247/2-A	Lab Control Sample	Total/NA	Water	537 IDA	

Prep Batch: 524256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-1 - RE	GSRY-MW0002S-007.0-20240611	Total/NA	Water	537 IDA	
670-41653-2 - RE	GSRY-MW0008S-007.0-20240611	Total/NA	Water	537 IDA	
670-41653-3 - RE	GSRY-MW0064-025.0-20240613	Total/NA	Water	537 IDA	

LCMS (Continued)

Prep Batch: 524256 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-4 - RE	GSRY-MW0079-007.0-20240611	Total/NA	Water	537 IDA	
670-41653-5 - RE	GSRY-MW0080-007.0-20240611	Total/NA	Water	537 IDA	
670-41653-6 - RE	GSRY-MW0081-007.0-20240613	Total/NA	Water	537 IDA	
670-41653-7 - RE	GSRY-MW0082-007.0-20240613	Total/NA	Water	537 IDA	
670-41653-8 - RE	GSRY-MW0083-007.0-20240613	Total/NA	Water	537 IDA	
670-41653-10 - RE	GSRY-FB-20240613-02	Total/NA	Water	537 IDA	
670-41653-11 - RE	GSRY-MW0069-015.0-20240611	Total/NA	Water	537 IDA	
670-41653-12 - RE	GSRY-MW0070-015.0-20240611	Total/NA	Water	537 IDA	
670-41653-13 - RE	GSRY-MW0073-022.0-20240611	Total/NA	Water	537 IDA	
670-41653-14 - RE	GSRY-MW0074-012.0-20240611	Total/NA	Water	537 IDA	
670-41653-15 - RE	GSRY-MW0076-015.0-20240611	Total/NA	Water	537 IDA	
MB 410-524256/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-524256/2-A	Lab Control Sample	Total/NA	Water	537 IDA	
LCSD 410-524256/3-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	

Analysis Batch: 525684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-16 - RE	GSRY-MW0077-015.0-20240611	Total/NA	Water	QSM B15	524247
670-41653-17 - RE	GSRY-MW0078-012.0-20240610	Total/NA	Water	QSM B15	524247
670-41653-18 - RE	GSRY-FD-20240610-01	Total/NA	Water	QSM B15	524247
670-41653-19 - RE	GSRY-FB-20240611-01	Total/NA	Water	QSM B15	524247
670-41653-20 - RE	GSRY-EB-20240611-01	Total/NA	Water	QSM B15	524247
670-41653-21 - RE	GSRY-FD-20240613-02	Total/NA	Water	QSM B15	524247
670-41653-22 - RE	GSRY-EB-20240613-02	Total/NA	Water	QSM B15	524247
MB 410-524247/1-A	Method Blank	Total/NA	Water	QSM B15	524247
LCS 410-524247/2-A	Lab Control Sample	Total/NA	Water	QSM B15	524247

Analysis Batch: 528674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41653-1 - RE	GSRY-MW0002S-007.0-20240611	Total/NA	Water	QSM B15	524256
670-41653-2 - RE	GSRY-MW0008S-007.0-20240611	Total/NA	Water	QSM B15	524256
670-41653-3 - RE	GSRY-MW0064-025.0-20240613	Total/NA	Water	QSM B15	524256
670-41653-4 - RE	GSRY-MW0079-007.0-20240611	Total/NA	Water	QSM B15	524256
670-41653-5 - RE	GSRY-MW0080-007.0-20240611	Total/NA	Water	QSM B15	524256
670-41653-6 - RE	GSRY-MW0081-007.0-20240613	Total/NA	Water	QSM B15	524256
670-41653-7 - RE	GSRY-MW0082-007.0-20240613	Total/NA	Water	QSM B15	524256
670-41653-8 - RE	GSRY-MW0083-007.0-20240613	Total/NA	Water	QSM B15	524256
670-41653-9	GSRY-MW0084-025.0-20240613	Total/NA	Water	QSM B15	521833
670-41653-10 - RE	GSRY-FB-20240613-02	Total/NA	Water	QSM B15	524256
670-41653-11 - RE	GSRY-MW0069-015.0-20240611	Total/NA	Water	QSM B15	524256
670-41653-12 - RE	GSRY-MW0070-015.0-20240611	Total/NA	Water	QSM B15	524256
670-41653-13 - RE	GSRY-MW0073-022.0-20240611	Total/NA	Water	QSM B15	524256
670-41653-14 - RE	GSRY-MW0074-012.0-20240611	Total/NA	Water	QSM B15	524256
670-41653-15 - RE	GSRY-MW0076-015.0-20240611	Total/NA	Water	QSM B15	524256
MB 410-524256/1-A	Method Blank	Total/NA	Water	QSM B15	524256
LCS 410-521833/2-A	Lab Control Sample	Total/NA	Water	QSM B15	521833
LCS 410-524256/2-A	Lab Control Sample	Total/NA	Water	QSM B15	524256
LCSD 410-524256/3-A	Lab Control Sample Dup	Total/NA	Water	QSM B15	524256
670-41653-9 MS	GSRY-MW0084-025.0-20240613	Total/NA	Water	QSM B15	521833
670-41653-9 MSD	GSRY-MW0084-025.0-20240613	Total/NA	Water	QSM B15	521833

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS MW

Job ID: 670-41653-1

LCMS

Analysis Batch: 529256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-521833/1-A	Method Blank	Total/NA	Water	QSM B15	521833

Lab Chronicle

Client: AECOM Technical Services Inc.
Job ID: 670-41653-1
Project/Site: NASA KSC GSRY PFAS MW

Client Sample ID: GSRY-MW0002S-007.0-20240611
Lab Sample ID: 670-41653-1

Date Collected: 06/11/24 10:21
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/26/24 21:56
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 01:30

Client Sample ID: GSRY-MW0008S-007.0-20240611
Lab Sample ID: 670-41653-2

Date Collected: 06/11/24 09:25
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/26/24 22:09
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 01:43

Client Sample ID: GSRY-MW0064-025.0-20240613
Lab Sample ID: 670-41653-3

Date Collected: 06/13/24 10:07
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			521304	D8NM	ELLE	06/25/24 15:27
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 04:59
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 01:57

Client Sample ID: GSRY-MW0079-007.0-20240611
Lab Sample ID: 670-41653-4

Date Collected: 06/11/24 11:56
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/26/24 23:17
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 02:10

Client Sample ID: GSRY-MW0080-007.0-20240611
Lab Sample ID: 670-41653-5

Date Collected: 06/11/24 12:54
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/26/24 23:31
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 02:38

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS MW

Job ID: 670-41653-1

Client Sample ID: GSRY-MW0081-007.0-20240613

Lab Sample ID: 670-41653-6

Date Collected: 06/13/24 09:39
Date Received: 06/13/24 14:09

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			521304	D8NM	ELLE	06/25/24 15:27
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 05:12
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 02:51

Client Sample ID: GSRY-MW0082-007.0-20240613

Lab Sample ID: 670-41653-7

Date Collected: 06/13/24 09:13
Date Received: 06/13/24 14:09

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			521304	D8NM	ELLE	06/25/24 15:27
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 05:26
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 03:05

Client Sample ID: GSRY-MW0083-007.0-20240613

Lab Sample ID: 670-41653-8

Date Collected: 06/13/24 09:22
Date Received: 06/13/24 14:09

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			521304	D8NM	ELLE	06/25/24 15:27
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 05:39
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 03:18

Client Sample ID: GSRY-MW0084-025.0-20240613

Lab Sample ID: 670-41653-9

Date Collected: 06/13/24 10:12
Date Received: 06/13/24 14:09

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15		1	528674	FDE4	ELLE	07/16/24 08:31

Client Sample ID: GSRY-FB-20240613-02

Lab Sample ID: 670-41653-10

Date Collected: 06/13/24 12:25
Date Received: 06/13/24 14:09

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			521304	D8NM	ELLE	06/25/24 15:27
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 05:53
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 03:32

Client Sample ID: GSRY-MW0069-015.0-20240611
Lab Sample ID: 670-41653-11

Date Collected: 06/11/24 11:24
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/26/24 23:44
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 03:46

Client Sample ID: GSRY-MW0070-015.0-20240611
Lab Sample ID: 670-41653-12

Date Collected: 06/11/24 10:37
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/26/24 23:58
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 03:59

Client Sample ID: GSRY-MW0073-022.0-20240611
Lab Sample ID: 670-41653-13

Date Collected: 06/11/24 09:27
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/27/24 00:11
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 04:13

Client Sample ID: GSRY-MW0074-012.0-20240611
Lab Sample ID: 670-41653-14

Date Collected: 06/11/24 11:17
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/27/24 00:25
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 04:26

Client Sample ID: GSRY-MW0076-015.0-20240611
Lab Sample ID: 670-41653-15

Date Collected: 06/11/24 10:52
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/27/24 00:38
Total/NA	Prep	537 IDA	DL		520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15	DL	10	522493	FDE4	ELLE	06/28/24 00:13
Total/NA	Prep	537 IDA	RE		524256	RC3V	ELLE	07/03/24 07:23
Total/NA	Analysis	QSM B15	RE	1	528674	FDE4	ELLE	07/16/24 04:40

Lab Chronicle

Client: AECOM Technical Services Inc.
Job ID: 670-41653-1
Project/Site: NASA KSC GSRY PFAS MW

Client Sample ID: GSRY-MW0077-015.0-20240611
Lab Sample ID: 670-41653-16
Date Collected: 06/11/24 08:47
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/27/24 00:52
Total/NA	Prep	537 IDA	RE		524247	RC3V	ELLE	07/03/24 07:19
Total/NA	Analysis	QSM B15	RE	1	525684	FDE4	ELLE	07/09/24 01:06

Client Sample ID: GSRY-MW0078-012.0-20240610
Lab Sample ID: 670-41653-17
Date Collected: 06/10/24 14:27
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			519621	M4QQ	ELLE	06/20/24 12:16
Total/NA	Analysis	QSM B15		1	522817	V4RH	ELLE	06/28/24 22:25
Total/NA	Prep	537 IDA	RE		524247	RC3V	ELLE	07/03/24 07:19
Total/NA	Analysis	QSM B15	RE	1	525684	FDE4	ELLE	07/09/24 01:20

Client Sample ID: GSRY-FD-20240610-01
Lab Sample ID: 670-41653-18
Date Collected: 06/10/24 14:30
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			519621	M4QQ	ELLE	06/20/24 12:16
Total/NA	Analysis	QSM B15		1	522817	V4RH	ELLE	06/28/24 22:39
Total/NA	Prep	537 IDA	RE		524247	RC3V	ELLE	07/03/24 07:19
Total/NA	Analysis	QSM B15	RE	1	525684	FDE4	ELLE	07/09/24 01:33

Client Sample ID: GSRY-FB-20240611-01
Lab Sample ID: 670-41653-19
Date Collected: 06/11/24 11:00
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/27/24 01:06
Total/NA	Prep	537 IDA	RE		524247	RC3V	ELLE	07/03/24 07:19
Total/NA	Analysis	QSM B15	RE	1	525684	FDE4	ELLE	07/09/24 01:47

Client Sample ID: GSRY-EB-20240611-01
Lab Sample ID: 670-41653-20
Date Collected: 06/11/24 08:55
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			520630	D5VP	ELLE	06/24/24 11:06
Total/NA	Analysis	QSM B15		1	521854	UUV6	ELLE	06/27/24 01:19
Total/NA	Prep	537 IDA	RE		524247	RC3V	ELLE	07/03/24 07:19
Total/NA	Analysis	QSM B15	RE	1	525684	FDE4	ELLE	07/09/24 02:14

Lab Chronicle

Client: AECOM Technical Services Inc.
Job ID: 670-41653-1
Project/Site: NASA KSC GSRY PFAS MW

Client Sample ID: GSRY-FD-20240613-02
Lab Sample ID: 670-41653-21

Date Collected: 06/13/24 09:00
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			521304	D8NM	ELLE	06/25/24 15:27
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 06:07
Total/NA	Prep	537 IDA	RE		524247	RC3V	ELLE	07/03/24 07:19
Total/NA	Analysis	QSM B15	RE	1	525684	FDE4	ELLE	07/09/24 02:28

Client Sample ID: GSRY-EB-20240613-02
Lab Sample ID: 670-41653-22

Date Collected: 06/13/24 10:20
Matrix: Water
Date Received: 06/13/24 14:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			521304	D8NM	ELLE	06/25/24 15:27
Total/NA	Analysis	QSM B15		1	522493	FDE4	ELLE	06/28/24 06:20
Total/NA	Prep	537 IDA	RE		524247	RC3V	ELLE	07/03/24 07:19
Total/NA	Analysis	QSM B15	RE	1	525684	FDE4	ELLE	07/09/24 02:41

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS MW

Job ID: 670-41653-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-24
A2LA	ISO/IEC 17025	0001.01	11-30-24
Alabama	State	43200	01-31-25
Alaska	State	PA00009	06-30-25
Alaska (UST)	State	17-027	02-28-25
Arizona	State	AZ0780	03-12-25
Arkansas DEQ	State	88-00660	08-09-24
California	State	2792	11-30-24
Colorado	State	PA00009	06-30-25
Connecticut	State	PH-0746	06-30-25
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-25
Delaware (DW)	State	N/A	01-31-25
Florida	NELAP	E87997	06-30-25
Georgia (DW)	State	C048	01-31-25
Hawaii	State	N/A	01-31-25
Illinois	NELAP	200027	01-31-25
Iowa	State	361	03-01-26
Kansas	NELAP	E-10151	10-31-24
Kentucky (DW)	State	KY90088	12-31-24
Kentucky (UST)	State	0001.01	11-30-24
Kentucky (WW)	State	KY90088	12-31-24
Louisiana (All)	NELAP	02055	06-30-25
Maine	State	2019012	03-12-25
Maryland	State	100	06-30-25
Massachusetts	State	M-PA009	06-30-25
Michigan	State	9930	01-31-25
Minnesota	NELAP	042-999-487	12-31-24
Mississippi	State	023	01-31-25
Missouri	State	450	01-31-25
Montana (DW)	State	0098	01-01-25
Nebraska	State	NE-OS-32-17	01-31-25
New Hampshire	NELAP	2730	01-10-25
New Jersey	NELAP	PA011	06-30-25
New York	NELAP	10670	04-01-25
North Carolina (DW)	State	42705	07-31-25
North Carolina (WW/SW)	State	521	12-31-24
North Dakota	State	R-205	01-31-24 *
Oklahoma	NELAP	9804	08-31-24
Oregon	NELAP	PA200001	09-11-24
Pennsylvania	NELAP	36-00037	01-31-25
Quebec Ministry of Environment and Fight against Climate Change	PALA	507	09-16-24
Rhode Island	State	LAO00338	12-30-24
South Carolina	State	89002	01-31-25
Tennessee	State	02838	01-31-25
Texas	NELAP	T104704194-23-46	08-31-24
USDA	US Federal Programs	525-22-298-19481	10-25-25
Vermont	State	VT - 36037	10-28-24
Virginia	NELAP	460182	06-14-25
Washington	State	C457	04-11-24 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
Job ID: 670-41653-1
Project/Site: NASA KSC GSRY PFAS MW

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia (DW)	State	9906 C	01-31-25
West Virginia DEP	State	055	07-31-24
Wyoming	State	8TMS-L	01-31-25
Wyoming (UST)	A2LA	0001.01	11-30-24

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS MW

Job ID: 670-41653-1

Method	Method Description	Protocol	Laboratory
QSM B15	PFAS for QSM 5.4, Table B-15	DOD 5.4	ELLE
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE

Protocol References:

DOD 5.4 = Department of Defense Quality Systems Manual V5.4

EPA = US Environmental Protection Agency

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS MW

Job ID: 670-41653-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-41653-1	GSRY-MW0002S-007.0-20240611	Water	06/11/24 10:21	06/13/24 14:09
670-41653-2	GSRY-MW0008S-007.0-20240611	Water	06/11/24 09:25	06/13/24 14:09
670-41653-3	GSRY-MW0064-025.0-20240613	Water	06/13/24 10:07	06/13/24 14:09
670-41653-4	GSRY-MW0079-007.0-20240611	Water	06/11/24 11:56	06/13/24 14:09
670-41653-5	GSRY-MW0080-007.0-20240611	Water	06/11/24 12:54	06/13/24 14:09
670-41653-6	GSRY-MW0081-007.0-20240613	Water	06/13/24 09:39	06/13/24 14:09
670-41653-7	GSRY-MW0082-007.0-20240613	Water	06/13/24 09:13	06/13/24 14:09
670-41653-8	GSRY-MW0083-007.0-20240613	Water	06/13/24 09:22	06/13/24 14:09
670-41653-9	GSRY-MW0084-025.0-20240613	Water	06/13/24 10:12	06/13/24 14:09
670-41653-10	GSRY-FB-20240613-02	Water	06/13/24 12:25	06/13/24 14:09
670-41653-11	GSRY-MW0069-015.0-20240611	Water	06/11/24 11:24	06/13/24 14:09
670-41653-12	GSRY-MW0070-015.0-20240611	Water	06/11/24 10:37	06/13/24 14:09
670-41653-13	GSRY-MW0073-022.0-20240611	Water	06/11/24 09:27	06/13/24 14:09
670-41653-14	GSRY-MW0074-012.0-20240611	Water	06/11/24 11:17	06/13/24 14:09
670-41653-15	GSRY-MW0076-015.0-20240611	Water	06/11/24 10:52	06/13/24 14:09
670-41653-16	GSRY-MW0077-015.0-20240611	Water	06/11/24 08:47	06/13/24 14:09
670-41653-17	GSRY-MW0078-012.0-20240610	Water	06/10/24 14:27	06/13/24 14:09
670-41653-18	GSRY-FD-20240610-01	Water	06/10/24 14:30	06/13/24 14:09
670-41653-19	GSRY-FB-20240611-01	Water	06/11/24 11:00	06/13/24 14:09
670-41653-20	GSRY-EB-20240611-01	Water	06/11/24 08:55	06/13/24 14:09
670-41653-21	GSRY-FD-20240613-02	Water	06/13/24 09:00	06/13/24 14:09
670-41653-22	GSRY-EB-20240613-02	Water	06/13/24 10:20	06/13/24 14:09

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

eurofins

Project Name: NASA KSC - GSA Reclamation Yard			COC No.	Page: 1 of 2	
Site Location: GSRY - PFAS MW			PO No. 148687	Project No. 60614327.4	Phase:
TO No.: 80KSC019F0078	AECOM Project Manager: **Chad Lee**		Send Invoice To: Instructions in MSA# 21S-27172-GV03	EDD to: Jennifer Chastain	Cc: Teresa Amentt Jennings
Sampler/Phone # Patrick Bendl / 724-591-6324			Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to: Jennifer Chastain	Cc: Teresa Amentt Jennings
Lab Name: Eurofins	Turnaround Time(specify): Standard		Deliver Samples To: Eurofins Orlando	Site-Spicific WS#15 from QAPP: 15-2	

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select PFAS by 537	Comments
	GSRY-MW0002S-007.0-20240611	GSRY-MW0002S	20240611	1021	WG	N	G	2	2	
	GSRY-MW0008S-007.0-20240611	GSRY-MW0008S	20240611	925	WG	N	G	2	2	
	GSRY-MW0064-025.0-20240613	GSRY-MW0064	20240613	1007	WG	N	G	2	2	
	GSRY-MW0079-007.0-20240611	GSRY-MW0079	20240611	1156	WG	N	G	2	2	
	GSRY-MW0080-007.0-20240611	GSRY-MW0080	20240611	1254	WG	N	G	2	2	
	GSRY-MW0081-007.0-20240613	GSRY-MW0081	20240613	939	WG	N	G	2	2	
	GSRY-MW0082-007.0-20240613	GSRY-MW0082	20240613	913	WG	N	G	2	2	
	GSRY-MW0083-007.0-20240613	GSRY-MW0083	20240613	922	WG	N	G	2	2	
	GSRY-MW0084-025.0-20240613	GSRY-MW0084	20240613	1012	WG	N	G	6 DUP	6 DUP	MS/MSD
	GSRY-FB-20240613-02	GSRY-FB	20240613	1225	WQ	FB	G	2	2	

670-41653-01 Chain of Custody

***Field* Comments:**
Report only per QAPP WS #15-2. **Additional sample volume submitted for MS/MSD for sample**

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		6/13/24	1230	M. Parsotam	06/13/24	1232
2						
3	M. Parsotam	6/13/24	1409		6/13/24	1409

Samples Iced?(check) Yes____ No____
Shipping Company:
Tracking No:
Date Shipped:

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: **4 DEG C**=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

0.6/0.6 0.2/0.2 596
0.8/0.8

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

eurofins

Project Name: NASA KSC - GSA Reclamation Yard			COC No.	Page: 2 of 2	
Site Location: GSRY - PFAS MW			PO No. 148687	Project No. 60614327.4	Phase:
TO No.: 80KSC019F0078	AECOM Project Manager: **Chad Lee**		Send Invoice To: Instructions in MSA# 21S-27172-GV03	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings	
Sampler/Phone # Patrick Bendl / 724-591-6324			Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to: Jennifer Chastain Cc: Teresa Amentt Jennings	
Lab Name: Eurofins	Turnaround Time(specify): Standard		Deliver Samples To: Eurofins Orlando	Site-Spicific WS#15 from QAPP: 15-2	

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select PFAS by 537										Comments
	GSRY-MW0069-0[illegible]S.0-20240611	GSRY-MW0069	20240611	1124	WG	N	G	2	2										
	GSRY-MW0070-0150-20240611	GSRY-MW0070	20240611	1037	WG	N	G	2	2										
	GSRY-MW0073-0220-20240611	GSRY-MW0073	20240611	927	WG	N	G	2	2										
	GSRY-MW0074-012.0-20240611	GSRY-MW0074	20240611	1117	WG	N	G	2	2										
	GSRY-MW0076-015.0-20240611	GSRY-MW0076	20240611	1052	WG	N	G	2	2										
	GSRY-MW0077-015.0-20240611	GSRY-MW0077	20240611	847	WG	N	G	2	2										
	GSRY-MW0078-~~20240618~~ 20240610	GSRY-MW0078	20240610	1427	WG	N	G	2	2										
	GSRY-FD-20240610-01	GSRY-FD	20240610	1430	WG	FD	G	2	2										
	GSRY-FB-20240611-01	GSRY-FB	20240611	1100	WQ	FB	G	2	2										
	GSRY-EB-20240611-01	GSRY-EB	20240611	855	WQ	EB	G	2	2										
	GSRY-FD-20240613-02	GSRY-FD	20240613	900	WQ	FD	G	2	2										
	GSRY-EB-20240613-02	GSRY-EB	20240613	1020	WQ	EB	G	2	2										

***Field* Comments:**
Report only per QAPP WS #15-2. **Additional sample volume submitted for MS/MSD for sample**

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	[signature]	6/13/24	1230	[signature]	06/13/24	1232
2						
3	M. Parsotan	6/13/24	1409	[signature]	6/13/24	1409

Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: **4 DEG C**=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

0.8/0.8 0.2/0.2 596
0.6/0.6

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-30848.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 3
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-41653-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 6/27/2024			
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY PFAS	Project #: 67000872			
Site:	SSOW#:			

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)	PFC_IDA_D5.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
GSRY-MW002S-007.0-20240611 (670-41653-1)	6/11/24	10:21 Eastern		Water			X	2	
GSRY-MW0008S-007.0-20240611 (670-41653-2)	6/11/24	09:25 Eastern		Water			X	2	
GSRY-MW0064-025.0-20240613 (670-41653-3)	6/11/24	10:07 Eastern		Water			X	2	
GSRY-MW0079-007.0-20240611 (670-41653-4)	6/11/24	11:56 Eastern		Water			X	2	
GSRY-MW0080-007.0-20240611 (670-41653-5)	6/11/24	12:54 Eastern		Water			X	2	
GSRY-MW0081-007.0-20240613 (670-41653-6)	6/11/24	09:39 Eastern		Water			X	2	
GSRY-MW0082-007.0-20240613 (670-41653-7)	6/11/24	09:13 Eastern		Water			X	2	
GSRY-MW0083-007.0-20240613 (670-41653-8)	6/11/24	09:22 Eastern		Water			X	2	
GSRY-MW0084-025.0-20240613 (670-41653-9)	6/11/24	10:12 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, 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 Southeast, 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: 6.13.24 1700	Company: F-ERL	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 6/14/24 0710	Company: EET

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: Raw 0.2 - COR 0.2 Raw 0.9 - COR 0.9

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-30848.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 3
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-41653-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 6/27/2024			Preservation Codes: -
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY PFAS	Project #: 67000872			
Site:	SSOW#:			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)	PFC_IDA_D5.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-MW0084-025.0-20240613 (670-41653-9MS)	6/11/24	10:12 Eastern	MS	Water			X	2	
GSRY-MW0084-025.0-20240613 (670-41653-9MSD)	6/11/24	10:12 Eastern	MSD	Water			X	2	
GSRY-FB-20240613-02 (670-41653-10)	6/11/24	12:25 Eastern		Water			X	2	
GSRY-MW0069-015.0-20240611 (670-41653-11)	6/11/24	11:24 Eastern		Water			X	2	
GSRY-MW0070-015.0-20240611 (670-41653-12)	6/11/24	10:37 Eastern		Water			X	2	
GSRY-MW0073-022.0-20240611 (670-41653-13)	6/11/24	09:27 Eastern		Water			X	2	
GSRY-MW0074-012.0-20240611 (670-41653-14)	6/11/24	11:17 Eastern		Water			X	2	
GSRY-MW0076-015.0-20240611 (670-41653-15)	6/11/24	10:52 Eastern		Water			X	2	
GSRY-MW0077-015.0-20240611 (670-41653-16)	6/11/24	08:47 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, 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 Southeast, 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
1						
2						
3					6/14/24 0910	BLS

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: Raw 0.2 - corr 0.2 Raw 0.9 - corr 0.9

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-30848.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 3 of 3
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-41653-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 6/27/2024			Preservation Codes: -
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY PFAS	Project #: 67000872			
Site:	SSOW#:			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)	PFC_IDA_D5.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-MW0078-012.0-20240610 (670-41653-17)	6/11/24	14:27 Eastern		Water			X	2	
GSRY-FD-20240610-01 (670-41653-18)	6/11/24	14:30 Eastern		Water			X	2	
GSRY-FB-20240611-01 (670-41653-19)	6/11/24	11:00 Eastern		Water			X	2	
GSRY-EB-20240611-01 (670-41653-20)	6/11/24	08:55 Eastern		Water			X	2	
GSRY-FD-20240613-02 (670-41653-21)	6/11/24	09:00 Eastern		Water			X	2	
GSRY-EB-20240613-02 (670-41653-22)	6/11/24	10:20 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, 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 Southeast, 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
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 6/14/24 0910	Company EUT

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: Raw 0.2 - COR 0.2 Raw 0.5 - COR 0.9

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-41653-1

Login Number: 41653

List Source: Eurofins Orlando

List Number: 1

Creator: Bittle, David W

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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	
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.	N/A	

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-41653-1

Login Number: 41653
List Number: 2
Creator: Ballard, Megan

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC
List Creation: 06/14/24 05:34 PM

Question	Answer	Comment
The cooler's custody seal is 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 acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	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	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Teresa Amentt Jennings
AECOM Technical Services Inc.
150 North Orange Avenue
Suite 200
Orlando, Florida 32801

Generated 7/25/2024 3:08:51 PM

JOB DESCRIPTION

NASA KSC GSRY PFAS - SW

JOB NUMBER

670-41741-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

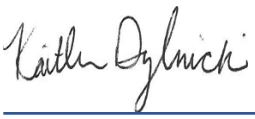
See page two for job notes and contact information.

Job Notes

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

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

Authorization



Generated
7/25/2024 3:08:51 PM

Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Detection Summary 6
Client Sample Results 10
Isotope Dilution Summary 24
QC Sample Results 27
QC Association Summary 34
Lab Chronicle 36
Certification Summary 39
Method Summary 41
Sample Summary 42
Chain of Custody 43
Receipt Checklists 45

Definitions/Glossary

Client: AECOM Technical Services Inc. Job ID: 670-41741-1
Project/Site: NASA KSC GSRY PFAS - SW

Qualifiers

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J	Estimated value; value may not be accurate.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected at or above the method detection limit in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.

Glossary

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

Job ID: 670-41741-1 Eurofins Orlando

Job Narrative
670-41741-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 6/14/2024 1:17 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C.

Receipt Exceptions
The following samples were submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): GSRY-SW0010-001.0-20240614 (670-41741-1[MS]) and GSRY-SW0010-001.0-20240614 (670-41741-1[MSD])

PFAS
Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) 13C8 FOSA, 13C2 PFTeDA, d3-NMeFOSAA, 13C7 PFUnA, 13C2-PFDoDA, d3-NMePFOSA and d5-NEtFOSAA in the following sample: GSRY-SW0010-001.0-20240614 (670-41741-1), GSRY-SW0010-001.0-20240614 (670-41741-1[MS]) and GSRY-SW0010-001.0-20240614 (670-41741-1[MSD]) are outside of the QC limits. Since the recovery for the labeled isotope(s) in the matrix spike and matrix spike duplicate are also outside of the QC limits, the data is reported.

Method PFC_IDA_D5.3: The recovery for d3-NMeFOSAA is outside of QC acceptance limits in the method blank and laboratory control spike sample associated with samples: GSRY-SW0010-001.0-20240614 (670-41741-1), GSRY-SW0010-001.0-20240614 (670-41741-1[MS]) and GSRY-SW0010-001.0-20240614 (670-41741-1[MSD]).

Method PFC_IDA_D5.3: The recovery for the labeled isotope(s) d3-NMePFOSA in the method blank/laboratory control spike sample associated with the following sample: GSRY-SW0011-001.0-20240614 (670-41741-2) is outside the QC acceptance limits. The following action was taken: This sample(s) was re-extracted outside the required holding time and the recovery for the labeled isotope(s) in the re-extracted method blank/laboratory control spike sample(s) is within the QC acceptance limits.

Method PFC_IDA_D5.3: Target analyte(s) HFPODA were detected in the method blank associated with the following samples: GSRY-SW0012-001.0-20240614 (670-41741-3), GSRY-SW0013-001.0-20240614 (670-41741-4), GSRY-SW0014-001.0-20240614 (670-41741-5), GSRY-SW0015-001.0-20240614 (670-41741-6), GSRY-SW0016-001.0-20240614 (670-41741-7), GSRY-SW0017-001.0-20240614 (670-41741-8), GSRY-SW0018-001.0-20240614 (670-41741-9), GSRY-FD-20240614 (670-41741-10), GSRY-FB-20240614 (670-41741-11) and GSRY-EB-20240614 (670-41741-12). The following action was taken: This sample(s) was re-extracted outside the required holding time and target analyte(s) were not detected in the re-extracted method blank.

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

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS - SW

Job ID: 670-41741-1

Client Sample ID: GSRY-SW0010-001.0-20240614 — Lab Sample ID: 670-41741-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.00066	I	0.0026	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0023		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.013		0.0043	0.0017	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00071	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0035		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.022		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0089		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0010	I	0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.00063	I	0.0017	0.00060	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.091		0.0018	0.00085	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.014		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0017		0.0017	0.00043	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0066		0.0017	0.00043	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0011-001.0-20240614 — Lab Sample ID: 670-41741-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.00059	I	0.0027	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0021		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.012		0.0046	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00079	I J	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0033		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.022		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0085		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00084	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0012	I	0.0018	0.00064	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.086		0.0019	0.00091	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.014		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0016	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0056		0.0018	0.00046	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0012-001.0-20240614 — Lab Sample ID: 670-41741-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0013	I V	0.0024	0.00040	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.00053	I	0.0016	0.00040	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0063		0.0040	0.0016	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0011	I	0.0016	0.00040	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0033		0.0016	0.00040	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0021		0.0016	0.00040	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00044	I	0.0016	0.00040	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0096		0.0017	0.00080	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0028		0.0016	0.00040	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0018		0.0016	0.00040	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0013-001.0-20240614 — Lab Sample ID: 670-41741-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0030	V	0.0028	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.012		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0093		0.0046	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.0093		0.0018	0.00046	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Orlando

Detection Summary

Client: AECOM Technical Services Inc.
Job ID: 670-41741-1
Project/Site: NASA KSC GSRY PFAS - SW

Client Sample ID: GSRY-SW0013-001.0-20240614 (Continued) — Lab Sample ID: 670-41741-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid	0.0053		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.028		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.0012	I	0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0013	I	0.0018	0.00065	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.018		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.019		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0055		0.0018	0.00046	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid - DL	0.38		0.018	0.0046	ug/L	10		QSM B15	Total/NA
Perfluorooctanesulfonic acid - DL	0.38		0.019	0.0092	ug/L	10		QSM B15	Total/NA

Client Sample ID: GSRY-SW0014-001.0-20240614 — Lab Sample ID: 670-41741-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0010	I V	0.0028	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0011	I	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0083		0.0047	0.0019	ug/L	1		QSM B15	Total/NA
Perfluorodecanoic acid	0.00059	I	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0028		0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.013		0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0079		0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0024		0.0019	0.00066	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.037		0.0020	0.00095	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0076		0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0010	I	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0037		0.0019	0.00047	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0015-001.0-20240614 — Lab Sample ID: 670-41741-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.00065	I V	0.0027	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.00055	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0062		0.0044	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0014	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0032		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0019		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.010		0.0019	0.00088	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0029		0.0018	0.00044	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0016	I	0.0018	0.00044	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0016-001.0-20240614 — Lab Sample ID: 670-41741-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0063	V	0.0033	0.00054	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.00096	I	0.0022	0.00054	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.010		0.0054	0.0022	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0014	I	0.0022	0.00054	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.014		0.0022	0.00054	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0021	I	0.0022	0.00054	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.042		0.0023	0.0011	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0060		0.0022	0.00054	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0018	I	0.0022	0.00054	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS - SW

Job ID: 670-41741-1

Client Sample ID: GSRY-SW0017-001.0-20240614 — Lab Sample ID: 670-41741-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
6:2 Fluorotelomer sulfonic acid	0.0040	J	0.0027	0.00091	ug/L	1		QSM B15	Total/NA
HFPODA	0.00092	I V	0.0027	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0015	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.011		0.0045	0.0018	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00056	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0032		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.018		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0064		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00063	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0019		0.0018	0.00063	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.074		0.0019	0.00091	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.014		0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0013	I	0.0018	0.00045	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0035		0.0018	0.00045	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-SW0018-001.0-20240614 — Lab Sample ID: 670-41741-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.0018	I V	0.0029	0.00048	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.0015	I	0.0019	0.00048	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.012		0.0048	0.0019	ug/L	1		QSM B15	Total/NA
Perfluorodecanoic acid	0.00082	I	0.0019	0.00048	ug/L	1		QSM B15	Total/NA
Perfluoroheptanesulfonic acid	0.00064	I	0.0019	0.00048	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.0035		0.0019	0.00048	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.018		0.0019	0.00048	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0085		0.0019	0.00048	ug/L	1		QSM B15	Total/NA
Perfluorononanoic acid	0.00048	I	0.0019	0.00048	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.0021		0.0019	0.00067	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.079		0.0020	0.00096	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.020		0.0019	0.00048	ug/L	1		QSM B15	Total/NA
Perfluoropentanesulfonic acid	0.0015	I	0.0019	0.00048	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0038		0.0019	0.00048	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-FD-20240614 — Lab Sample ID: 670-41741-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.00086	I V	0.0028	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorobutanesulfonic acid	0.00051	I	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorobutanoic acid	0.0055		0.0047	0.0019	ug/L	1		QSM B15	Total/NA
Perfluoroheptanoic acid	0.00098	I	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorohexanesulfonic acid	0.0030		0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorohexanoic acid	0.0018	I	0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonamide	0.00066	I	0.0019	0.00066	ug/L	1		QSM B15	Total/NA
Perfluorooctanesulfonic acid	0.0080		0.0020	0.00094	ug/L	1		QSM B15	Total/NA
Perfluorooctanoic acid	0.0026		0.0019	0.00047	ug/L	1		QSM B15	Total/NA
Perfluoropentanoic acid	0.0014	I	0.0019	0.00047	ug/L	1		QSM B15	Total/NA

Client Sample ID: GSRY-FB-20240614 — Lab Sample ID: 670-41741-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.00050	I V	0.0026	0.00044	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS - SW

Job ID: 670-41741-1

Client Sample ID: GSRY-EB-20240614

Lab Sample ID: 670-41741-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
HFPODA	0.00045	I V	0.0027	0.00045	ug/L	1		QSM B15	Total/NA

This Detection Summary does not include radiochemical test results.

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS - SW

Job ID: 670-41741-1

Client Sample ID: GSRY-SW0010-001.0-20240614
Date Collected: 06/14/24 09:55
Date Received: 06/14/24 13:17

Lab Sample ID: 670-41741-1
Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00043	U	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
6:2 Fluorotelomer sulfonic acid	0.00085	U	0.0026	0.00085	ug/L		06/28/24 14:43	07/17/24 10:47	1
8:2 Fluorotelomer sulfonic acid	0.00085	U	0.0026	0.00085	ug/L		06/28/24 14:43	07/17/24 10:47	1
9Cl-PF3ONS	0.00043	U	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
DONA	0.00043	U	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
HFPODA	**0.00066**	**I**	0.0026	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
NEtFOSAA	0.00043	U	0.0026	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
NMeFOSAA	0.00051	U	0.0017	0.00051	ug/L		06/28/24 14:43	07/17/24 10:47	1
NMeFOSA	0.00085	U	0.0026	0.00085	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorobutanesulfonic acid	**0.0023**		0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorobutanoic acid	**0.013**		0.0043	0.0017	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorodecanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorodecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorododecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluoroheptanesulfonic acid	**0.00071**	**I**	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluoroheptanoic acid	**0.0035**		0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorohexanesulfonic acid	**0.022**		0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorohexanoic acid	**0.0089**		0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorononanesulfonic acid	0.00043	U	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorononanoic acid	**0.0010**	**I**	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorooctanesulfonamide	**0.00063**	**I**	0.0017	0.00060	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorooctanesulfonic acid	**0.091**		0.0018	0.00085	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorooctanoic acid	**0.014**		0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluoropentanesulfonic acid	**0.0017**		0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluoropentanoic acid	**0.0066**		0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorotetradecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluorotridecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1
Perfluoroundecanoic acid	0.00043	U	0.0017	0.00043	ug/L		06/28/24 14:43	07/17/24 10:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*52*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C8 FOSA	*22*	*	*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C4 PFHpA	*74*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C5 PFPeA	*64*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C2 PFTeDA	*4*	*	*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
d3-NMeFOSAA	*46*	*	*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
M2-6:2 FTS	*79*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
M2-8:2 FTS	*62*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C3 PFBS	*73*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
M2-4:2 FTS	*74*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C3 HFPO-DA	*64*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C8 PFOA	*72*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C8 PFOS	*67*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C5 PFHxA	*69*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C9 PFNA	*69*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C6 PFDA	*63*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C7 PFUnA	*51*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C3 PFHxS	*77*		*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
13C2-PFDoDA	*29*	*	*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*

Client Sample ID: GSRY-SW0010-001.0-20240614
Lab Sample ID: 670-41741-1

Date Collected: 06/14/24 09:55
Matrix: Water
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMePFOSA	*0.02*	*	*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*
d5-NEtFOSAA	*39*	*	*50 - 150*	*06/28/24 14:43*	*07/17/24 10:47*	*1*

Client Sample ID: GSRY-SW0011-001.0-20240614
Lab Sample ID: 670-41741-2

Date Collected: 06/14/24 10:20
Matrix: Water
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00046	U	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
4:2 Fluorotelomer sulfonic acid	0.00046	U	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
6:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		06/28/24 14:43	07/17/24 11:24	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		06/28/24 14:43	07/17/24 11:24	1
9Cl-PF3ONS	0.00046	U	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
DONA	0.00046	U	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
HFPODA	**0.00059**	**I**	0.0027	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
NEtFOSAA	0.00046	U	0.0027	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
NMeFOSAA	0.00055	U	0.0018	0.00055	ug/L		06/28/24 14:43	07/17/24 11:24	1
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorobutanesulfonic acid	**0.0021**		0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorobutanoic acid	**0.012**		0.0046	0.0018	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorodecanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorodecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorododecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluoroheptanesulfonic acid	**0.00079**	**I J**	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluoroheptanoic acid	**0.0033**		0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorohexanesulfonic acid	**0.022**		0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorohexanoic acid	**0.0085**		0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorononanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorononanoic acid	**0.00084**	**I**	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorooctanesulfonamide	**0.0012**	**I**	0.0018	0.00064	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorooctanesulfonic acid	**0.086**		0.0019	0.00091	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorooctanoic acid	**0.014**		0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluoropentanesulfonic acid	**0.0016**	**I**	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluoropentanoic acid	**0.0056**		0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorotetradecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluorotridecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1
Perfluoroundecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/28/24 14:43	07/17/24 11:24	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	*53*		*50 - 150*	*06/28/24 14:43*	*07/17/24 11:24*	*1*
13C8 FOSA	*44*	*	*50 - 150*	*06/28/24 14:43*	*07/17/24 11:24*	*1*
13C4 PFHpA	*89*		*50 - 150*	*06/28/24 14:43*	*07/17/24 11:24*	*1*
13C5 PFPeA	*75*		*50 - 150*	*06/28/24 14:43*	*07/17/24 11:24*	*1*
13C2 PFTeDA	*24*	*	*50 - 150*	*06/28/24 14:43*	*07/17/24 11:24*	*1*
d3-NMeFOSAA	*67*		*50 - 150*	*06/28/24 14:43*	*07/17/24 11:24*	*1*
M2-6:2 FTS	*114*		*50 - 150*	*06/28/24 14:43*	*07/17/24 11:24*	*1*
M2-8:2 FTS	*100*		*50 - 150*	*06/28/24 14:43*	*07/17/24 11:24*	*1*
13C3 PFBS	*88*		*50 - 150*	*06/28/24 14:43*	*07/17/24 11:24*	*1*
M2-4:2 FTS	*96*		*50 - 150*	*06/28/24 14:43*	*07/17/24 11:24*	*1*
13C3 HFPO-DA	*81*		*50 - 150*	*06/28/24 14:43*	*07/17/24 11:24*	*1*

Client Sample ID: GSRY-SW0011-001.0-20240614 Lab Sample ID: 670-41741-2

Date Collected: 06/14/24 10:20 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	90		50 - 150	06/28/24 14:43	07/17/24 11:24	1
13C8 PFOS	98		50 - 150	06/28/24 14:43	07/17/24 11:24	1
13C5 PFHxA	82		50 - 150	06/28/24 14:43	07/17/24 11:24	1
13C9 PFNA	94		50 - 150	06/28/24 14:43	07/17/24 11:24	1
13C6 PFDA	83		50 - 150	06/28/24 14:43	07/17/24 11:24	1
13C7 PFUnA	87		50 - 150	06/28/24 14:43	07/17/24 11:24	1
13C3 PFHxS	99		50 - 150	06/28/24 14:43	07/17/24 11:24	1
13C2-PFDoDA	61		50 - 150	06/28/24 14:43	07/17/24 11:24	1
d3-NMePFOSA	3	*	50 - 150	06/28/24 14:43	07/17/24 11:24	1
d5-NEtFOSAA	68		50 - 150	06/28/24 14:43	07/17/24 11:24	1

Client Sample ID: GSRY-SW0012-001.0-20240614 Lab Sample ID: 670-41741-3

Date Collected: 06/14/24 10:50 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
4:2 Fluorotelomer sulfonic acid	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
6:2 Fluorotelomer sulfonic acid	0.00080	U	0.0024	0.00080	ug/L		06/26/24 15:06	07/16/24 11:54	1
8:2 Fluorotelomer sulfonic acid	0.00080	U	0.0024	0.00080	ug/L		06/26/24 15:06	07/16/24 11:54	1
9Cl-PF3ONS	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
DONA	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
HFPODA	**0.0013**	**I V**	0.0024	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
NEtFOSAA	0.00040	U	0.0024	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
NMeFOSAA	0.00048	U	0.0016	0.00048	ug/L		06/26/24 15:06	07/16/24 11:54	1
NMeFOSA	0.00080	U	0.0024	0.00080	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorobutanesulfonic acid	**0.00053**	**I**	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorobutanoic acid	**0.0063**		0.0040	0.0016	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorodecanesulfonic acid	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorodecanoic acid	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorododecanoic acid	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluoroheptanesulfonic acid	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluoroheptanoic acid	**0.0011**	**I**	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorohexanesulfonic acid	**0.0033**		0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorohexanoic acid	**0.0021**		0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorononanesulfonic acid	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorononanoic acid	**0.00044**	**I**	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorooctanesulfonamide	0.00056	U	0.0016	0.00056	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorooctanesulfonic acid	**0.0096**		0.0017	0.00080	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorooctanoic acid	**0.0028**		0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluoropentanesulfonic acid	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluoropentanoic acid	**0.0018**		0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorotetradecanoic acid	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluorotridecanoic acid	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1
Perfluoroundecanoic acid	0.00040	U	0.0016	0.00040	ug/L		06/26/24 15:06	07/16/24 11:54	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	32	*	50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C8 FOSA	48	*	50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C4 PFHpA	87		50 - 150	06/26/24 15:06	07/16/24 11:54	1

Client Sample ID: GSRY-SW0012-001.0-20240614 Lab Sample ID: 670-41741-3

Date Collected: 06/14/24 10:50 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	71		50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C2 PFTeDA	4	*	50 - 150	06/26/24 15:06	07/16/24 11:54	1
d3-NMeFOSAA	37	*	50 - 150	06/26/24 15:06	07/16/24 11:54	1
M2-6:2 FTS	102		50 - 150	06/26/24 15:06	07/16/24 11:54	1
M2-8:2 FTS	54		50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C3 PFBS	79		50 - 150	06/26/24 15:06	07/16/24 11:54	1
M2-4:2 FTS	107		50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C3 HFPO-DA	84		50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C8 PFOA	79		50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C8 PFOS	63		50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C5 PFHxA	82		50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C9 PFNA	70		50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C6 PFDA	51		50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C7 PFUnA	38	*	50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C3 PFHxS	89		50 - 150	06/26/24 15:06	07/16/24 11:54	1
13C2-PFDoDA	23	*	50 - 150	06/26/24 15:06	07/16/24 11:54	1
d3-NMePFOSA	0.1	*	50 - 150	06/26/24 15:06	07/16/24 11:54	1
d5-NEtFOSAA	34	*	50 - 150	06/26/24 15:06	07/16/24 11:54	1

Client Sample ID: GSRY-SW0013-001.0-20240614 Lab Sample ID: 670-41741-4

Date Collected: 06/14/24 10:40 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00046	U	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
4:2 Fluorotelomer sulfonic acid	0.00046	U	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
6:2 Fluorotelomer sulfonic acid	0.00092	U	0.0028	0.00092	ug/L		06/26/24 15:06	07/16/24 12:08	1
8:2 Fluorotelomer sulfonic acid	0.00092	U	0.0028	0.00092	ug/L		06/26/24 15:06	07/16/24 12:08	1
9Cl-PF3ONS	0.00046	U	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
DONA	0.00046	U	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
HFPODA	**0.0030**	**V**	0.0028	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
NEtFOSAA	0.00046	U	0.0028	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
NMeFOSAA	0.00055	U	0.0018	0.00055	ug/L		06/26/24 15:06	07/16/24 12:08	1
NMeFOSA	0.00092	U	0.0028	0.00092	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluorobutanesulfonic acid	**0.012**		0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluorobutanoic acid	**0.0093**		0.0046	0.0018	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluorodecanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluorodecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluorododecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluoroheptanesulfonic acid	**0.0093**		0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluoroheptanoic acid	**0.0053**		0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluorohexanoic acid	**0.028**		0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluorononanesulfonic acid	0.00046	U	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluorononanoic acid	**0.0012**	**I**	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluorooctanesulfonamide	**0.0013**	**I**	0.0018	0.00065	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluorooctanoic acid	**0.018**		0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluoropentanesulfonic acid	**0.019**		0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluoropentanoic acid	**0.0055**		0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluorotetradecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1

Client Sample ID: GSRY-SW0013-001.0-20240614 Lab Sample ID: 670-41741-4

Date Collected: 06/14/24 10:40 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1
Perfluoroundecanoic acid	0.00046	U	0.0018	0.00046	ug/L		06/26/24 15:06	07/16/24 12:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*34*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C8 FOSA	*59*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C4 PFHpA	*93*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C5 PFPeA	*58*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C2 PFTeDA	*39*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
d3-NMeFOSAA	*64*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
M2-6:2 FTS	*123*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
M2-8:2 FTS	*84*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C3 PFBS	*73*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
M2-4:2 FTS	*129*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C3 HFPO-DA	*82*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C8 PFOA	*87*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C8 PFOS	*79*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C5 PFHxA	*85*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C9 PFNA	*82*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C6 PFDA	*72*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C7 PFUnA	*56*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C3 PFHxS	*93*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
13C2-PFDoDA	*36*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
d3-NMePFOSA	*29*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*
d5-NEtFOSAA	*59*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:08*	*1*

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	**0.38**		0.018	0.0046	ug/L		06/26/24 15:06	07/17/24 13:30	10
Perfluorooctanesulfonic acid	**0.38**		0.019	0.0092	ug/L		06/26/24 15:06	07/17/24 13:30	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 PFOS	*78*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:30*	*10*
13C3 PFHxS	*100*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:30*	*10*

Client Sample ID: GSRY-SW0014-001.0-20240614 Lab Sample ID: 670-41741-5

Date Collected: 06/14/24 09:32 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
4:2 Fluorotelomer sulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
6:2 Fluorotelomer sulfonic acid	0.00095	U	0.0028	0.00095	ug/L		06/26/24 15:06	07/16/24 12:21	1
8:2 Fluorotelomer sulfonic acid	0.00095	U	0.0028	0.00095	ug/L		06/26/24 15:06	07/16/24 12:21	1
9Cl-PF3ONS	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
DONA	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
HFPODA	**0.0010**	**I V**	0.0028	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
NEtFOSAA	0.00047	U	0.0028	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
NMeFOSAA	0.00057	U	0.0019	0.00057	ug/L		06/26/24 15:06	07/16/24 12:21	1
NMeFOSA	0.00095	U	0.0028	0.00095	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorobutanesulfonic acid	**0.0011**	**I**	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1

Client Sample ID: GSRY-SW0014-001.0-20240614
Lab Sample ID: 670-41741-5
Date Collected: 06/14/24 09:32
Matrix: Water
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	**0.0083**		0.0047	0.0019	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorodecanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorodecanoic acid	**0.00059**	**I**	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorododecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluoroheptanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluoroheptanoic acid	**0.0028**		0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorohexanesulfonic acid	**0.013**		0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorohexanoic acid	**0.0079**		0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorononanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorononanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorooctanesulfonamide	**0.0024**		0.0019	0.00066	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorooctanesulfonic acid	**0.037**		0.0020	0.00095	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorooctanoic acid	**0.0076**		0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluoropentanesulfonic acid	**0.0010**	**I**	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluoropentanoic acid	**0.0037**		0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorotetradecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluorotridecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1
Perfluoroundecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 12:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*23*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C8 FOSA	*35*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C4 PFHpA	*93*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C5 PFPeA	*48*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C2 PFTeDA	*5*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
d3-NMeFOSAA	*46*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
M2-6:2 FTS	*126*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
M2-8:2 FTS	*58*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C3 PFBS	*65*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
M2-4:2 FTS	*123*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C3 HFPO-DA	*81*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C8 PFOA	*89*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C8 PFOS	*70*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C5 PFHxA	*82*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C9 PFNA	*76*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C6 PFDA	*52*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C7 PFUnA	*35*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C3 PFHxS	*98*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
13C2-PFDoDA	*19*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
d3-NMePFOSA	*0.05*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*
d5-NEtFOSAA	*41*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:21*	*1*

Client Sample ID: GSRY-SW0015-001.0-20240614
Lab Sample ID: 670-41741-6
Date Collected: 06/14/24 10:45
Matrix: Water
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
6:2 Fluorotelomer sulfonic acid	0.00088	U	0.0027	0.00088	ug/L		06/26/24 15:06	07/16/24 12:35	1

Client Sample ID: GSRY-SW0015-001.0-20240614
Lab Sample ID: 670-41741-6
Date Collected: 06/14/24 10:45
Matrix: Water
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0027	0.00088	ug/L		06/26/24 15:06	07/16/24 12:35	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
DONA	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
HFPODA	**0.00065**	**I V**	0.0027	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
NEtFOSAA	0.00044	U	0.0027	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		06/26/24 15:06	07/16/24 12:35	1
NMeFOSA	0.00088	U	0.0027	0.00088	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorobutanesulfonic acid	**0.00055**	**I**	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorobutanoic acid	**0.0062**		0.0044	0.0018	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluoroheptanoic acid	**0.0014**	**I**	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorohexanesulfonic acid	**0.0032**		0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorohexanoic acid	**0.0019**		0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorononanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorooctanesulfonamide	0.00062	U	0.0018	0.00062	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorooctanesulfonic acid	**0.010**		0.0019	0.00088	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorooctanoic acid	**0.0029**		0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluoropentanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluoropentanoic acid	**0.0016**	**I**	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 12:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*41*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C8 FOSA	*77*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C4 PFHpA	*84*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C5 PFPeA	*81*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C2 PFTeDA	*10*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
d3-NMeFOSAA	*59*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
M2-6:2 FTS	*0.5*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
M2-8:2 FTS	*85*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C3 PFBS	*94*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
M2-4:2 FTS	*116*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C3 HFPO-DA	*95*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C8 PFOA	*103*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C8 PFOS	*89*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C5 PFHxA	*95*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C9 PFNA	*91*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C6 PFDA	*77*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C7 PFUnA	*62*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C3 PFHxS	*103*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
13C2-PFDoDA	*40*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
d3-NMePFOSA	*0.3*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*
d5-NEtFOSAA	*51*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:35*	*1*

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS - SW

Job ID: 670-41741-1

Client Sample ID: GSRY-SW0016-001.0-20240614
Date Collected: 06/14/24 09:25
Date Received: 06/14/24 13:17

Lab Sample ID: 670-41741-7
Matrix: Water

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
4:2 Fluorotelomer sulfonic acid	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
6:2 Fluorotelomer sulfonic acid	0.0011	U	0.0033	0.0011	ug/L		06/26/24 15:06	07/16/24 12:49	1
8:2 Fluorotelomer sulfonic acid	0.0011	U	0.0033	0.0011	ug/L		06/26/24 15:06	07/16/24 12:49	1
9Cl-PF3ONS	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
DONA	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
HFPODA	**0.0063**	**V**	0.0033	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
NEtFOSAA	0.00054	U	0.0033	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
NMeFOSAA	0.00065	U	0.0022	0.00065	ug/L		06/26/24 15:06	07/16/24 12:49	1
NMeFOSA	0.0011	U	0.0033	0.0011	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorobutanesulfonic acid	**0.00096**	**I**	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorobutanoic acid	**0.010**		0.0054	0.0022	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorodecanesulfonic acid	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorodecanoic acid	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorododecanoic acid	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluoroheptanesulfonic acid	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluoroheptanoic acid	**0.0014**	**I**	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorohexanesulfonic acid	**0.014**		0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorohexanoic acid	**0.0021**	**I**	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorononanesulfonic acid	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorononanoic acid	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorooctanesulfonamide	0.00076	U	0.0022	0.00076	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorooctanesulfonic acid	**0.042**		0.0023	0.0011	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorooctanoic acid	**0.0060**		0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluoropentanesulfonic acid	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluoropentanoic acid	**0.0018**	**I**	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorotetradecanoic acid	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluorotridecanoic acid	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1
Perfluoroundecanoic acid	0.00054	U	0.0022	0.00054	ug/L		06/26/24 15:06	07/16/24 12:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*10*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C8 FOSA	*26*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C4 PFHpA	*65*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C5 PFPeA	*24*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C2 PFTeDA	*22*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
d3-NMeFOSAA	*38*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
M2-6:2 FTS	*92*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
M2-8:2 FTS	*68*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C3 PFBS	*39*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
M2-4:2 FTS	*80*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C3 HFPO-DA	*49*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C8 PFOA	*63*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C8 PFOS	*62*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C5 PFHxA	*48*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C9 PFNA	*65*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C6 PFDA	*55*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C7 PFUnA	*40*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C3 PFHxS	*63*		*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
13C2-PFDoDA	*22*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*

Client Sample ID: GSRY-SW0016-001.0-20240614 Lab Sample ID: 670-41741-7

Date Collected: 06/14/24 09:25 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMePFOSA	*11*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*
d5-NEtFOSAA	*39*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 12:49*	*1*

Client Sample ID: GSRY-SW0017-001.0-20240614 Lab Sample ID: 670-41741-8

Date Collected: 06/14/24 09:15 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
6:2 Fluorotelomer sulfonic acid	**0.0040**	**J**	0.0027	0.00091	ug/L		06/26/24 15:06	07/16/24 13:02	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		06/26/24 15:06	07/16/24 13:02	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
DONA	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
HFPODA	**0.00092**	**I V**	0.0027	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
NMeFOSAA	0.00054	U	0.0018	0.00054	ug/L		06/26/24 15:06	07/16/24 13:02	1
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorobutanesulfonic acid	**0.0015**	**I**	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorobutanoic acid	**0.011**		0.0045	0.0018	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluoroheptanesulfonic acid	**0.00056**	**I**	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluoroheptanoic acid	**0.0032**		0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorohexanesulfonic acid	**0.018**		0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorohexanoic acid	**0.0064**		0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorononanoic acid	**0.00063**	**I**	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorooctanesulfonamide	**0.0019**		0.0018	0.00063	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorooctanesulfonic acid	**0.074**		0.0019	0.00091	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorooctanoic acid	**0.014**		0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluoropentanesulfonic acid	**0.0013**	**I**	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluoropentanoic acid	**0.0035**		0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	*36*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 13:02*	*1*
13C8 FOSA	*45*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 13:02*	*1*
13C4 PFHpA	*83*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:02*	*1*
13C5 PFPeA	*72*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:02*	*1*
13C2 PFTeDA	*18*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 13:02*	*1*
d3-NMeFOSAA	*58*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:02*	*1*
M2-6:2 FTS	*4*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 13:02*	*1*
M2-8:2 FTS	*71*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:02*	*1*
13C3 PFBS	*81*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:02*	*1*
M2-4:2 FTS	*98*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:02*	*1*
13C3 HFPO-DA	*84*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:02*	*1*

Client Sample ID: GSRY-SW0017-001.0-20240614 Lab Sample ID: 670-41741-8

Date Collected: 06/14/24 09:15 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	91		50 - 150	06/26/24 15:06	07/16/24 13:02	1
13C8 PFOS	83		50 - 150	06/26/24 15:06	07/16/24 13:02	1
13C5 PFHxA	84		50 - 150	06/26/24 15:06	07/16/24 13:02	1
13C9 PFNA	89		50 - 150	06/26/24 15:06	07/16/24 13:02	1
13C6 PFDA	78		50 - 150	06/26/24 15:06	07/16/24 13:02	1
13C7 PFUnA	60		50 - 150	06/26/24 15:06	07/16/24 13:02	1
13C3 PFHxS	95		50 - 150	06/26/24 15:06	07/16/24 13:02	1
13C2-PFDoDA	41	*	50 - 150	06/26/24 15:06	07/16/24 13:02	1
d3-NMePFOSA	0.8	*	50 - 150	06/26/24 15:06	07/16/24 13:02	1
d5-NEtFOSAA	45	*	50 - 150	06/26/24 15:06	07/16/24 13:02	1

Client Sample ID: GSRY-SW0018-001.0-20240614 Lab Sample ID: 670-41741-9

Date Collected: 06/14/24 10:25 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00048	U	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
4:2 Fluorotelomer sulfonic acid	0.00048	U	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
6:2 Fluorotelomer sulfonic acid	0.00096	U	0.0029	0.00096	ug/L		06/26/24 15:06	07/16/24 13:16	1
8:2 Fluorotelomer sulfonic acid	0.00096	U	0.0029	0.00096	ug/L		06/26/24 15:06	07/16/24 13:16	1
9Cl-PF3ONS	0.00048	U	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
DONA	0.00048	U	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
HFPODA	**0.0018**	**I V**	0.0029	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
NEtFOSAA	0.00048	U	0.0029	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
NMeFOSAA	0.00057	U	0.0019	0.00057	ug/L		06/26/24 15:06	07/16/24 13:16	1
NMeFOSA	0.00096	U	0.0029	0.00096	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorobutanesulfonic acid	**0.0015**	**I**	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorobutanoic acid	**0.012**		0.0048	0.0019	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorodecanesulfonic acid	0.00048	U	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorodecanoic acid	**0.00082**	**I**	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorododecanoic acid	0.00048	U	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluoroheptanesulfonic acid	**0.00064**	**I**	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluoroheptanoic acid	**0.0035**		0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorohexanesulfonic acid	**0.018**		0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorohexanoic acid	**0.0085**		0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorononanesulfonic acid	0.00048	U	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorononanoic acid	**0.00048**	**I**	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorooctanesulfonamide	**0.0021**		0.0019	0.00067	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorooctanesulfonic acid	**0.079**		0.0020	0.00096	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorooctanoic acid	**0.020**		0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluoropentanesulfonic acid	**0.0015**	**I**	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluoropentanoic acid	**0.0038**		0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorotetradecanoic acid	0.00048	U	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluorotridecanoic acid	0.00048	U	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1
Perfluoroundecanoic acid	0.00048	U	0.0019	0.00048	ug/L		06/26/24 15:06	07/16/24 13:16	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	24	*	50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C8 FOSA	62		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C4 PFHpA	108		50 - 150	06/26/24 15:06	07/16/24 13:16	1

Client Sample ID: GSRY-SW0018-001.0-20240614 Lab Sample ID: 670-41741-9

Date Collected: 06/14/24 10:25 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	55		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C2 PFTeDA	29	*	50 - 150	06/26/24 15:06	07/16/24 13:16	1
d3-NMeFOSAA	68		50 - 150	06/26/24 15:06	07/16/24 13:16	1
M2-6:2 FTS	143		50 - 150	06/26/24 15:06	07/16/24 13:16	1
M2-8:2 FTS	91		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C3 PFBS	76		50 - 150	06/26/24 15:06	07/16/24 13:16	1
M2-4:2 FTS	150		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C3 HFPO-DA	87		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C8 PFOA	102		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C8 PFOS	98		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C5 PFHxA	93		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C9 PFNA	96		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C6 PFDA	84		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C7 PFUnA	74		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C3 PFHxS	112		50 - 150	06/26/24 15:06	07/16/24 13:16	1
13C2-PFDoDA	54		50 - 150	06/26/24 15:06	07/16/24 13:16	1
d3-NMePFOSA	0.8	*	50 - 150	06/26/24 15:06	07/16/24 13:16	1
d5-NEtFOSAA	67		50 - 150	06/26/24 15:06	07/16/24 13:16	1

Client Sample ID: GSRY-FD-20240614 Lab Sample ID: 670-41741-10

Date Collected: 06/14/24 10:00 **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
4:2 Fluorotelomer sulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
6:2 Fluorotelomer sulfonic acid	0.00094	U	0.0028	0.00094	ug/L		06/26/24 15:06	07/16/24 13:29	1
8:2 Fluorotelomer sulfonic acid	0.00094	U	0.0028	0.00094	ug/L		06/26/24 15:06	07/16/24 13:29	1
9Cl-PF3ONS	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
DONA	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
HFPODA	**0.00086**	**I V**	0.0028	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
NEtFOSAA	0.00047	U	0.0028	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
NMeFOSAA	0.00056	U	0.0019	0.00056	ug/L		06/26/24 15:06	07/16/24 13:29	1
NMeFOSA	0.00094	U	0.0028	0.00094	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorobutanesulfonic acid	**0.00051**	**I**	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorobutanoic acid	**0.0055**		0.0047	0.0019	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorodecanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorodecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorododecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluoroheptanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluoroheptanoic acid	**0.00098**	**I**	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorohexanesulfonic acid	**0.0030**		0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorohexanoic acid	**0.0018**	**I**	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorononanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorononanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorooctanesulfonamide	**0.00066**	**I**	0.0019	0.00066	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorooctanesulfonic acid	**0.0080**		0.0020	0.00094	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorooctanoic acid	**0.0026**		0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluoropentanesulfonic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1

Client Sample ID: GSRY-FD-20240614 — Lab Sample ID: 670-41741-10

Date Collected: 06/14/24 10:00 — **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid	**0.0014**	**I**	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorotetradecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluorotridecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1
Perfluoroundecanoic acid	0.00047	U	0.0019	0.00047	ug/L		06/26/24 15:06	07/16/24 13:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*38*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C8 FOSA	*69*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C4 PFHpA	*102*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C5 PFPeA	*74*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C2 PFTeDA	*38*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
d3-NMeFOSAA	*72*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
M2-6:2 FTS	*112*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
M2-8:2 FTS	*92*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C3 PFBS	*88*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
M2-4:2 FTS	*129*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C3 HFPO-DA	*85*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C8 PFOA	*98*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C8 PFOS	*102*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C5 PFHxA	*101*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C9 PFNA	*103*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C6 PFDA	*91*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C7 PFUnA	*85*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C3 PFHxS	*100*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
13C2-PFDoDA	*65*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
d3-NMePFOSA	*0.8*	*	*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*
d5-NEtFOSAA	*73*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:29*	*1*

Client Sample ID: GSRY-FB-20240614 — Lab Sample ID: 670-41741-11

Date Collected: 06/14/24 09:00 — **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
4:2 Fluorotelomer sulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
6:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		06/26/24 15:06	07/16/24 13:43	1
8:2 Fluorotelomer sulfonic acid	0.00088	U	0.0026	0.00088	ug/L		06/26/24 15:06	07/16/24 13:43	1
9Cl-PF3ONS	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
DONA	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
HFPODA	**0.00050**	**I V**	0.0026	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
NEtFOSAA	0.00044	U	0.0026	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
NMeFOSAA	0.00053	U	0.0018	0.00053	ug/L		06/26/24 15:06	07/16/24 13:43	1
NMeFOSA	0.00088	U	0.0026	0.00088	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorobutanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorobutanoic acid	0.0018	U	0.0044	0.0018	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorodecanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorodecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorododecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluoroheptanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluoroheptanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1

Client Sample ID: GSRY-FB-20240614 — Lab Sample ID: 670-41741-11

Date Collected: 06/14/24 09:00 — **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorohexanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorononanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorononanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorooctanesulfonamide	0.00062	U	0.0018	0.00062	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorooctanesulfonic acid	0.00088	U	0.0018	0.00088	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorooctanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluoropentanesulfonic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluoropentanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorotetradecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluorotridecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1
Perfluoroundecanoic acid	0.00044	U	0.0018	0.00044	ug/L		06/26/24 15:06	07/16/24 13:43	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*117*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C8 FOSA	*96*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C4 PFHpA	*114*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C5 PFPeA	*110*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C2 PFTeDA	*74*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
d3-NMeFOSAA	*91*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
M2-6:2 FTS	*109*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
M2-8:2 FTS	*93*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C3 PFBS	*116*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
M2-4:2 FTS	*122*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C3 HFPO-DA	*105*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C8 PFOA	*113*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C8 PFOS	*108*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C5 PFHxA	*109*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C9 PFNA	*108*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C6 PFDA	*95*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C7 PFUnA	*98*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C3 PFHxS	*112*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
13C2-PFDoDA	*93*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
d3-NMePFOSA	*66*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*
d5-NEtFOSAA	*82*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:43*	*1*

Client Sample ID: GSRY-EB-20240614 — Lab Sample ID: 670-41741-12

Date Collected: 06/14/24 09:30 — **Matrix: Water**
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
4:2 Fluorotelomer sulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
6:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		06/26/24 15:06	07/16/24 13:57	1
8:2 Fluorotelomer sulfonic acid	0.00091	U	0.0027	0.00091	ug/L		06/26/24 15:06	07/16/24 13:57	1
9Cl-PF3ONS	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
DONA	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
HFPODA	**0.00045**	**I V**	0.0027	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
NEtFOSAA	0.00045	U	0.0027	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
NMeFOSAA	0.00055	U	0.0018	0.00055	ug/L		06/26/24 15:06	07/16/24 13:57	1

Client: AECOM Technical Services Inc.
Job ID: 670-41741-1
Project/Site: NASA KSC GSRY PFAS - SW

Client Sample ID: GSRY-EB-20240614
Lab Sample ID: 670-41741-12
Date Collected: 06/14/24 09:30
Matrix: Water
Date Received: 06/14/24 13:17

Method: DOD 5.4 QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	0.00091	U	0.0027	0.00091	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorobutanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorobutanoic acid	0.0018	U	0.0045	0.0018	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorodecanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorodecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorododecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluoroheptanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluoroheptanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorohexanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorohexanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorononanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorononanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorooctanesulfonamide	0.00064	U	0.0018	0.00064	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorooctanesulfonic acid	0.00091	U	0.0019	0.00091	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorooctanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluoropentanesulfonic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluoropentanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorotetradecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluorotridecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1
Perfluoroundecanoic acid	0.00045	U	0.0018	0.00045	ug/L		06/26/24 15:06	07/16/24 13:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*118*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C8 FOSA	*97*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C4 PFHpA	*115*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C5 PFPeA	*106*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C2 PFTeDA	*94*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
d3-NMeFOSAA	*107*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
M2-6:2 FTS	*103*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
M2-8:2 FTS	*105*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C3 PFBS	*117*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
M2-4:2 FTS	*123*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C3 HFPO-DA	*98*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C8 PFOA	*95*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C8 PFOS	*113*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C5 PFHxA	*109*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C9 PFNA	*113*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C6 PFDA	*103*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C7 PFUnA	*112*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C3 PFHxS	*112*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
13C2-PFDoDA	*103*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
d3-NMePFOSA	*72*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*
d5-NEtFOSAA	*98*		*50 - 150*	*06/26/24 15:06*	*07/16/24 13:57*	*1*

Isotope Dilution Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS - SW

Job ID: 670-41741-1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFOSA	C4PFHA	PFPeA	PFTDA	d3NMFOS	M262FTS	M282FTS
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
670-41741-1	GSRY-SW0010-001.0-20240614	52	22 *	74	64	4 *	46 *	79	62
670-41741-1 MS	GSRY-SW0010-001.0-20240614	51	24 *	73	62	7 *	49 *	84	68
670-41741-1 MSD	GSRY-SW0010-001.0-20240614	55	29 *	83	73	9 *	52	88	72
670-41741-2	GSRY-SW0011-001.0-20240614	53	44 *	89	75	24 *	67	114	100
670-41741-3	GSRY-SW0012-001.0-20240614	32 *	48 *	87	71	4 *	37 *	102	54
670-41741-4	GSRY-SW0013-001.0-20240614	34 *	59	93	58	39 *	64	123	84
670-41741-4 - DL	GSRY-SW0013-001.0-20240614								
670-41741-5	GSRY-SW0014-001.0-20240614	23 *	35 *	93	48 *	5 *	46 *	126	58
670-41741-6	GSRY-SW0015-001.0-20240614	41 *	77	84	81	10 *	59	0.5 *	85
670-41741-7	GSRY-SW0016-001.0-20240614	10 *	26 *	65	24 *	22 *	38 *	92	68
670-41741-8	GSRY-SW0017-001.0-20240614	36 *	45 *	83	72	18 *	58	4 *	71
670-41741-9	GSRY-SW0018-001.0-20240614	24 *	62	108	55	29 *	68	143	91
670-41741-10	GSRY-FD-20240614	38 *	69	102	74	38 *	72	112	92
670-41741-11	GSRY-FB-20240614	117	96	114	110	74	91	109	93
670-41741-12	GSRY-EB-20240614	118	97	115	106	94	107	103	105
LCS 410-521833/2-A	Lab Control Sample	122	107	112	113	103	105	123	107
LCS 410-522870/2-A	Lab Control Sample	93	83	97	88	81	98	92	97
MB 410-521833/1-A	Method Blank	117	108	117	115	102	119	67	122
MB 410-522870/1-A	Method Blank	92	82	96	88	74	97	96	106

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		C3PFBS	M242FTS	HFPODA	C8PFOA	C8PFOS	13C5PHA	C9PFNA	C6PFDA
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
670-41741-1	GSRY-SW0010-001.0-20240614	73	74	64	72	67	69	69	63
670-41741-1 MS	GSRY-SW0010-001.0-20240614	73	71	61	70	70	66	70	59
670-41741-1 MSD	GSRY-SW0010-001.0-20240614	85	84	71	80	80	79	79	68
670-41741-2	GSRY-SW0011-001.0-20240614	88	96	81	90	98	82	94	83
670-41741-3	GSRY-SW0012-001.0-20240614	79	107	84	79	63	82	70	51
670-41741-4	GSRY-SW0013-001.0-20240614	73	129	82	87	79	85	82	72
670-41741-4 - DL	GSRY-SW0013-001.0-20240614					78			
670-41741-5	GSRY-SW0014-001.0-20240614	65	123	81	89	70	82	76	52
670-41741-6	GSRY-SW0015-001.0-20240614	94	116	95	103	89	95	91	77
670-41741-7	GSRY-SW0016-001.0-20240614	39 *	80	49 *	63	62	48 *	65	55
670-41741-8	GSRY-SW0017-001.0-20240614	81	98	84	91	83	84	89	78

Isotope Dilution Summary

Client: AECOM Technical Services Inc. Job ID: 670-41741-1
Project/Site: NASA KSC GSRY PFAS - SW

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C3PFBS (50-150)	M242FTS (50-150)	HFPODA (50-150)	C8PFOA (50-150)	C8PFOS (50-150)	13C5PHA (50-150)	C9PFNA (50-150)	C6PFDA (50-150)
670-41741-9	GSRY-SW0018-001.0-20240614	76	150	87	102	98	93	96	84
670-41741-10	GSRY-FD-20240614	88	129	85	98	102	101	103	91
670-41741-11	GSRY-FB-20240614	116	122	105	113	108	109	108	95
670-41741-12	GSRY-EB-20240614	117	123	98	95	113	109	113	103
LCS 410-521833/2-A	Lab Control Sample	125	126	117	112	119	114	117	108
LCS 410-522870/2-A	Lab Control Sample	99	91	88	93	99	94	93	94
MB 410-521833/1-A	Method Blank	121	120	101	122	122	113	128	125
MB 410-522870/1-A	Method Blank	103	101	100	95	98	94	94	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	13C7PUA (50-150)	C3PFHS (50-150)	PFDoDA (50-150)	d3NMFSA (50-150)	d5NEFOS (50-150)			
670-41741-1	GSRY-SW0010-001.0-20240614	51	77	29 *	0.02 *	39 *			
670-41741-1 MS	GSRY-SW0010-001.0-20240614	56	81	34 *	0.1 *	45 *			
670-41741-1 MSD	GSRY-SW0010-001.0-20240614	61	91	39 *	0.5 *	34 *			
670-41741-2	GSRY-SW0011-001.0-20240614	87	99	61	3 *	68			
670-41741-3	GSRY-SW0012-001.0-20240614	38 *	89	23 *	0.1 *	34 *			
670-41741-4	GSRY-SW0013-001.0-20240614	56	93	36 *	29 *	59			
670-41741-4 - DL	GSRY-SW0013-001.0-20240614		100						
670-41741-5	GSRY-SW0014-001.0-20240614	35 *	98	19 *	0.05 *	41 *			
670-41741-6	GSRY-SW0015-001.0-20240614	62	103	40 *	0.3 *	51			
670-41741-7	GSRY-SW0016-001.0-20240614	40 *	63	22 *	11 *	39 *			
670-41741-8	GSRY-SW0017-001.0-20240614	60	95	41 *	0.8 *	45 *			
670-41741-9	GSRY-SW0018-001.0-20240614	74	112	54	0.8 *	67			
670-41741-10	GSRY-FD-20240614	85	100	65	0.8 *	73			
670-41741-11	GSRY-FB-20240614	98	112	93	66	82			
670-41741-12	GSRY-EB-20240614	112	112	103	72	98			
LCS 410-521833/2-A	Lab Control Sample	111	119	100	57	114			
LCS 410-522870/2-A	Lab Control Sample	105	98	97	47 *	92			
MB 410-521833/1-A	Method Blank	116	121	114	67	112			
MB 410-522870/1-A	Method Blank	104	96	94	42 *	97			

Surrogate Legend

PFBA = 13C4 PFBA
PFOSA = 13C8 FOSA
C4PFHA = 13C4 PFHpA
PFPeA = 13C5 PFPeA
PFTDA = 13C2 PFTeDA
d3NMFOS = d3-NMeFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
C3PFBS = 13C3 PFBS
M242FTS = M2-4:2 FTS

Isotope Dilution Summary

Client: AECOM Technical Services Inc.
Job ID: 670-41741-1
Project/Site: NASA KSC GSRY PFAS - SW

HFPODA = 13C3 HFPO-DA
C8PFOA = 13C8 PFOA
C8PFOS = 13C8 PFOS
13C5PHA = 13C5 PFHxA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
C3PFHS = 13C3 PFHxS
PFDoDA = 13C2-PFDoDA
d3NMFSA = d3-NMePFOSA
d5NEFOS = d5-NEtFOSAA

Method: QSM B15 - PFAS for QSM 5.4, Table B-15

Lab Sample ID: MB 410-521833/1-A
Matrix: Water
Analysis Batch: 529256

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 521833

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
6:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/26/24 15:06	07/17/24 13:03	1
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/26/24 15:06	07/17/24 13:03	1
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
DONA	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
HFPODA	0.000822	I J	0.0030	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		06/26/24 15:06	07/17/24 13:03	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorobutanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorohexanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/26/24 15:06	07/17/24 13:03	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*117*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C8 FOSA	*108*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C4 PFHpA	*117*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C5 PFPeA	*115*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C2 PFTeDA	*102*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
d3-NMeFOSAA	*119*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
M2-6:2 FTS	*67*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
M2-8:2 FTS	*122*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C3 PFBS	*121*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
M2-4:2 FTS	*120*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C3 HFPO-DA	*101*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C8 PFOA	*122*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C8 PFOS	*122*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C5 PFHxA	*113*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C9 PFNA	*128*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C6 PFDA	*125*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*
13C7 PFUnA	*116*		*50 - 150*	*06/26/24 15:06*	*07/17/24 13:03*	*1*

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: MB 410-521833/1-A
Matrix: Water
Analysis Batch: 529256

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 521833

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFHxS	121		50 - 150	06/26/24 15:06	07/17/24 13:03	1
13C2-PFDoDA	114		50 - 150	06/26/24 15:06	07/17/24 13:03	1
d3-NMePFOSA	67		50 - 150	06/26/24 15:06	07/17/24 13:03	1
d5-NEtFOSAA	112		50 - 150	06/26/24 15:06	07/17/24 13:03	1

Lab Sample ID: LCS 410-521833/2-A
Matrix: Water
Analysis Batch: 528674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 521833

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
11Cl-PF3OUdS			0.0238	0.0194		ug/L		82	58 - 127		
4:2 Fluorotelomer sulfonic acid			0.0239	0.0208		ug/L		87	63 - 143		
6:2 Fluorotelomer sulfonic acid			0.0243	0.0223		ug/L		92	64 - 140		
8:2 Fluorotelomer sulfonic acid			0.0245	0.0221		ug/L		90	67 - 138		
9Cl-PF3ONS			0.0238	0.0197		ug/L		83	61 - 130		
DONA			0.0242	0.0222		ug/L		92	64 - 131		
HFPODA			0.0256	0.0235		ug/L		92	54 - 129		
NEtFOSAA			0.0256	0.0215		ug/L		84	61 - 135		
NMeFOSAA			0.0256	0.0243		ug/L		95	65 - 136		
NMeFOSA			0.0256	0.0275		ug/L		107	50 - 175		
Perfluorobutanesulfonic acid			0.0227	0.0207		ug/L		91	72 - 130		
Perfluorobutanoic acid			0.0256	0.0212		ug/L		83	73 - 129		
Perfluorodecanesulfonic acid			0.0247	0.0187		ug/L		76	53 - 142		
Perfluorodecanoic acid			0.0256	0.0242		ug/L		95	71 - 129		
Perfluorododecanoic acid			0.0256	0.0241		ug/L		94	72 - 134		
Perfluoroheptanesulfonic acid			0.0244	0.0213		ug/L		88	69 - 134		
Perfluoroheptanoic acid			0.0256	0.0250		ug/L		98	72 - 130		
Perfluorohexanesulfonic acid			0.0233	0.0217		ug/L		93	68 - 131		
Perfluorohexanoic acid			0.0256	0.0229		ug/L		90	72 - 129		
Perfluorononanesulfonic acid			0.0246	0.0210		ug/L		85	69 - 127		
Perfluorononanoic acid			0.0256	0.0234		ug/L		92	69 - 130		
Perfluorooctanesulfonamide			0.0256	0.0235		ug/L		92	67 - 137		
Perfluorooctanesulfonic acid			0.0237	0.0197		ug/L		83	65 - 140		
Perfluorooctanoic acid			0.0256	0.0234		ug/L		91	71 - 133		
Perfluoropentanesulfonic acid			0.0240	0.0190		ug/L		79	71 - 127		
Perfluoropentanoic acid			0.0256	0.0237		ug/L		92	72 - 129		
Perfluorotetradecanoic acid			0.0256	0.0221		ug/L		86	71 - 132		
Perfluorotridecanoic acid			0.0256	0.0243		ug/L		95	65 - 144		
Perfluoroundecanoic acid			0.0256	0.0229		ug/L		90	69 - 133		

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	122		50 - 150
13C8 FOSA	107		50 - 150
13C4 PFHpA	112		50 - 150
13C5 PFPeA	113		50 - 150
13C2 PFTeDA	103		50 - 150
d3-NMeFOSAA	105		50 - 150
M2-6:2 FTS	123		50 - 150
M2-8:2 FTS	107		50 - 150

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-521833/2-A
Matrix: Water
Analysis Batch: 528674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 521833

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 PFBS	125		50 - 150
M2-4:2 FTS	126		50 - 150
13C3 HFPO-DA	117		50 - 150
13C8 PFOA	112		50 - 150
13C8 PFOS	119		50 - 150
13C5 PFHxA	114		50 - 150
13C9 PFNA	117		50 - 150
13C6 PFDA	108		50 - 150
13C7 PFUnA	111		50 - 150
13C3 PFHxS	119		50 - 150
13C2-PFDoDA	100		50 - 150
d3-NMePFOSA	57		50 - 150
d5-NEtFOSAA	114		50 - 150

Lab Sample ID: MB 410-522870/1-A
Matrix: Water
Analysis Batch: 528704

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 522870

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
11Cl-PF3OUdS	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
4:2 Fluorotelomer sulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
6:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/28/24 14:43	07/17/24 10:21	1
8:2 Fluorotelomer sulfonic acid	0.0010	U	0.0030	0.0010	ug/L		06/28/24 14:43	07/17/24 10:21	1
9Cl-PF3ONS	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
DONA	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
HFPODA	0.00050	U	0.0030	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
NEtFOSAA	0.00050	U	0.0030	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
NMeFOSAA	0.00060	U	0.0020	0.00060	ug/L		06/28/24 14:43	07/17/24 10:21	1
NMeFOSA	0.0010	U	0.0030	0.0010	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorobutanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorobutanoic acid	0.0020	U	0.0050	0.0020	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorodecanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorodecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorododecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluoroheptanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluoroheptanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorohexanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorohexanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorononanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorononanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorooctanesulfonamide	0.00070	U	0.0020	0.00070	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorooctanesulfonic acid	0.0010	U	0.0021	0.0010	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorooctanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluoropentanesulfonic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluoropentanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorotetradecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluorotridecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1
Perfluoroundecanoic acid	0.00050	U	0.0020	0.00050	ug/L		06/28/24 14:43	07/17/24 10:21	1

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C8 FOSA	82		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C4 PFHpA	96		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C5 PFPeA	88		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C2 PFTeDA	74		50 - 150	06/28/24 14:43	07/17/24 10:21	1
d3-NMeFOSAA	97		50 - 150	06/28/24 14:43	07/17/24 10:21	1
M2-6:2 FTS	96		50 - 150	06/28/24 14:43	07/17/24 10:21	1
M2-8:2 FTS	106		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C3 PFBS	103		50 - 150	06/28/24 14:43	07/17/24 10:21	1
M2-4:2 FTS	101		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C3 HFPO-DA	100		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C8 PFOA	95		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C8 PFOS	98		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C5 PFHxA	94		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C9 PFNA	94		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C6 PFDA	101		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C7 PFUnA	104		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C3 PFHxS	96		50 - 150	06/28/24 14:43	07/17/24 10:21	1
13C2-PFDoDA	94		50 - 150	06/28/24 14:43	07/17/24 10:21	1
d3-NMePFOSA	42	*	50 - 150	06/28/24 14:43	07/17/24 10:21	1
d5-NEtFOSAA	97		50 - 150	06/28/24 14:43	07/17/24 10:21	1

Lab Sample ID: LCS 410-522870/2-A
Matrix: Water
Analysis Batch: 528704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 522870

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
11Cl-PF3OUdS	0.0238	0.0201		ug/L		84	58 - 127
4:2 Fluorotelomer sulfonic acid	0.0239	0.0210		ug/L		88	63 - 143
6:2 Fluorotelomer sulfonic acid	0.0243	0.0213		ug/L		88	64 - 140
8:2 Fluorotelomer sulfonic acid	0.0245	0.0206		ug/L		84	67 - 138
9Cl-PF3ONS	0.0238	0.0200		ug/L		84	61 - 130
DONA	0.0242	0.0210		ug/L		87	64 - 131
HFPODA	0.0256	0.0254		ug/L		99	54 - 129
NEtFOSAA	0.0256	0.0231	J	ug/L		90	61 - 135
NMeFOSAA	0.0256	0.0214	J	ug/L		83	65 - 136
NMeFOSA	0.0256	0.0233		ug/L		91	50 - 175
Perfluorobutanesulfonic acid	0.0227	0.0193		ug/L		85	72 - 130
Perfluorobutanoic acid	0.0256	0.0215		ug/L		84	73 - 129
Perfluorodecanesulfonic acid	0.0247	0.0186		ug/L		76	53 - 142
Perfluorodecanoic acid	0.0256	0.0226		ug/L		88	71 - 129
Perfluorododecanoic acid	0.0256	0.0226		ug/L		88	72 - 134
Perfluoroheptanesulfonic acid	0.0244	0.0207		ug/L		85	69 - 134
Perfluoroheptanoic acid	0.0256	0.0233		ug/L		91	72 - 130
Perfluorohexanesulfonic acid	0.0233	0.0163	J	ug/L		70	68 - 131
Perfluorohexanoic acid	0.0256	0.0237		ug/L		93	72 - 129
Perfluorononanesulfonic acid	0.0246	0.0205		ug/L		83	69 - 127
Perfluorononanoic acid	0.0256	0.0218		ug/L		85	69 - 130
Perfluorooctanesulfonamide	0.0256	0.0220		ug/L		86	67 - 137
Perfluorooctanesulfonic acid	0.0237	0.0191		ug/L		81	65 - 140
Perfluorooctanoic acid	0.0256	0.0228		ug/L		89	71 - 133
Perfluoropentanesulfonic acid	0.0240	0.0205		ug/L		85	71 - 127

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: LCS 410-522870/2-A
Matrix: Water
Analysis Batch: 528704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 522870

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Perfluoropentanoic acid			0.0256	0.0238		ug/L		93	72 - 129		
Perfluorotetradecanoic acid			0.0256	0.0209		ug/L		81	71 - 132		
Perfluorotridecanoic acid			0.0256	0.0186		ug/L		73	65 - 144		
Perfluoroundecanoic acid			0.0256	0.0215		ug/L		84	69 - 133		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*93*		*50 - 150*
13C8 FOSA	*83*		*50 - 150*
13C4 PFHpA	*97*		*50 - 150*
13C5 PFPeA	*88*		*50 - 150*
13C2 PFTeDA	*81*		*50 - 150*
d3-NMeFOSAA	*98*		*50 - 150*
M2-6:2 FTS	*92*		*50 - 150*
M2-8:2 FTS	*97*		*50 - 150*
13C3 PFBS	*99*		*50 - 150*
M2-4:2 FTS	*91*		*50 - 150*
13C3 HFPO-DA	*88*		*50 - 150*
13C8 PFOA	*93*		*50 - 150*
13C8 PFOS	*99*		*50 - 150*
13C5 PFHxA	*94*		*50 - 150*
13C9 PFNA	*93*		*50 - 150*
13C6 PFDA	*94*		*50 - 150*
13C7 PFUnA	*105*		*50 - 150*
13C3 PFHxS	*98*		*50 - 150*
13C2-PFDoDA	*97*		*50 - 150*
d3-NMePFOSA	*47*	*	*50 - 150*
d5-NEtFOSAA	*92*		*50 - 150*

Lab Sample ID: 670-41741-1 MS
Matrix: Water
Analysis Batch: 528704

Client Sample ID: GSRY-SW0010-001.0-20240614
Prep Type: Total/NA
Prep Batch: 522870

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
11Cl-PF3OUdS	0.00043	U	0.0216	0.0107	J3	ug/L		50	58 - 127		
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0217	0.0200		ug/L		92	63 - 143		
6:2 Fluorotelomer sulfonic acid	0.00085	U	0.0220	0.0206		ug/L		93	64 - 140		
8:2 Fluorotelomer sulfonic acid	0.00085	U	0.0223	0.0189		ug/L		85	67 - 138		
9Cl-PF3ONS	0.00043	U	0.0216	0.0177		ug/L		82	61 - 130		
DONA	0.00043	U	0.0220	0.0206		ug/L		94	64 - 131		
HFPODA	0.00066	I	0.0233	0.0275		ug/L		115	54 - 129		
NEtFOSAA	0.00043	U	0.0233	0.0193		ug/L		83	61 - 135		
NMeFOSAA	0.00051	U	0.0233	0.0224		ug/L		96	65 - 136		
NMeFOSA	0.00085	U	0.0233	0.0164		ug/L		70	50 - 175		
Perfluorobutanesulfonic acid	0.0023		0.0206	0.0210		ug/L		91	72 - 130		
Perfluorobutanoic acid	0.013		0.0233	0.0328		ug/L		84	73 - 129		
Perfluorodecanesulfonic acid	0.00043	U	0.0224	0.0122		ug/L		54	53 - 142		
Perfluorodecanoic acid	0.00043	U	0.0233	0.0233		ug/L		100	71 - 129		
Perfluorododecanoic acid	0.00043	U	0.0233	0.0224		ug/L		96	72 - 134		
Perfluoroheptanesulfonic acid	0.00071	I	0.0221	0.0195		ug/L		85	69 - 134		

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: 670-41741-1 MS
Matrix: Water
Analysis Batch: 528704

Client Sample ID: GSRY-SW0010-001.0-20240614
Prep Type: Total/NA
Prep Batch: 522870

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluoroheptanoic acid	0.0035		0.0233	0.0246		ug/L		91	72 - 130
Perfluorohexanesulfonic acid	0.022		0.0212	0.0393		ug/L		80	68 - 131
Perfluorohexanoic acid	0.0089		0.0233	0.0321		ug/L		100	72 - 129
Perfluorononanesulfonic acid	0.00043	U	0.0223	0.0167		ug/L		75	69 - 127
Perfluorononanoic acid	0.0010	I	0.0233	0.0220		ug/L		90	69 - 130
Perfluorooctanesulfonamide	0.00063	I	0.0233	0.0228		ug/L		95	67 - 137
Perfluorooctanesulfonic acid	0.091		0.0215	0.106		ug/L		70	65 - 140
Perfluorooctanoic acid	0.014		0.0233	0.0354		ug/L		92	71 - 133
Perfluoropentanesulfonic acid	0.0017		0.0218	0.0214		ug/L		91	71 - 127
Perfluoropentanoic acid	0.0066		0.0233	0.0294		ug/L		98	72 - 129
Perfluorotetradecanoic acid	0.00043	U	0.0233	0.0212		ug/L		91	71 - 132
Perfluorotridecanoic acid	0.00043	U	0.0233	0.0106	J3	ug/L		45	65 - 144
Perfluoroundecanoic acid	0.00043	U	0.0233	0.0218		ug/L		94	69 - 133

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA	*51*		*50 - 150*
13C8 FOSA	*24*	*	*50 - 150*
13C4 PFHpA	*73*		*50 - 150*
13C5 PFPeA	*62*		*50 - 150*
13C2 PFTeDA	*7*	*	*50 - 150*
d3-NMeFOSAA	*49*	*	*50 - 150*
M2-6:2 FTS	*84*		*50 - 150*
M2-8:2 FTS	*68*		*50 - 150*
13C3 PFBS	*73*		*50 - 150*
M2-4:2 FTS	*71*		*50 - 150*
13C3 HFPO-DA	*61*		*50 - 150*
13C8 PFOA	*70*		*50 - 150*
13C8 PFOS	*70*		*50 - 150*
13C5 PFHxA	*66*		*50 - 150*
13C9 PFNA	*70*		*50 - 150*
13C6 PFDA	*59*		*50 - 150*
13C7 PFUnA	*56*		*50 - 150*
13C3 PFHxS	*81*		*50 - 150*
13C2-PFDoDA	*34*	*	*50 - 150*
d3-NMePFOSA	*0.1*	*	*50 - 150*
d5-NEtFOSAA	*45*	*	*50 - 150*

Lab Sample ID: 670-41741-1 MSD
Matrix: Water
Analysis Batch: 528704

Client Sample ID: GSRY-SW0010-001.0-20240614
Prep Type: Total/NA
Prep Batch: 522870

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
11Cl-PF3OUdS	0.00043	U	0.0191	0.00940	J3	ug/L		49	58 - 127	13	30
4:2 Fluorotelomer sulfonic acid	0.00043	U	0.0192	0.0174		ug/L		91	63 - 143	14	30
6:2 Fluorotelomer sulfonic acid	0.00085	U	0.0195	0.0191		ug/L		98	64 - 140	7	30
8:2 Fluorotelomer sulfonic acid	0.00085	U	0.0197	0.0182		ug/L		92	67 - 138	4	30
9Cl-PF3ONS	0.00043	U	0.0191	0.0162		ug/L		85	61 - 130	9	30
DONA	0.00043	U	0.0194	0.0186		ug/L		96	64 - 131	10	30
HFPODA	0.00066	I	0.0206	0.0239		ug/L		113	54 - 129	14	30

Method: QSM B15 - PFAS for QSM 5.4, Table B-15 (Continued)

Lab Sample ID: 670-41741-1 MSD
Matrix: Water
Analysis Batch: 528704

Client Sample ID: GSRY-SW0010-001.0-20240614
Prep Type: Total/NA
Prep Batch: 522870

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
NEtFOSAA	0.00043	U	0.0206	0.0203		ug/L		99	61 - 135	5	30
NMeFOSAA	0.00051	U	0.0206	0.0194		ug/L		94	65 - 136	14	30
NMeFOSA	0.00085	U	0.0206	0.0170		ug/L		83	50 - 175	4	30
Perfluorobutanesulfonic acid	0.0023		0.0182	0.0189		ug/L		91	72 - 130	11	30
Perfluorobutanoic acid	0.013		0.0206	0.0298		ug/L		81	73 - 129	10	30
Perfluorodecanesulfonic acid	0.00043	U	0.0198	0.0106		ug/L		53	53 - 142	14	30
Perfluorodecanoic acid	0.00043	U	0.0206	0.0207		ug/L		101	71 - 129	12	30
Perfluorododecanoic acid	0.00043	U	0.0206	0.0192		ug/L		94	72 - 134	15	30
Perfluoroheptanesulfonic acid	0.00071	I	0.0196	0.0182		ug/L		89	69 - 134	7	30
Perfluoroheptanoic acid	0.0035		0.0206	0.0214		ug/L		87	72 - 130	14	30
Perfluorohexanesulfonic acid	0.022		0.0187	0.0376		ug/L		81	68 - 131	5	30
Perfluorohexanoic acid	0.0089		0.0206	0.0297		ug/L		101	72 - 129	8	30
Perfluorononanesulfonic acid	0.00043	U	0.0197	0.0153		ug/L		78	69 - 127	9	30
Perfluorononanoic acid	0.0010	I	0.0206	0.0196		ug/L		90	69 - 130	12	30
Perfluorooctanesulfonamide	0.00063	I	0.0206	0.0199		ug/L		94	67 - 137	13	30
Perfluorooctanesulfonic acid	0.091		0.0190	0.100	J3	ug/L		47	65 - 140	6	30
Perfluorooctanoic acid	0.014		0.0206	0.0339		ug/L		97	71 - 133	4	30
Perfluoropentanesulfonic acid	0.0017		0.0193	0.0194		ug/L		92	71 - 127	10	30
Perfluoropentanoic acid	0.0066		0.0206	0.0267		ug/L		98	72 - 129	10	30
Perfluorotetradecanoic acid	0.00043	U	0.0206	0.0185		ug/L		90	71 - 132	14	30
Perfluorotridecanoic acid	0.00043	U	0.0206	0.00934	J3	ug/L		45	65 - 144	12	30
Perfluoroundecanoic acid	0.00043	U	0.0206	0.0189		ug/L		92	69 - 133	14	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*55*		*50 - 150*
13C8 FOSA	*29*	*	*50 - 150*
13C4 PFHpA	*83*		*50 - 150*
13C5 PFPeA	*73*		*50 - 150*
13C2 PFTeDA	*9*	*	*50 - 150*
d3-NMeFOSAA	*52*		*50 - 150*
M2-6:2 FTS	*88*		*50 - 150*
M2-8:2 FTS	*72*		*50 - 150*
13C3 PFBS	*85*		*50 - 150*
M2-4:2 FTS	*84*		*50 - 150*
13C3 HFPO-DA	*71*		*50 - 150*
13C8 PFOA	*80*		*50 - 150*
13C8 PFOS	*80*		*50 - 150*
13C5 PFHxA	*79*		*50 - 150*
13C9 PFNA	*79*		*50 - 150*
13C6 PFDA	*68*		*50 - 150*
13C7 PFUnA	*61*		*50 - 150*
13C3 PFHxS	*91*		*50 - 150*
13C2-PFDoDA	*39*	*	*50 - 150*
d3-NMePFOSA	*0.5*	*	*50 - 150*
d5-NEtFOSAA	*34*	*	*50 - 150*

LCMS

Prep Batch: 521833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41741-3	GSRY-SW0012-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-4	GSRY-SW0013-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-4 - DL	GSRY-SW0013-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-5	GSRY-SW0014-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-6	GSRY-SW0015-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-7	GSRY-SW0016-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-8	GSRY-SW0017-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-9	GSRY-SW0018-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-10	GSRY-FD-20240614	Total/NA	Water	537 IDA	
670-41741-11	GSRY-FB-20240614	Total/NA	Water	537 IDA	
670-41741-12	GSRY-EB-20240614	Total/NA	Water	537 IDA	
MB 410-521833/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-521833/2-A	Lab Control Sample	Total/NA	Water	537 IDA	

Prep Batch: 522870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41741-1	GSRY-SW0010-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-2	GSRY-SW0011-001.0-20240614	Total/NA	Water	537 IDA	
MB 410-522870/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-522870/2-A	Lab Control Sample	Total/NA	Water	537 IDA	
670-41741-1 MS	GSRY-SW0010-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-1 MSD	GSRY-SW0010-001.0-20240614	Total/NA	Water	537 IDA	

Analysis Batch: 528674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41741-3	GSRY-SW0012-001.0-20240614	Total/NA	Water	QSM B15	521833
670-41741-4	GSRY-SW0013-001.0-20240614	Total/NA	Water	QSM B15	521833
670-41741-5	GSRY-SW0014-001.0-20240614	Total/NA	Water	QSM B15	521833
670-41741-6	GSRY-SW0015-001.0-20240614	Total/NA	Water	QSM B15	521833
670-41741-7	GSRY-SW0016-001.0-20240614	Total/NA	Water	QSM B15	521833
670-41741-8	GSRY-SW0017-001.0-20240614	Total/NA	Water	QSM B15	521833
670-41741-9	GSRY-SW0018-001.0-20240614	Total/NA	Water	QSM B15	521833
670-41741-10	GSRY-FD-20240614	Total/NA	Water	QSM B15	521833
670-41741-11	GSRY-FB-20240614	Total/NA	Water	QSM B15	521833
670-41741-12	GSRY-EB-20240614	Total/NA	Water	QSM B15	521833
LCS 410-521833/2-A	Lab Control Sample	Total/NA	Water	QSM B15	521833

Analysis Batch: 528704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41741-1	GSRY-SW0010-001.0-20240614	Total/NA	Water	QSM B15	522870
670-41741-2	GSRY-SW0011-001.0-20240614	Total/NA	Water	QSM B15	522870
MB 410-522870/1-A	Method Blank	Total/NA	Water	QSM B15	522870
LCS 410-522870/2-A	Lab Control Sample	Total/NA	Water	QSM B15	522870
670-41741-1 MS	GSRY-SW0010-001.0-20240614	Total/NA	Water	QSM B15	522870
670-41741-1 MSD	GSRY-SW0010-001.0-20240614	Total/NA	Water	QSM B15	522870

Analysis Batch: 529256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41741-4 - DL	GSRY-SW0013-001.0-20240614	Total/NA	Water	QSM B15	521833
MB 410-521833/1-A	Method Blank	Total/NA	Water	QSM B15	521833

Client: AECOM Technical Services Inc.
Job ID: 670-41741-1
Project/Site: NASA KSC GSRY PFAS - SW

LCMS

Prep Batch: 529910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41741-2 - RE	GSRY-SW0011-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-3 - RE	GSRY-SW0012-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-4 - RE	GSRY-SW0013-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-5 - RE	GSRY-SW0014-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-6 - RE	GSRY-SW0015-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-7 - RE	GSRY-SW0016-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-8 - RE	GSRY-SW0017-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-9 - RE	GSRY-SW0018-001.0-20240614	Total/NA	Water	537 IDA	
670-41741-10 - RE	GSRY-FD-20240614	Total/NA	Water	537 IDA	
670-41741-11 - RE	GSRY-FB-20240614	Total/NA	Water	537 IDA	
670-41741-12 - RE	GSRY-EB-20240614	Total/NA	Water	537 IDA	
MB 410-529910/1-A	Method Blank	Total/NA	Water	537 IDA	
LCS 410-529910/2-A	Lab Control Sample	Total/NA	Water	537 IDA	

Analysis Batch: 532075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-41741-2 - RE	GSRY-SW0011-001.0-20240614	Total/NA	Water	QSM B15	529910
670-41741-3 - RE	GSRY-SW0012-001.0-20240614	Total/NA	Water	QSM B15	529910
670-41741-4 - RE	GSRY-SW0013-001.0-20240614	Total/NA	Water	QSM B15	529910
670-41741-5 - RE	GSRY-SW0014-001.0-20240614	Total/NA	Water	QSM B15	529910
670-41741-6 - RE	GSRY-SW0015-001.0-20240614	Total/NA	Water	QSM B15	529910
670-41741-7 - RE	GSRY-SW0016-001.0-20240614	Total/NA	Water	QSM B15	529910
670-41741-8 - RE	GSRY-SW0017-001.0-20240614	Total/NA	Water	QSM B15	529910
670-41741-9 - RE	GSRY-SW0018-001.0-20240614	Total/NA	Water	QSM B15	529910
670-41741-10 - RE	GSRY-FD-20240614	Total/NA	Water	QSM B15	529910
670-41741-11 - RE	GSRY-FB-20240614	Total/NA	Water	QSM B15	529910
670-41741-12 - RE	GSRY-EB-20240614	Total/NA	Water	QSM B15	529910
MB 410-529910/1-A	Method Blank	Total/NA	Water	QSM B15	529910
LCS 410-529910/2-A	Lab Control Sample	Total/NA	Water	QSM B15	529910

Lab Chronicle

Client: AECOM Technical Services Inc.
Job ID: 670-41741-1
Project/Site: NASA KSC GSRY PFAS - SW

Client Sample ID: GSRY-SW0010-001.0-20240614
Lab Sample ID: 670-41741-1
Date Collected: 06/14/24 09:55
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			522870	V3FW	ELLE	06/28/24 14:43
Total/NA	Analysis	QSM B15		1	528704	FDE4	ELLE	07/17/24 10:47

Client Sample ID: GSRY-SW0011-001.0-20240614
Lab Sample ID: 670-41741-2
Date Collected: 06/14/24 10:20
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA			522870	V3FW	ELLE	06/28/24 14:43
Total/NA	Analysis	QSM B15		1	528704	FDE4	ELLE	07/17/24 11:24
Total/NA	Prep	537 IDA	RE		529910	V3FW	ELLE	07/18/24 14:39
Total/NA	Analysis	QSM B15	RE	1	532075	FDE4	ELLE	07/25/24 03:36

Client Sample ID: GSRY-SW0012-001.0-20240614
Lab Sample ID: 670-41741-3
Date Collected: 06/14/24 10:50
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		529910	V3FW	ELLE	07/18/24 14:39
Total/NA	Analysis	QSM B15	RE	1	532075	FDE4	ELLE	07/25/24 03:48
Total/NA	Prep	537 IDA			521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15		1	528674	FDE4	ELLE	07/16/24 11:54

Client Sample ID: GSRY-SW0013-001.0-20240614
Lab Sample ID: 670-41741-4
Date Collected: 06/14/24 10:40
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		529910	V3FW	ELLE	07/18/24 14:39
Total/NA	Analysis	QSM B15	RE	1	532075	FDE4	ELLE	07/25/24 04:01
Total/NA	Prep	537 IDA			521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15		1	528674	FDE4	ELLE	07/16/24 12:08
Total/NA	Prep	537 IDA	DL		521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15	DL	10	529256	FDE4	ELLE	07/17/24 13:30

Client Sample ID: GSRY-SW0014-001.0-20240614
Lab Sample ID: 670-41741-5
Date Collected: 06/14/24 09:32
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		529910	V3FW	ELLE	07/18/24 14:39
Total/NA	Analysis	QSM B15	RE	1	532075	FDE4	ELLE	07/25/24 04:26
Total/NA	Prep	537 IDA			521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15		1	528674	FDE4	ELLE	07/16/24 12:21

Lab Chronicle

Client: AECOM Technical Services Inc.
Job ID: 670-41741-1
Project/Site: NASA KSC GSRY PFAS - SW

Client Sample ID: GSRY-SW0015-001.0-20240614
Lab Sample ID: 670-41741-6
Date Collected: 06/14/24 10:45
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		529910	V3FW	ELLE	07/18/24 14:39
Total/NA	Analysis	QSM B15	RE	1	532075	FDE4	ELLE	07/25/24 04:39
Total/NA	Prep	537 IDA			521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15		1	528674	FDE4	ELLE	07/16/24 12:35

Client Sample ID: GSRY-SW0016-001.0-20240614
Lab Sample ID: 670-41741-7
Date Collected: 06/14/24 09:25
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		529910	V3FW	ELLE	07/18/24 14:39
Total/NA	Analysis	QSM B15	RE	1	532075	FDE4	ELLE	07/25/24 04:51
Total/NA	Prep	537 IDA			521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15		1	528674	FDE4	ELLE	07/16/24 12:49

Client Sample ID: GSRY-SW0017-001.0-20240614
Lab Sample ID: 670-41741-8
Date Collected: 06/14/24 09:15
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		529910	V3FW	ELLE	07/18/24 14:39
Total/NA	Analysis	QSM B15	RE	1	532075	FDE4	ELLE	07/25/24 05:04
Total/NA	Prep	537 IDA			521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15		1	528674	FDE4	ELLE	07/16/24 13:02

Client Sample ID: GSRY-SW0018-001.0-20240614
Lab Sample ID: 670-41741-9
Date Collected: 06/14/24 10:25
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		529910	V3FW	ELLE	07/18/24 14:39
Total/NA	Analysis	QSM B15	RE	1	532075	FDE4	ELLE	07/25/24 05:16
Total/NA	Prep	537 IDA			521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15		1	528674	FDE4	ELLE	07/16/24 13:16

Client Sample ID: GSRY-FD-20240614
Lab Sample ID: 670-41741-10
Date Collected: 06/14/24 10:00
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		529910	V3FW	ELLE	07/18/24 14:39
Total/NA	Analysis	QSM B15	RE	1	532075	FDE4	ELLE	07/25/24 05:29
Total/NA	Prep	537 IDA			521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15		1	528674	FDE4	ELLE	07/16/24 13:29

Lab Chronicle

Client: AECOM Technical Services Inc.
Job ID: 670-41741-1
Project/Site: NASA KSC GSRY PFAS - SW

Client Sample ID: GSRY-FB-20240614
Lab Sample ID: 670-41741-11

Date Collected: 06/14/24 09:00
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		529910	V3FW	ELLE	07/18/24 14:39
Total/NA	Analysis	QSM B15	RE	1	532075	FDE4	ELLE	07/25/24 05:42
Total/NA	Prep	537 IDA			521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15		1	528674	FDE4	ELLE	07/16/24 13:43

Client Sample ID: GSRY-EB-20240614
Lab Sample ID: 670-41741-12

Date Collected: 06/14/24 09:30
Matrix: Water
Date Received: 06/14/24 13:17

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	537 IDA	RE		529910	V3FW	ELLE	07/18/24 14:39
Total/NA	Analysis	QSM B15	RE	1	532075	FDE4	ELLE	07/25/24 05:54
Total/NA	Prep	537 IDA			521833	V3FW	ELLE	06/26/24 15:06
Total/NA	Analysis	QSM B15		1	528674	FDE4	ELLE	07/16/24 13:57

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: AECOM Technical Services Inc. Job ID: 670-41741-1
Project/Site: NASA KSC GSRY PFAS - SW

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-24
A2LA	ISO/IEC 17025	0001.01	11-30-24
Alabama	State	43200	01-31-25
Alaska	State	PA00009	06-30-25
Alaska (UST)	State	17-027	02-28-25
Arizona	State	AZ0780	03-12-25
Arkansas DEQ	State	88-00660	08-09-24
California	State	2792	11-30-24
Colorado	State	PA00009	06-30-25
Connecticut	State	PH-0746	06-30-25
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-25
Delaware (DW)	State	N/A	01-31-25
Florida	NELAP	E87997	06-30-25
Georgia (DW)	State	C048	01-31-25
Hawaii	State	N/A	01-31-25
Illinois	NELAP	200027	01-31-25
Iowa	State	361	03-01-26
Kansas	NELAP	E-10151	10-31-24
Kentucky (DW)	State	KY90088	12-31-24
Kentucky (UST)	State	0001.01	11-30-24
Kentucky (WW)	State	KY90088	12-31-24
Louisiana (All)	NELAP	02055	06-30-25
Maine	State	2019012	03-12-25
Maryland	State	100	06-30-25
Massachusetts	State	M-PA009	06-30-25
Michigan	State	9930	01-31-25
Minnesota	NELAP	042-999-487	12-31-24
Mississippi	State	023	01-31-25
Missouri	State	450	01-31-25
Montana (DW)	State	0098	01-01-25
Nebraska	State	NE-OS-32-17	01-31-25
New Hampshire	NELAP	2730	01-10-25
New Jersey	NELAP	PA011	06-30-25
New York	NELAP	10670	04-01-25
North Carolina (DW)	State	42705	07-31-25
North Carolina (WW/SW)	State	521	12-31-24
North Dakota	State	R-205	01-31-24 *
Oklahoma	NELAP	9804	08-31-24
Oregon	NELAP	PA200001	09-11-24
Pennsylvania	NELAP	36-00037	01-31-25
Quebec Ministry of Environment and Fight against Climate Change	PALA	507	09-16-24
Rhode Island	State	LAO00338	12-30-24
South Carolina	State	89002	01-31-25
Tennessee	State	02838	01-31-25
Texas	NELAP	T104704194-23-46	08-31-24
USDA	US Federal Programs	525-22-298-19481	10-25-25
Vermont	State	VT - 36037	10-28-24
Virginia	NELAP	460182	06-14-25
Washington	State	C457	04-11-25

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
West Virginia (DW)	State	9906 C	01-31-25
West Virginia DEP	State	055	07-31-24
Wyoming	State	8TMS-L	01-31-25
Wyoming (UST)	A2LA	0001.01	11-30-24

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: NASA KSC GSRY PFAS - SW

Job ID: 670-41741-1

Method	Method Description	Protocol	Laboratory
QSM B15	PFAS for QSM 5.4, Table B-15	DOD 5.4	ELLE
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE

Protocol References:

DOD 5.4 = Department of Defense Quality Systems Manual V5.4

EPA = US Environmental Protection Agency

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: AECOM Technical Services Inc.
Job ID: 670-41741-1
Project/Site: NASA KSC GSRY PFAS - SW

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-41741-1	GSRY-SW0010-001.0-20240614	Water	06/14/24 09:55	06/14/24 13:17
670-41741-2	GSRY-SW0011-001.0-20240614	Water	06/14/24 10:20	06/14/24 13:17
670-41741-3	GSRY-SW0012-001.0-20240614	Water	06/14/24 10:50	06/14/24 13:17
670-41741-4	GSRY-SW0013-001.0-20240614	Water	06/14/24 10:40	06/14/24 13:17
670-41741-5	GSRY-SW0014-001.0-20240614	Water	06/14/24 09:32	06/14/24 13:17
670-41741-6	GSRY-SW0015-001.0-20240614	Water	06/14/24 10:45	06/14/24 13:17
670-41741-7	GSRY-SW0016-001.0-20240614	Water	06/14/24 09:25	06/14/24 13:17
670-41741-8	GSRY-SW0017-001.0-20240614	Water	06/14/24 09:15	06/14/24 13:17
670-41741-9	GSRY-SW0018-001.0-20240614	Water	06/14/24 10:25	06/14/24 13:17
670-41741-10	GSRY-FD-20240614	Water	06/14/24 10:00	06/14/24 13:17
670-41741-11	GSRY-FB-20240614	Water	06/14/24 09:00	06/14/24 13:17
670-41741-12	GSRY-EB-20240614	Water	06/14/24 09:30	06/14/24 13:17

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-30933.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-41741-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 6/28/2024			Preservation Codes: -
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC GSRY PFAS	Project #: 67000872			Other:
Site:	SSOW#:			

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)	PFC_IDA_D5.3/3535_PFC NASA KSC WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-SW0010-20240614 (670-41741-1)	6/14/24	09:55 Eastern		Water			X	2	
GSRY-SW0011-20240614 (670-41741-2)	6/14/24	10:20 Eastern		Water			X	2	
GSRY-SW0012-20240614 (670-41741-3)	6/14/24	10:50 Eastern		Water			X	2	
GSRY-SW0013-20240614 (670-41741-4)	6/14/24	10:40 Eastern		Water			X	2	
GSRY-SW0014-20240614 (670-41741-5)	6/14/24	09:32 Eastern		Water			X	2	
GSRY-SW0015-20240614 (670-41741-6)	6/14/24	10:45 Eastern		Water			X	2	
GSRY-SW0016-20240614 (670-41741-7)	6/14/24	09:25 Eastern		Water			X	2	
GSRY-SW0017-20240614 (670-41741-8)	6/14/24	09:15 Eastern		Water			X	2	
GSRY-SW0018-20240614 (670-41741-9)	6/14/24	10:25 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, 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 Southeast, 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
	6/14/24 1605				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	6/15/24 0930	

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: R: 0.7 - 1.8 S: 0.4 - 1.4

SR

Ver: 04/02/2024

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-30933.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Lancaster Laboratories Environm		Accreditations Required (See note): NELAP - Florida		Job #: 670-41741-1
Address: 2425 New Holland Pike, ,	Due Date Requested: 6/28/2024	Analysis Requested		Preservation Codes:
City: Lancaster	TAT Requested (days):			
State, Zip: PA, 17601				
Phone: 717-656-2300(Tel)	PO #:			
Email:	WO #:			Other:
Project Name: NASA KSC GSRY PFAS	Project #: 67000872			
Site:	SSOW#:			

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)	PFC_IDA_D5.3/3535_PFC NASA KCS WS#15-2 DOD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
GSRY-FD-20240614 (670-41741-10)	6/14/24	10:00 Eastern		Water			X	2	
GSRY-FB-20240614 (670-41741-11)	6/14/24	09:00 Eastern		Water			X	2	
GSRY-EB-20240614 (670-41741-12)	6/14/24	09:30 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, 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 Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, 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 Southeast, 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
1		6/14/24 1605				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 6/15/24 0930	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: R: 0.7-1.8 C: 0.4-1.4

SR

Ver: 04/02/2024

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-41741-1

Login Number: 41741

List Source: Eurofins Orlando

List Number: 1

Creator: Beck, Brent

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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	
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.	N/A	

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 670-41741-1

Login Number: 41741
List Number: 2
Creator: Roth, Stephanie

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC
List Creation: 06/15/24 01:17 PM

Question	Answer	Comment
The cooler's custody seal is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
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	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	

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APPENDIX D

UNITED STATES EPA FACT SHEET: UNDERSTANDING THE FINAL PFAS NATIONAL PRIMARY DRINKING WATER REGULATION HAZARD INDEX MAXIMUM CONTAMINANT LEVEL

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Fact Sheet

Understanding the Final PFAS National Primary Drinking Water Regulation
Hazard Index Maximum Contaminant Level

What is a Hazard Index Maximum Contaminant Level?

Decades of research show mixtures of different chemicals can have additive health effects, even if the individual chemicals are each present at lower levels. This means that low levels of multiple PFAS that individually would not likely result in adverse health effects may pose health concerns when combined in a mixture. The Hazard Index is a long-established approach that EPA regularly uses, for example in the Superfund program, to determine the health concerns associated with exposure to chemical mixtures. EPA's Hazard Index Maximum Contaminant Level (MCL) is set at 1 and applies to any mixture containing two or more of PFNA, PFHxS, PFBS, and HFPO-DA (known as "GenX chemicals). These PFAS can often be found together in different mixtures and research shows that exposure to mixtures of these chemicals may have additive health impacts.

How do I calculate the Hazard Index?

The Hazard Index is made up of a sum of fractions. Each fraction compares the level of each PFAS measured in the water to the highest level below which there is no risk of health effects. EPA is currently developing an online calculator to assist water systems in determining their Hazard Index result. The online calculator will perform the calculation explained in this fact sheet.

Step 1. Divide the measured concentration of Gen X by its health-based value of 10 ppt.

Step 2. Divide the measured concentration of PFBS by its health- based value of 2000 ppt.

Step 3. Divide the measured concentration of PFNA by its health-based value of 10 ppt.

Step 4. Divide the measured concentration of PFHxS by its health-based value of 10 ppt.

Step 5. Add the ratios from steps 1, 2, 3 and 4 together.

Equation:

$$\text{Hazard Index (1 unitless)} = \left(\frac{[\text{HFPO} - \text{DA}_{\text{ppt}}]}{[10\ \text{ppt}]}\right) + \left(\frac{[\text{PFBS}_{\text{ppt}}]}{[2000\ \text{ppt}]}\right) + \left(\frac{[\text{PFNA}_{\text{ppt}}]}{[10\ \text{ppt}]}\right) + \left(\frac{[\text{PFHxS}_{\text{ppt}}]}{[10\ \text{ppt}]}\right)$$

Step 6. Compliance with the Hazard Index MCL is determined by a running annual average. To determine the running annual average, repeat

steps 1-5 for each quarterly sample collected in the past year and calculate the average of these quarterly Hazard Index results.

Step 7. If the running annual average Hazard Index is greater than the MCL of 1, it is a violation of the Hazard Index MCL (see Table for example).

Chemical	**Quarter 1**		**Quarter 2**		**Quarter 3**		**Quarter 4**	
	Sample	Q1 Formula	Sample	Q2 Formula	Sample	Q3 Formula	Sample	Q4 Formula
HFPO-DA (ppt)	5 ppt	5 ppt/10 ppt = 0.5	5 ppt	5 ppt/10 ppt = 0.5	Not detected	0 ppt/10 ppt = 0	Not detected	0 ppt/10 ppt = 0
PFBS (ppt)	5 ppt	5 ppt/2000 ppt = 0.0025	5 ppt	5 ppt/2000 ppt = 0.0025	Not detected	0 ppt/2000 ppt= 0	5 ppt	5 ppt/2000 ppt = 0.0025
PFNA (ppt)	Not detected	0 ppt/10 ppt = 0	Not detected	0 ppt/10 ppt = 0	4 ppt	4 ppt /10 ppt = 0.4	Not detected	0 ppt/10 ppt = 0
PFHxS (ppt)	3 ppt	3 ppt/10 ppt = 0.3	Not detected	0 ppt/10 ppt = 0	4 ppt	4 ppt /10 ppt = 0.4	6 ppt	6 ppt/10 ppt = 0.6
Hazard Index (unitless)	0.5 + 0.0025 + 0 + 0.3 = 0.8025		0.5 + 0.0025 + 0 + 0 = 0.5025		0 + 0 + 0.4 + 0.4 = 0.8		0 + 0.0025 + 0 + 0.6 = 0.6025	
	Running Annual Average = $\left(\frac{0.8025 + 0.5025 + 0.8 + 0.6025}{4}\right)$ = 0.6769 = 0.7 The Hazard Index Running Annual Average result is 0.7 (rounded to one significant digit). Because this result does not exceed 1, the water system has not exceeded the MCL. Therefore, no violation of the Hazard Index MCL has occurred.							

APPENDIX E

MONITORING WELL CONSTRUCTION LOGS, COMPLETION REPORTS, AND PERMITS

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WELL NUMBER GSRY-MW0078

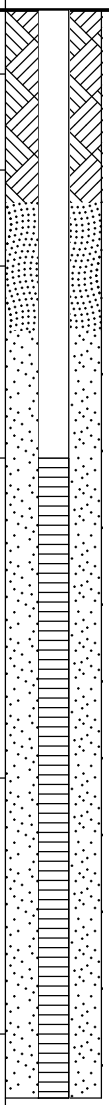
AECOM

TOTAL DEPTH 20 FT BGS
PAGE 1 OF 1

CLIENT NASA
PROJECT NAME Kennedy Space Center
PROJECT NUMBER KSC
SITE NAME GSRY
DATE STARTED 06/17/2022 **COMPLETED** 06/17/2022
SURVEYING BY N/A
DRILLING CONTRACTOR EDS
ON N/A **GROUND ELEVATION** N/A
DRILLING EQUIPMENT Geoprobe 7822DT
EASTING N/A **NORTHING** N/A
DRILLING METHOD Direct Push
HOLE DIAMETER 1"
LOGGED BY Chad Lee **CHECKED BY** N/A
CASING TYPE Flushmount

DEPTH (ft)	SAMPLE	RECOVERY %	GRAPHIC LOG	MATERIAL DESCRIPTION
0.00	HA	100		Clayey gravel with sand (GC), fine to coarse, poorly graded, 20-30% clay and, fine sand [FILL] - 10YR 7/4 (very pale brown / grayish orange), dry - no odor, no staining - non-cohesive, dense
1.00				Poorly graded sand (SP), fine [NATIVE] - 10YR 3/2 (very dark grayish brown), moist - no odor, no staining - non-cohesive, loose to medium dense
2.50				Poorly graded gravel with sand (GP), medium to coarse, subangular, 25-35% fine sand [NATIVE] - 10YR 5/2 (grayish brown), moist - no odor, no staining - non-cohesive, dense to very dense
4.00				Poorly graded gravel with sand (GP), medium, subangular, 10-20% fine sand, >90% Shell Hash [NATIVE] - 10YR 7/2 (light gray), wet - no odor, no staining - non-cohesive, dense
7.00	DP	86		Poorly graded sand (SP), fine, <10% clay, 10% Shell Hash [NATIVE] - 10YR 6/1 (gray), wet - no odor, no staining - non-cohesive, dense to very dense
12.00	DP	66		Clayey gravel with sand (GC), medium, poorly graded, subangular, 15-25% clay and, fine sand, 50% Shell Hash [NATIVE] - 10YR 6/2 (light brownish gray / pale yellowish brown), wet - no odor, no staining - non-cohesive, medium dense
16.00	DP	56		Poorly graded sand (SP), fine, 5 to 10% Shell Hash [NATIVE] - 10YR 4/1 (dark gray), wet - no odor, no staining - non-cohesive, medium dense

Bottom of borehole at 20 feet.



Well Casing GSRY-MW0078
Top: 0 ft bgs
Bottom: 7 ft bgs
Riser

Surface Seal
Type: Portland Cement
Top: 0 ft bgs
Bottom: 3 ft bgs
Type I/II

Transition Sand
Type: Fine Sand
Top: 3 ft bgs
Bottom: 5 ft bgs
30/65 Fine Sand

Sand
Type: #1 Filter Sand
Top: 5 ft bgs
Bottom: 17 ft bgs
20/30 Sand

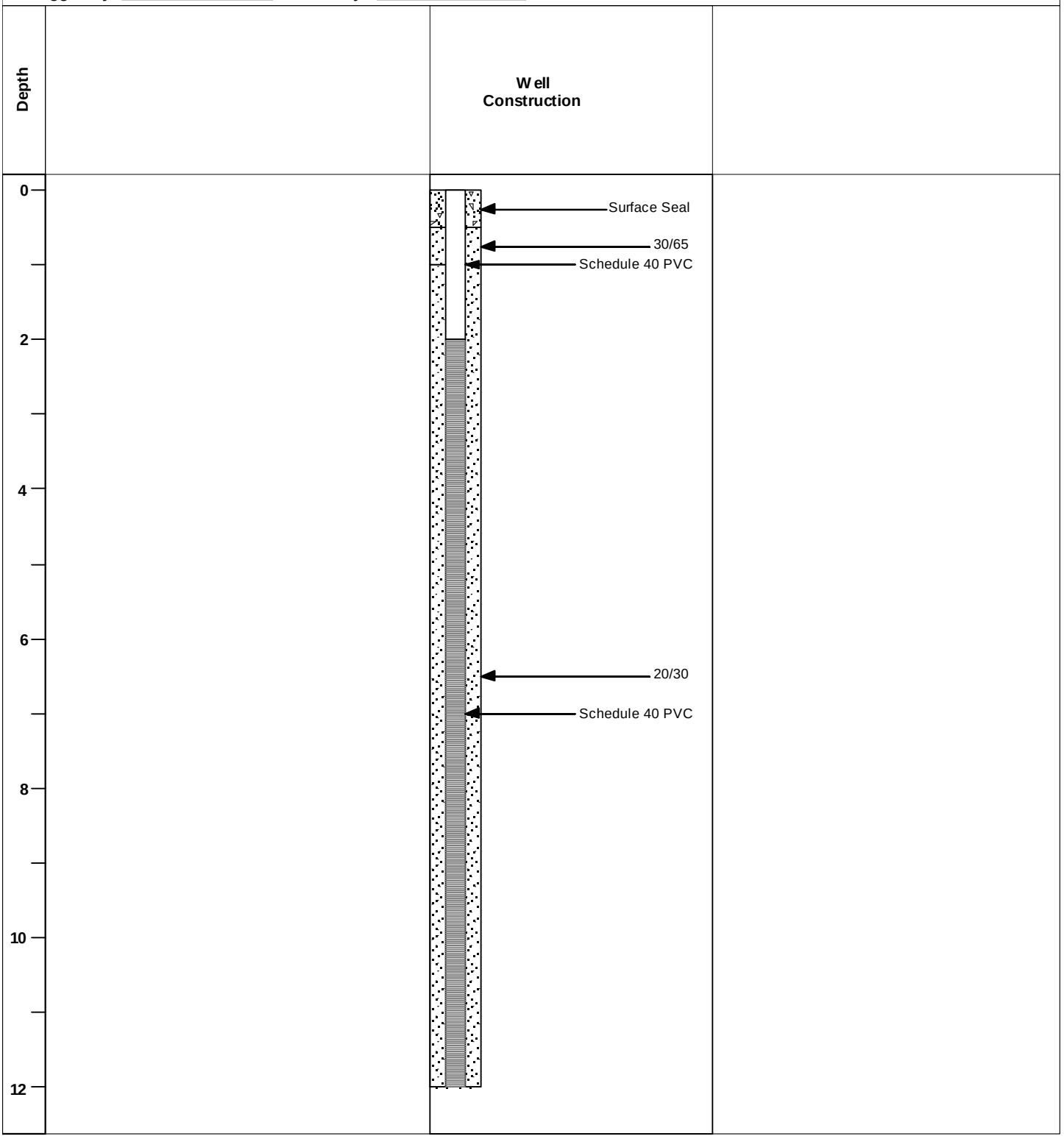
Well Screen GSRY-MW0078
Type: Schedule 40 PVC
Slot Size: 0.01 in
Top: 7 ft bgs
Bottom: 17 ft bgs
20/30 sand pre-packed screen

AECOM SMART LOG_8X11 NO WL - NANAIMO LOGS_DC.GPJ - 7/6/22 15:11 - C:\USERS\CHASTAIN\DOCUMENTS\MY EQUIS WORK\NASA\KENNEDY SPACE CENTER\SB LOGS\WELL INSTALL LOGS\GSRY\GSRY MW78\GSRY MW78.GPJ

GSRY-MW0079

Total Depth 12.0 ft

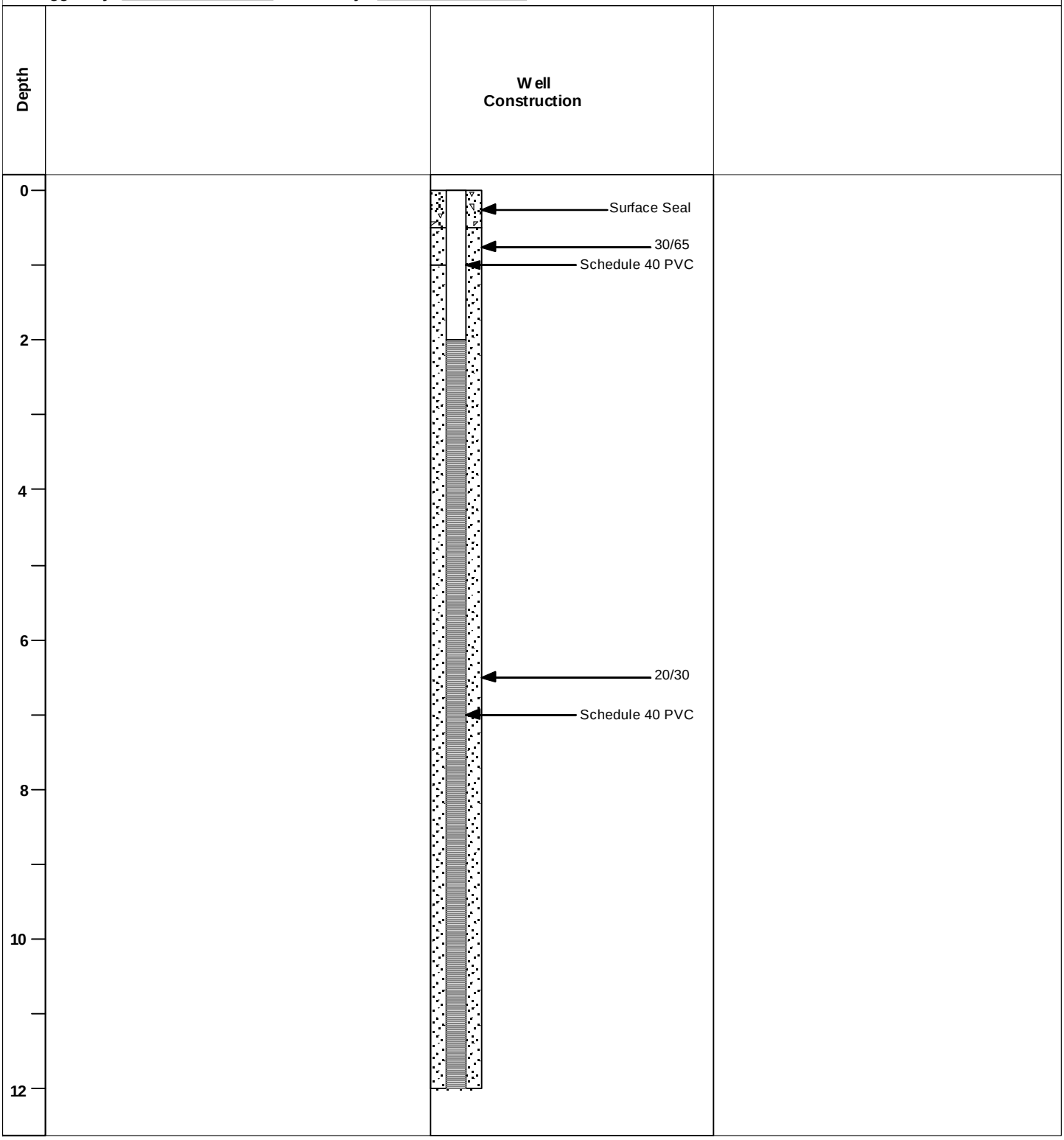
Client NASA		**Project Name** Kennedy Space Center	
Project Number 60614327		**Site Name** GSRY	
Date Started 06/04/2024	**Completed** 06/04/2024	**SurveyBy** LSS	**SurveyDate** 06/10/2024
Drilling Contractor PDS		**Easting** 462350.356	**Northing** 231989.365
Drilling Equipment Geoprobe 7822 DT		**Ground Elevation** 2.92 ft	**Hole Size** 4 in
Drilling Method DPT		**Top of Casing** 2.6 ft	
Logged By Chad Lee	**Checked By** Patrick Bendl		



GSRY-MW0080

Total Depth 12.0 ft

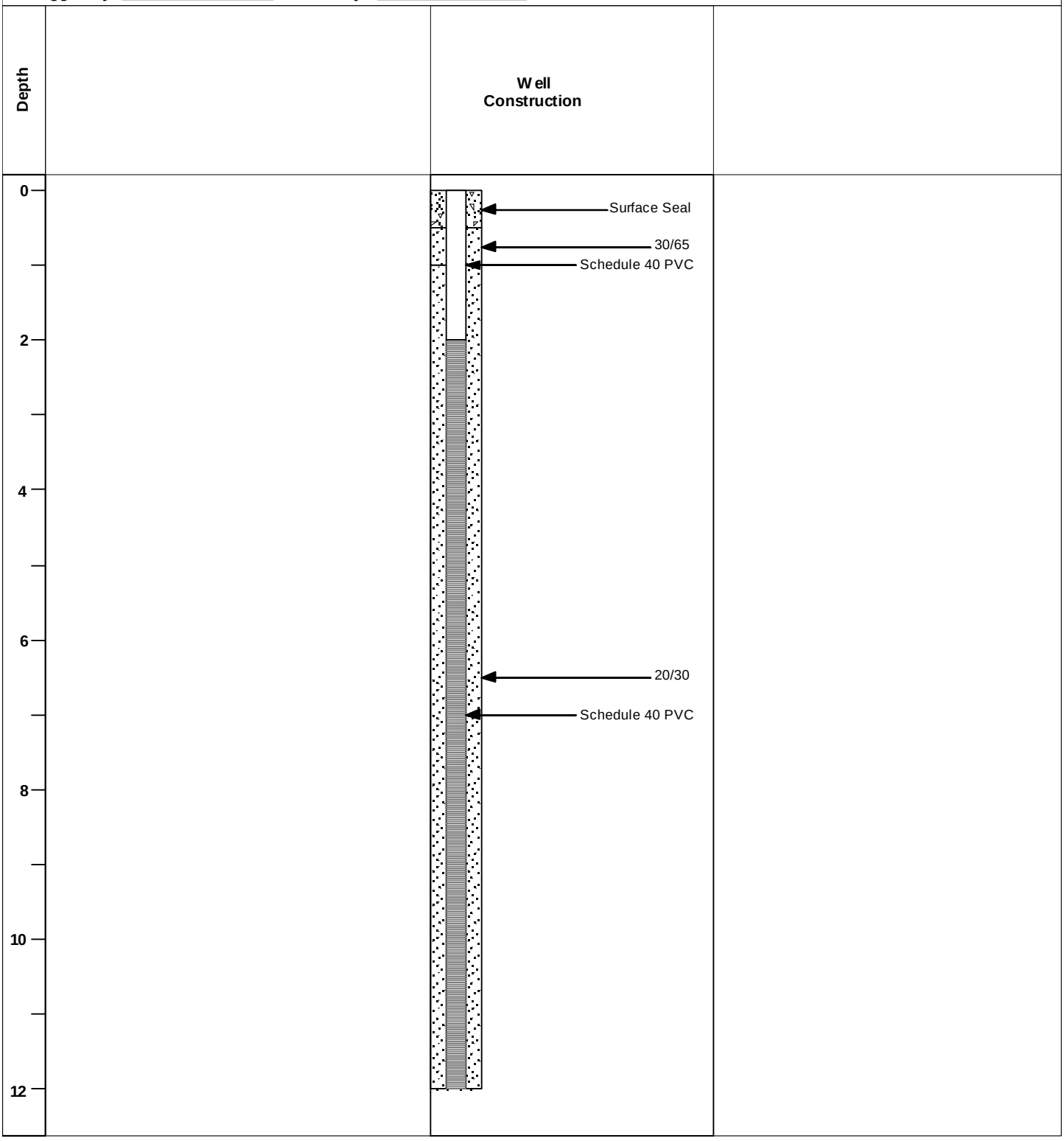
Client NASA		**Project Name** Kennedy Space Center	
Project Number 60614327		**Site Name** GSRY	
Date Started 06/04/2024	**Completed** 06/04/2024	**SurveyBy** LSS	**SurveyDate** 06/10/2024
Drilling Contractor PDS		**Easting** 462306.291	**Northing** 232113.909
Drilling Equipment Geoprobe 7822 DT		**Ground Elevation** 4.35 ft	**Hole Size** 4 in
Drilling Method DPT		**Top of Casing** 3.9 ft	
Logged By Patrick Bendl	**Checked By** Chad Lee		



GSRY-MW0081

Total Depth 12.0 ft

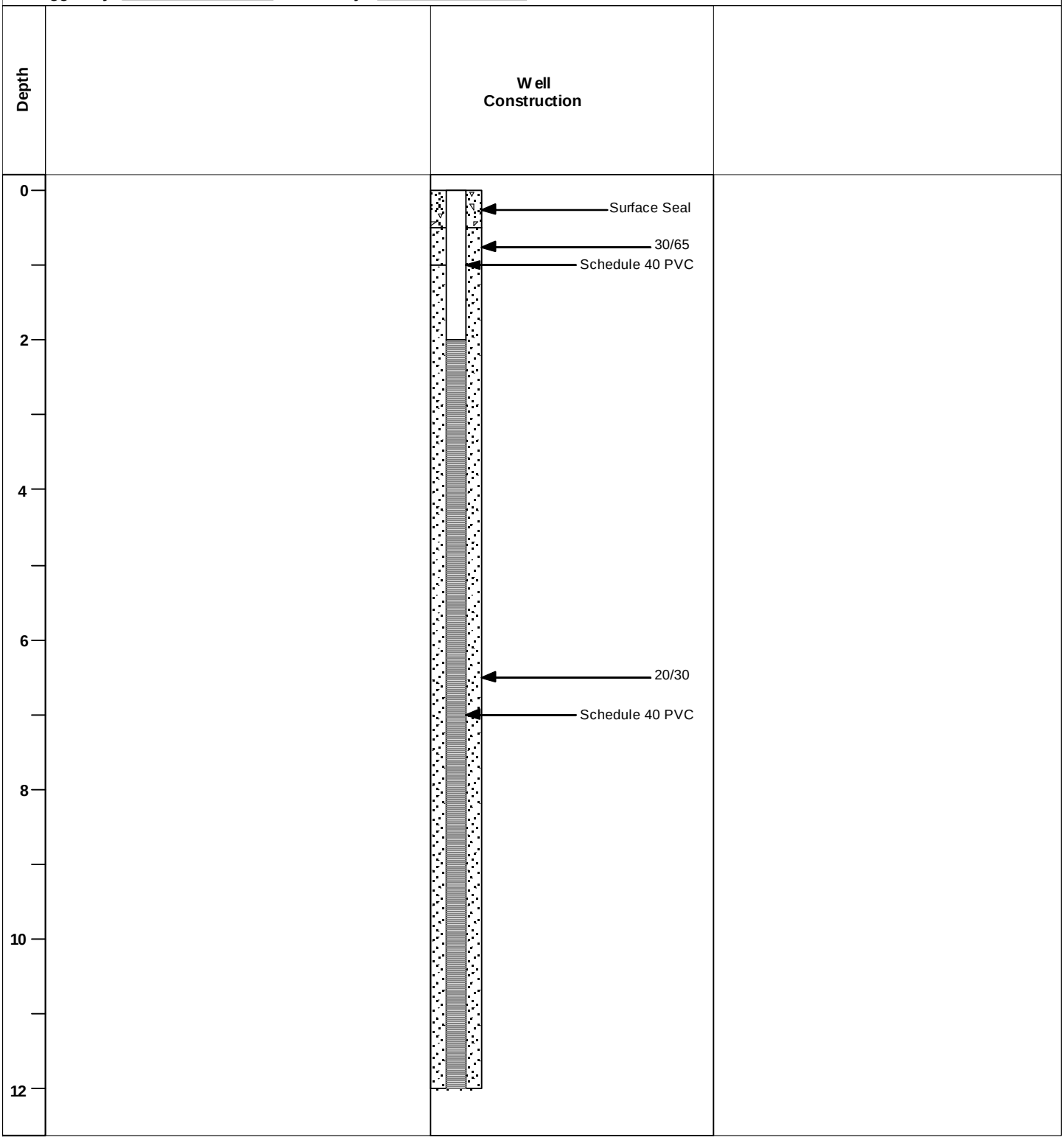
Client NASA		**Project Name** Kennedy Space Center	
Project Number 60614327		**Site Name** GSRY	
Date Started 06/05/2024	**Completed** 06/05/2024	**SurveyBy** LSS	**SurveyDate** 06/10/2024
Drilling Contractor PDS		**Easting** 462413.032	**Northing** 232132.548
Drilling Equipment Geoprobe 7822 DT		**Ground Elevation** 5.40 ft	**Hole Size** 4 in
Drilling Method DPT		**Top of Casing** 5.1 ft	
Logged By Patrick Bendl	**Checked By** Chad Lee		



GSRY-MW0082

Total Depth 12.0 ft

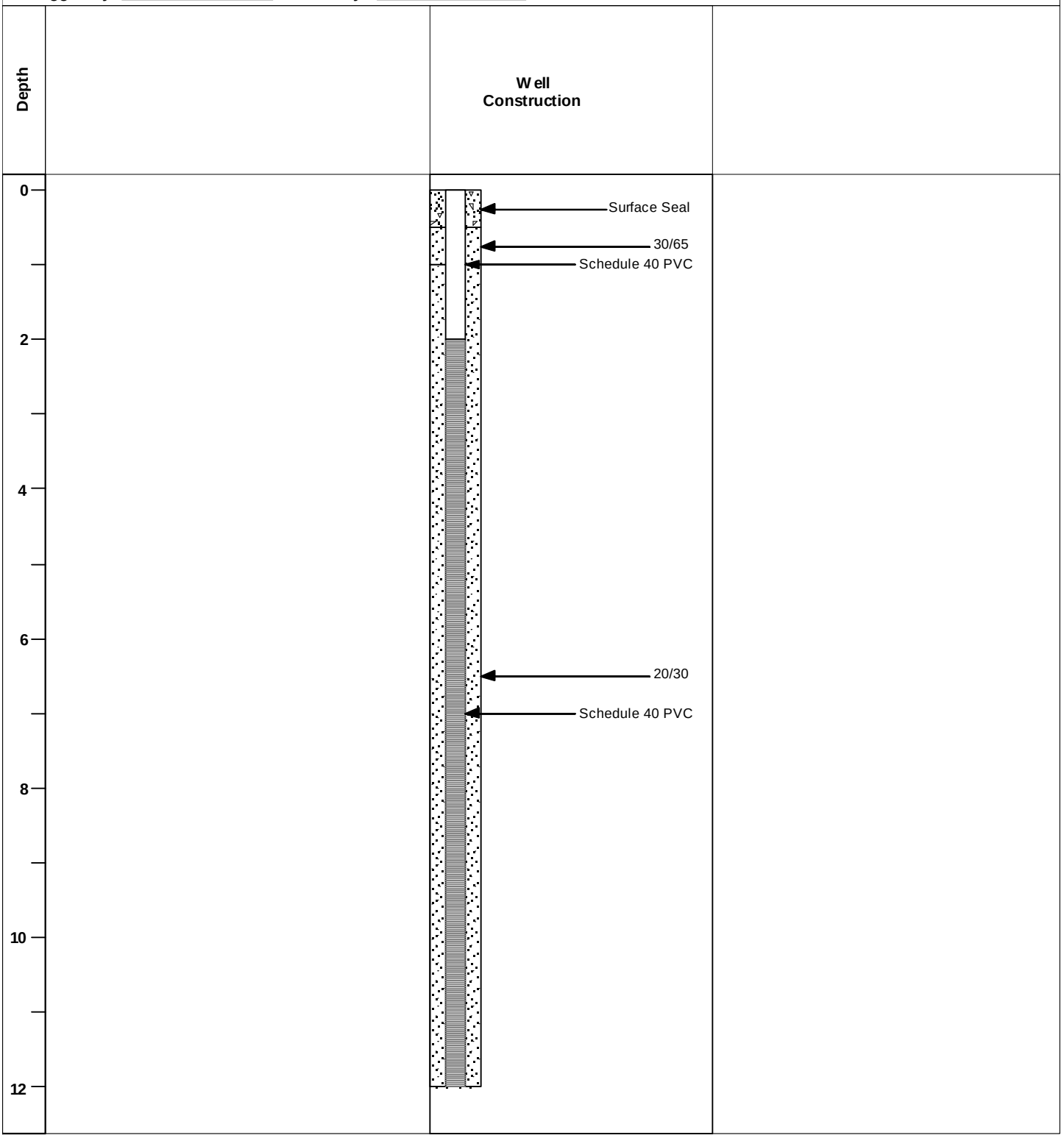
Client NASA		**Project Name** Kennedy Space Center	
Project Number 60614327		**Site Name** GSRY	
Date Started 06/05/2024	**Completed** 06/05/2024	**SurveyBy** LSS	**SurveyDate** 06/10/2024
Drilling Contractor PDS		**Easting** 462407.211	**Northing** 232169.002
Drilling Equipment Geoprobe 7822 DT		**Ground Elevation** 5.24 ft	**Hole Size** 4 in
Drilling Method DPT		**Top of Casing** 4.9 ft	
Logged By Patrick Bendl	**Checked By** Chad Lee		



GSRY-MW0083

Total Depth 12.0 ft

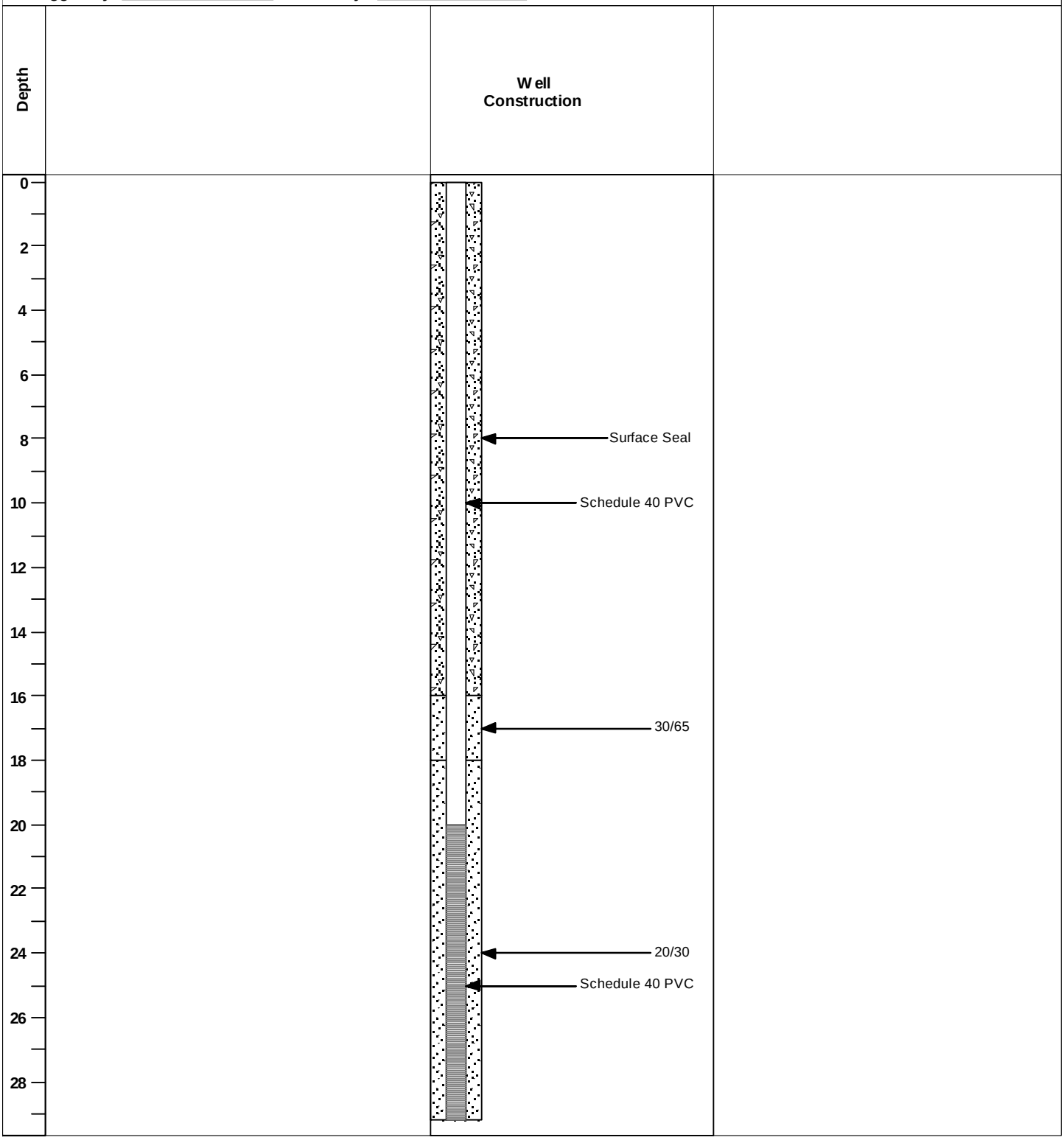
Client NASA		**Project Name** Kennedy Space Center	
Project Number 60614327		**Site Name** GSRY	
Date Started 06/06/2024	**Completed** 06/06/2024	**SurveyBy** LSS	**SurveyDate** 06/10/2024
Drilling Contractor PDS		**Easting** 462458.298	**Northing** 232146.965
Drilling Equipment Geoprobe 7822 DT		**Ground Elevation** 4.44 ft	**Hole Size** 4 in
Drilling Method DPT		**Top of Casing** 3.9 ft	
Logged By Patrick Bendl	**Checked By** Chad Lee		



GSRY-MW0084

Total Depth 30.0 ft

Client NASA		**Project Name** Kennedy Space Center	
Project Number 60614327		**Site Name** GSRY	
Date Started 06/06/2024	**Completed** 06/06/2024	**SurveyBy** LSS	**SurveyDate** 06/10/2024
Drilling Contractor PDS		**Easting** 462458.222	**Northing** 232146.358
Drilling Equipment Geoprobe 7822 DT		**Ground Elevation** 4.45 ft	**Hole Size** 4 in
Drilling Method DPT		**Top of Casing** 4.2 ft	
Logged By Patrick Bendl	**Checked By** Chad Lee		



STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 901048

Date:06/20/2024

Official Use Only

1. *Permit Number MW-220075-1 *CUP/WUP Number _____ *DID Number 560608 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 6 *Number of permitted wells not constructed, repaired, or abandoned 4
3. *Owner's Name United States of America 4.*Completion Date 06/04/2024 5. Florida Unique ID _____
6. Ransom Road, Merritt Island, FL 32953
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 7 Land Grant _____ *Township 23S *Range 37E
8. Latitude 283024.5223 Longitude 804018.2737
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 __X__NAD 83 ___WGS 84
10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___Sonic
    ___Horizontal Drilling __X__Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level _____ft. After _____Hours at _____GPM
14. *Measuring Point (Describe) Ground Surface Which is _____ft. _____Above _____Below Land Surface *Flowing: ____Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 12 ft. Cased Depth 2 ft. *Open Hole: From _____To _____ft. *Screen: From 2 To 12 ft. Slot Size .01
17. *Abandonment: Other(Explain _____)
    From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
18. *Surface Casing Diameter and Depth:
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
19. *Primary Casing Diameter and Depth:
    Dia 1 in. From 0 ft. To 2 ft. No. of Bags .08 Seal Material (Check One): X Neat Cement ____Bentonite ____Other ____
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
20. *Liner Casing Diameter and Depth:
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
21. *Telescope Casing Diameter and Depth:
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
    Dia ____in. From ____ft. To ____ft. No. of Bags ____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other ____
22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth ____ft. Intake Depth ____ft.
23. Chemical Analysis (When Required):
    Iron _____ppm Sulfate _____ppm Chloride _____ppm
    _____Laboratory Test _____Field Test Kit
24. Water Well Contractor:
    *Contractor Name Gregory W Campbell *License Number 2613 E-mail Address shannon@pdsflorida.com
    *Contractor's Signature **Gregory W Campbell** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Trey Huddleston

*Permit No. MW-220075-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

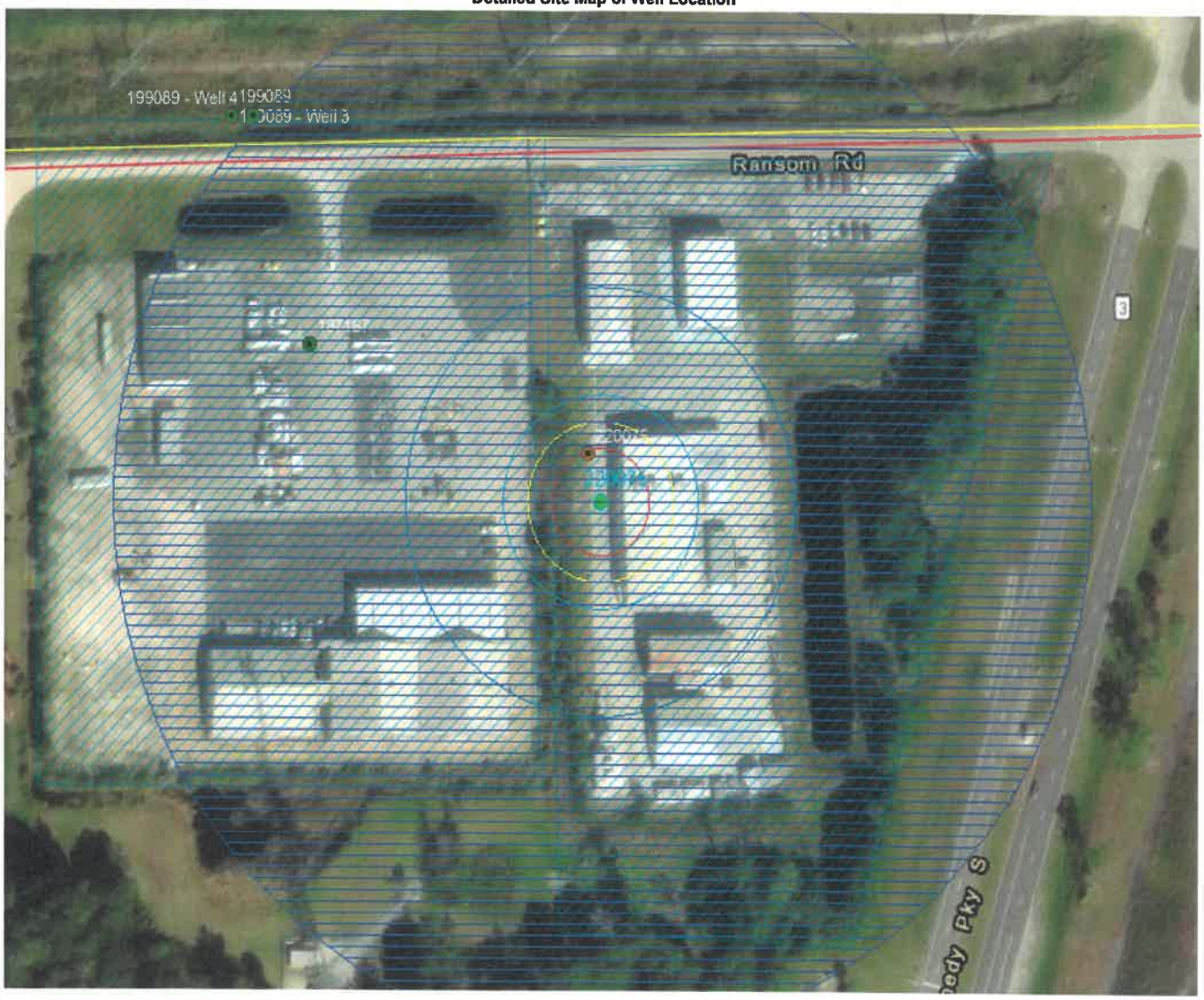
SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0	ft.	To	6	ft.	Color	Tan	Grain Size (F, M, C)	Coarse	Material	Sand
From	6	ft.	To	12	ft.	Color	Brown	Grain Size (F, M, C)	Fine	Material	Sand
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	

Comments:
MW-C

*Detailed Site Map of Well Location



STATE OF FLORIDA WELL COMPLETION REPORT

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 901053

Date:06/20/2024

Official Use Only

1. *Permit Number MW-220075-1 *CUP/WUP Number _____ *DID Number 561914 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 6 *Number of permitted wells not constructed, repaired, or abandoned 4
3. *Owner's Name United States of America 4.*Completion Date 06/04/2024 5. Florida Unique ID _____
6. Ransom Road, Merritt Island, FL 32953
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 7 Land Grant _____ *Township 23S *Range 37E
8. Latitude 283025.8545 Longitude 804017.8006
9. Data Obtained From: ___GPS _X_Map ___Survey Datum: ___NAD 27 _X_NAD 83 ___WGS 84

10. *Type of Work: _X_Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
_X_Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___Sonic
    ___Horizontal Drilling _X_Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level ___ft. After ___Hours at ___GPM
14. *Measuring Point (Describe) Ground Surface Which is ___ft. ___Above ___Below Land Surface *Flowing: ___Yes _X_No
15. *Casing Material: ___Black Steel ___Galvanized _X_PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 12 ft. Cased Depth 2 ft. *Open Hole: From ___To___ft. *Screen: From 2 To 12 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:
    Dia 1 in. From 0 ft. To 2 ft. No. of Bags .08 Seal Material (Check One): X Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower ___ Pump Capacity (GPM) ___
    Pump Depth ___ft. Intake Depth ___ft.

23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit

24. Water Well Contractor:
    *Contractor Name Gregory W Campbell *License Number 2613 E-mail Address shannon@pdsflorida.com
    *Contractor's Signature **Gregory W Campbell** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Trey Huddleston

*Permit No. MW-220075-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
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LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0	ft.	To	6	ft.	Color	Tan	Grain Size (F, M, C)	Coarse	Material	Sand
From	6	ft.	To	12	ft.	Color	Brown	Grain Size (F, M, C)	Fine	Material	Sand
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	

Comments:
MW-A

*Detailed Site Map of Well Location

STATE OF FLORIDA WELL COMPLETION REPORT

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 901056

Date:06/20/2024

Official Use Only

1. *Permit Number MW-220075-1 *CUP/WUP Number _____ *DID Number 561915 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 6 *Number of permitted wells not constructed, repaired, or abandoned 4
3. *Owner's Name United States of America 4.*Completion Date 06/05/2024 5. Florida Unique ID _____
6. Ransom Road, Merritt Island, FL 32953
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 7 Land Grant _____ *Township 23S *Range 37E
8. Latitude 283024.429 Longitude 804016.9798
9. Data Obtained From: ___GPS _X_Map ___Survey Datum: ___NAD 27 _X_NAD 83 ___WGS 84

10. *Type of Work: _X_Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
_X_Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___Sonic
    ___Horizontal Drilling _X_Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level ___ft. After ___Hours at ___GPM
14. *Measuring Point (Describe) Ground Surface Which is ___ft. ___Above ___Below Land Surface *Flowing: ___Yes _X_No
15. *Casing Material: ___Black Steel ___Galvanized _X_PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 12 ft. Cased Depth 2 ft. *Open Hole: From ___To ___ft. *Screen: From 2 To 12 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
19. *Primary Casing Diameter and Depth:
    Dia 1 in. From 0 ft. To 2 ft. No. of Bags .08 Seal Material (Check One): X Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___
    Dia ___in. From ___ft. To ___ft. No. of Bags ___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other ___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower ___ Pump Capacity (GPM) ___
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name Gregory W Campbell *License Number 2613 E-mail Address shannon@pdsflorida.com
    *Contractor's Signature **Gregory W Campbell** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Trey Huddleston

*Permit No. MW-220075-1

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***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0	ft.	To	6	ft.	Color	Tan	Grain Size (F, M, C)	Coarse	Material	Sand
From	6	ft.	To	12	ft.	Color	Brown	Grain Size (F, M, C)	Fine	Material	Sand
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	

Comments:
MW-D

*Detailed Site Map of Well Location

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 901062

Date:06/20/2024

Official Use Only

1. *Permit Number MW-220075-1 *CUP/WUP Number _____ *DID Number 561919 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 6 *Number of permitted wells not constructed, repaired, or abandoned 4
3. *Owner's Name United States of America 4.*Completion Date 06/05/2024 5. Florida Unique ID _____
6. Ransom Road, Merritt Island, FL 32953
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 7 Land Grant _____ *Township 23S *Range 37E
8. Latitude 283021.0434 Longitude 804018.4861
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 __X__NAD 83 ___WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___Sonic
    ___Horizontal Drilling __X__Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level ___ft. After ___Hours at ___GPM
14. *Measuring Point (Describe) Ground Surface Which is ___ft. ___Above ___Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 12 ft. Cased Depth 2 ft. *Open Hole: From ___To___ft. *Screen: From 2 To 12 ft. Slot Size .01

17. *Abandonment: ___ Other(Explain _____)
    From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
19. *Primary Casing Diameter and Depth:
    Dia 1 in. From 0 ft. To 2 ft. No. of Bags .08 Seal Material (Check One): X Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____
    Dia ___in. From ___ft. To___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other _____

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower ___ Pump Capacity (GPM) ___
    Pump Depth ___ft. Intake Depth___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name Gregory W Campbell *License Number 2613 E-mail Address shannon@pdsflorida.com
    *Contractor's Signature **Gregory W Campbell** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Trey Huddleston

*Permit No. MW-220075-1

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2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
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9225 CR 49
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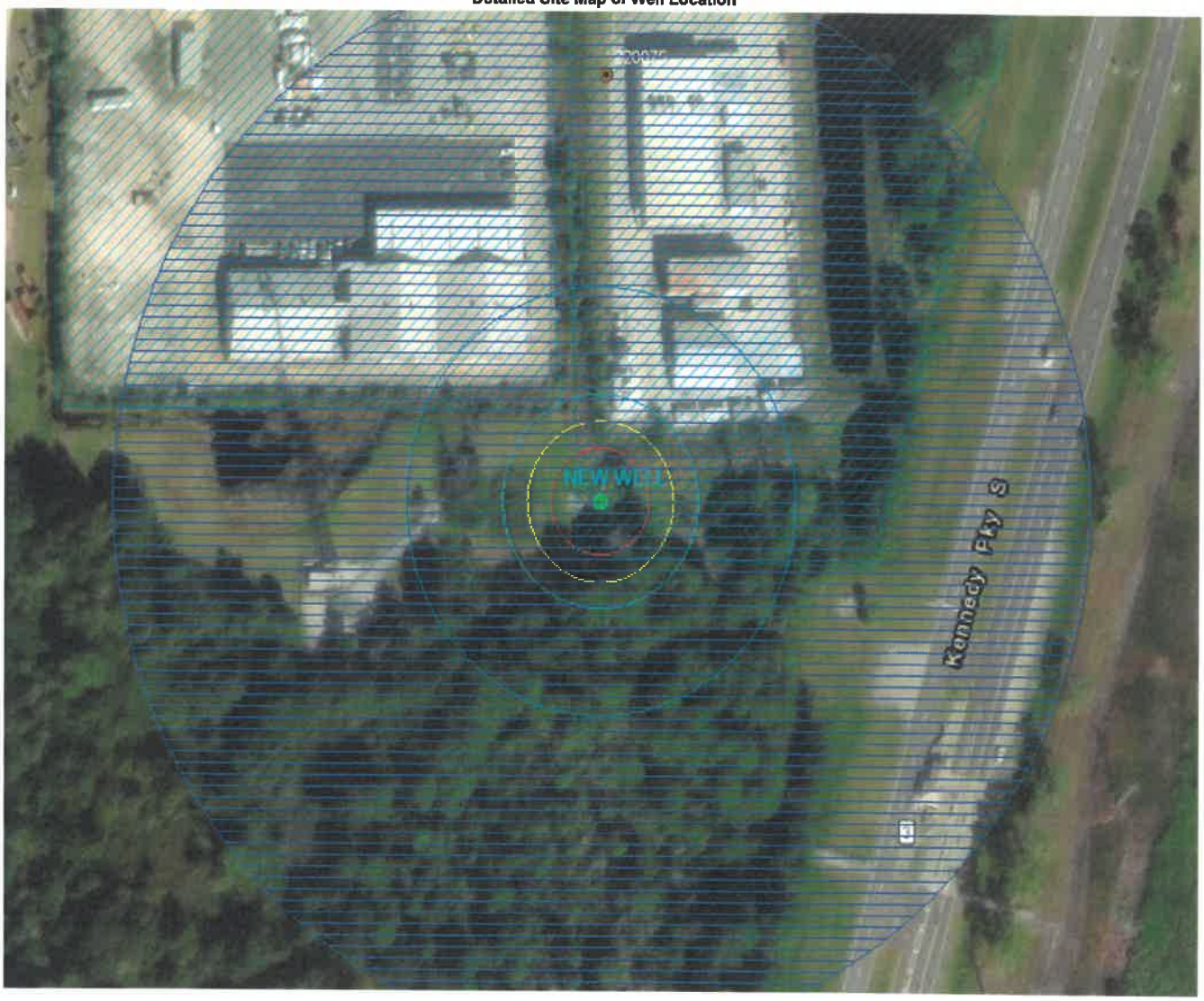
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0	ft.	To	6	ft.	Color	Tan	Grain Size (F, M, C)	Coarse	Material	Sand
From	6	ft.	To	12	ft.	Color	Brown	Grain Size (F, M, C)	Fine	Material	Sand
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	

Comments:
MW-E

*Detailed Site Map of Well Location



STATE OF FLORIDA WELL COMPLETION REPORT

[ ] Southwest
[ ] Northwest
[ ] St. Johns River
[ ] South Florida
[ ] Suwannee River
[ ] DEP
[X] Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 901063

Date:06/20/2024

Official Use Only

1. *Permit Number MW-220075-1 *CUP/WUP Number _____ *DID Number 561920 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 6 *Number of permitted wells not constructed, repaired, or abandoned 4
3. *Owner's Name United States of America 4.*Completion Date 06/06/2024 5. Florida Unique ID _____
6. Ransom Road, Merritt Island, FL 32953
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 7 Land Grant _____ *Township 23S *Range 37E
8. Latitude 283022.435 Longitude 804024.1638
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 __X__NAD 83 ___WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___Sonic
___Horizontal Drilling __X__Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level ___ft. After ___Hours at ___GPM
14. *Measuring Point (Describe) Ground Surface Which is ___ft. ___Above ___Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 12 ft. Cased Depth 2 ft. *Open Hole: From ___To ___ft. *Screen: From 2 To 12 ft. Slot Size .01

17. *Abandonment: Other(Explain _____)
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___

18. *Surface Casing Diameter and Depth:
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___

19. *Primary Casing Diameter and Depth:
Dia 1 in. From 0 ft. To 2 ft. No. of Bags .08 Seal Material (Check One): X Neat Cement ___Bentonite ___Other ___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___

20. *Liner Casing Diameter and Depth:
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___

21. *Telescope Casing Diameter and Depth:
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other ___

22. Pump Type (If known):
___Centrifugal ___Jet ___Submersible ___Turbine
Horsepower _____ Pump Capacity (GPM) _____
Pump Depth ___ft. Intake Depth ___ft.

23. Chemical Analysis (When Required):
Iron ___ppm Sulfate ___ppm Chloride ___ppm
___Laboratory Test ___Field Test Kit

24. Water Well Contractor:
*Contractor Name Gregory W Campbell *License Number 2613 E-mail Address shannon@pdsflorida.com
*Contractor's Signature Gregory W Campbell (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Trey Huddleston

*Permit No. MW-220075-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0	ft.	To	6	ft.	Color	Tan	Grain Size (F, M, C)	Coarse	Material	Sand
From	6	ft.	To	12	ft.	Color	Brown	Grain Size (F, M, C)	Fine	Material	Sand
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	
From		ft.	To		ft.	Color		Grain Size (F, M, C)		Material	

Comments:
MW-F

*Detailed Site Map of Well Location

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [X] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 901065

Date:06/20/2024

Official Use Only

1. *Permit Number MW-220075-1 *CUP/WUP Number _____ *DID Number 561922 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 6 *Number of permitted wells not constructed, repaired, or abandoned 4
3. *Owner's Name United States of America 4.*Completion Date 06/07/2024 5. Florida Unique ID _____
6. Ransom Road, Merritt Island, FL 32953
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 7 Land Grant _____ *Township 23S *Range 37E
8. Latitude 283025.8885 Longitude 804017.7233
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 __X__NAD 83 ___WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___Sonic
___Horizontal Drilling __X__Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 4 ft. Measured Pumping Water Level ___ft. After ___Hours at ___GPM
14. *Measuring Point (Describe) Ground Surface Which is ___ft. ___Above ___Below Land Surface *Flowing: ___Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 30 ft. Cased Depth 20 ft. *Open Hole: From ___To___ft. *Screen: From 20 To 30 ft. Slot Size .01

17. *Abandonment: ___ Other(Explain _____)
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

18. *Surface Casing Diameter and Depth:
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

19. *Primary Casing Diameter and Depth:
Dia 1 in. From 0 ft. To 20 ft. No. of Bags 8 Seal Material (Check One): X Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

20. *Liner Casing Diameter and Depth:
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

21. *Telescope Casing Diameter and Depth:
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
___Centrifugal ___Jet ___Submersible ___Turbine
Horsepower ___ Pump Capacity (GPM) ___
Pump Depth ___ft. Intake Depth ___ft.

23. Chemical Analysis (When Required):
Iron ___ppm Sulfate ___ppm Chloride ___ppm
___Laboratory Test ___Field Test Kit

24. Water Well Contractor:
*Contractor Name Gregory W Campbell *License Number 2613 E-mail Address shannon@pdsflorida.com
*Contractor's Signature **Gregory W Campbell** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Trey Huddleston

*Permit No. MW-220075-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	6 ft.	Color	Tan	Grain Size (F, M, C)	Coarse	Material	Sand
From	6 ft.	To	30 ft.	Color	Brown	Grain Size (F, M, C)	Fine	Material	Sand
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	

Comments:
MW-B

*Detailed Site Map of Well Location

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [ ] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [x] Delegated Authority (If Applicable) **Brevard DOH**

Date Stamp

Confirmation# 765520

Date:06/24/2022

Official Use Only

1. *Permit Number MW-187167-1 *CUP/WUP Number _____ *DID Number 527479 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 1 *Number of permitted wells not constructed, repaired, or abandoned 0
3. *Owner's Name Kennedy Space Ctr. 4.*Completion Date 06/17/2022 5. Florida Unique ID _____
6. Ransom Rd , Titusville, FL 32953
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Brevard *Section 7 Land Grant _____ *Township 23S *Range 37E
8. Latitude 283025.9499 Longitude 804021.606
9. Data Obtained From: ___GPS _X_Map ___Survey Datum: ___NAD 27 _X_NAD 83 ___WGS 84
10. *Type of Work: _X_Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):
    - ___Domestic
    - ___Bottled Water Supply
    - ___Public Water Supply (Limited Use/DOH)
    - ___Public Water Supply (Community or Non-Community/DEP)
    - ___Class I Injection
    - ___Landscape Irrigation
    - ___Recreation Area Irrigation
    - ___Agricultural Irrigation
    - ___Livestock
    - ___Nursery Irrigation
    - ___Commercial/Industrial
    - ___Golf Course Irrigation
    - ___Site Investigation
    - X Monitoring
    - ___Test
    - ___Earth-Coupled Geothermal
    - ___HVAC Supply
    - ___HVAC Return

    Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
    Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
    ___Other (Describe) _____
12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___Sonic
    ___Horizontal Drilling _X_Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 3 ft. Measured Pumping Water Level ___ft. After ___Hours at ___GPM
14. *Measuring Point (Describe) TOC Which Is .5 ft. ___Above _X_Below Land Surface *Flowing: ___Yes _X_No
15. *Casing Material: ___Black Steel ___Galvanized _X_PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 17 ft. Cased Depth 7 ft. *Open Hole: From ___To ___ft. *Screen: From 7 To 17 ft. Slot Size .01
17. *Abandonment: ___Other(Explain _____)
    - From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    - From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    - From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    - From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    - From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:
    - Dia 1 in. From 0 ft. To 7 ft. No. of Bags .5 Seal Material (Check One): ___Neat Cement ___Bentonite X Other Cement with Bentonite, < 5% by weight
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check Dne): ___Neat Cement ___Bentonite ___Other___
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
20. *Liner Casing Diameter and Depth:
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    - Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower ___ Pump Capacity (GPM) ___
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name Carl A Leonhardt *License Number 9521 E-mail Address carl@edsenvironmental.com
    *Contractor's Signature **Carl A Leonhardt** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Carl Leonhardt

*Permit No. MW-187167-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	17 ft.	Color	Tan	Grain Size (F, M, C)	Medium	Material	Sand
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:

*Detailed Site Map of Well Location

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

	Southwest
	Northwest
	St. Johns River
	South Florida
	Suwannee River
	DEP
X	Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

Permit No:	**MW-187167-1**		
Florida Unique ID			
Permit Stipulations Required (See Attached)			
MW-1			
62-524 Quad No.	**3706SE**	Delineation No.	
CUP/WUP Application No.			

ABOVE THIS LINE FOR OFFICIAL USE ONLY

1. **United States of America** (*Owner, Legal Name if Corporation) | **1849 C St NW Rm 5665** (*Address) | **Washington** (*City) | **DC** (*State) | **20240** (*Zip) | **4072953532** (*Telephone Number)

2. **Ransom Rd , Titusville, FL 32953** (*Well Location – Address, Road Name or Number, City)

3. **23-37-07--*-** (*Parcel ID No. (PIN) or Alternate Key (Circle One)) | Lot | Block | Unit

4. **7** (*Section or Land Grant) | **23S** (*Township) | **37E** (*Range) | **Brevard** (*County) | Subdivision | Check if 62-524: Yes **X** No

5. **Carl A Leonhardt** (*Water Well Contractor) | **9521** (*License Number) | **4072953532** (*Telephone Number) | **carl@edsenvironmental.com** (E-mail Address)

6. **4712 Old Winter Garden Rd** (*Water Well Contractor's Address) | **Orlando** (City) | **FL** (State) | **32811-1740** (ZIP)

7. *Type of Work: **X** Construction ____ Repair ____ Modification ____ Abandonment ____ (*Reason for Repair, Modification, or Abandonment)

8. *Number of Proposed Wells **1**

9. *Specify Intended Use(s) of Well(s):

____ Domestic
____ Bottled Water Supply
____ Public Water Supply (Limited Use/DOH)
____ Public Water Supply (Community orNon-Community/DEP)
____ Class I Injection
____ Landscape Irrigation
____ Recreation Area Irrigation
____ Agricultural Irrigation
____ Livestock
____ Nursery Irrigation
____ Commercial/Industrial
____ Golf Course Irrigation
____ Site Investigation
X Monitoring
____ Test
____ Earth-Coupled Geothermal
____ HVAC Supply
____ HVAC Return

Class V Injection: ____ Recharge ____ Commercial/Industrial Disposal ____ Aquifer Storage and Recovery ____ Drainage

Remediation: ____ Recovery ____ Air Sparge ____ Other (Describe) ____

Other (Describe) ____ (Note: Not all types of wells are permitted by a given permitting authority)

Date Stamp

Confirmation# **763621**

Date: **06/14/2022**

Official Use Only

10. *Distance from Septic System if ≤ 200 ft. ____ 11. Facility Description ____ 12. Estimated Start Date **06/17/2022**

13. *Estimated Well Depth **17** ft. *Estimated Casing Depth **7** ft. *Primary Casing Diameter **1** in. Open Hole: From ____ To ____ ft.

14. Estimated Screen Interval: From **7** To **17** ft.

15. *Primary Casing Material: ____ Black Steel ____ Galvanized **X** PVC ____ Stainless Steel ____ Not Cased ____ Other: ____

16. Secondary Casing: ____ Telescope Casing ____ Liner ____ Surface Casing Diameter ____ in.

17. Secondary Casing Material: ____ Black Steel ____ Galvanized ____ PVC ____ Stainless Steel ____ Other ____

18. *Method of Construction, Repair, or Abandonment: ____ Auger ____ Cable Tool ____ Jetted ____ Rotary ____ Sonic ____ Combination (Two or More Methods) ____ Hand Driven (Well Point, Sand Point) **X** Hydraulic Point (Direct Push) ____ Horizontal Drilling ____ Plugged by Approved Method ____ Other (Describe) ____

19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing:

From	**0**	To	**7**	Seal Material (____ Bentonite ____ Neat Cement	**X**	Other **Cement**)
From	____	To	____	Seal Material (____ Bentonite ____ Neat Cement	____	Other ____)
From	____	To	____	Seal Material (____ Bentonite ____ Neat Cement	____	Other ____)
From	____	To	____	Seal Material (____ Bentonite ____ Neat Cement	____	Other ____)

20. Indicate total number of existing wells on site ____ List number of existing unused wells on site ____

21. *Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ____ Yes **X** No If Yes, complete the following: CUP/WUP No. ____ District Well ID No. **527479**

22. Latitude **283025.9499** Longitude **804021.6832**

23. Data Obtained From: ____ GPS **X** Map ____ Survey Datum: ____ NAD 27 **X** NAD 83 ____ WGS 84

I hereby certify that I will comply with the applicable rules of Title 40, Florida Administration Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that information provided in this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable. I agree to provide a well completion report to the District within 30 days after completion of the construction, repair, modification, or abandonment authorized by this permit, or the permit expiration, whichever occurs first.

Carl A Leonhardt (*Signature of Contractor) | **9521** (*License No.)

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well; or, I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Owner consents to allowing personnel of this WMD or Delegated Authority access to the well site during the construction, repair, modification, or abandonment authorized by this permit.

Carl A Leonhardt (*Signature of Owner or Agent) | **06/14/2022** (*Date)

BELOW THIS LINE – FOR OFFICIAL USE ONLY

Approval Granted By *Cynthia Leckey* Issue Date **06/15/2022** Expiration Date **06/14/2023** Hydrologist Approval ____ initials

Fee Received $ **50** Receipt No. **92800** Check No. **OnLine-05485G-763621**

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, MODIFICATION, OR ABANDONMENT ACTIVITIES.

*Permit No. **MW-187167-1**

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

Comments:

Drill per 40C-3 and 62-532 F.A.C.
Submit completion report within 30 days of completion. If 2 to 10 monitoring wells are on the permit, you must submit a separate completion report for each monitoring well and plot the actual location.
Issuance of this permit does not relieve the well owner of meeting the permit requirements of county, municipal, or other legally constituted authorities.
Prior to changing approved well location, you must submit an amended site plan to DOH requesting approval for the new location.

*General Site Map of Proposed Well Location

N .

Identify known roads and landmarks. Give distances from all reference points or structures, septic systems, sanitary hazards, and contamination sources, if applicable.

STATE OF FLORIDA PERMIT APPLICATION TO CONSTRUCT, REPAIR, MODIFY, OR ABANDON A WELL

	Southwest
	Northwest
	St. Johns River
	South Florida
	Suwannee River
	DEP
X	Delegated Authority (If Applicable) **Brevard DOH**

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

The water well contractor is responsible for completing this form and forwarding the permit application to the appropriate delegated authority where applicable.

Permit No:	**MW-220075-1**		
Florida Unique ID			
Permit Stipulations Required (See Attached)			
MW-10			
62-524 Quad No.	**3706SE**	Delineation No.	
CUP/WUP Application No.			

ABOVE THIS LINE FOR OFFICIAL USE ONLY

1. **United States of America** | **1849 C St NW** | **Washington** | **DC** | **20240** | **7275617477**
*Owner, Legal Name if Corporation | *Address | *City | *State | *Zip | *Telephone Number

2. **02-2024-8359, Ransom Road, Merritt Island, FL 32953**
*Well Location – Address, Road Name or Number, City

3. **23-37-07--*-** | Lot | Block | Unit
*Parcel ID No. (PIN) or Alternate Key (Circle One)

4. **7** *Section or Land Grant | **23S** *Township | **37E** *Range | **Brevard** *County | Subdivision | Check if 62-524: Yes **X** No

5. **Gregory W Campbell** *Water Well Contractor | **2613** *License Number | **7275617477** *Telephone Number | **shannon@pdsflorida.com** E-mail Address

6. **8820 66th St. N.** *Water Well Contractor's Address | **Pinellas Park** City | **Florida** State | **33782** ZIP

7. *Type of Work: **X** Construction ____ Repair ____ Modification ____ Abandonment ____
*Reason for Repair, Modification, or Abandonment

8. *Number of Proposed Wells **10**

9. *Specify Intended Use(s) of Well(s):

____ Domestic
____ Bottled Water Supply
____ Public Water Supply (Limited Use/DOH)
____ Public Water Supply (Community orNon-Community/DEP)
____ Class I Injection
____ Landscape Irrigation
____ Recreation Area Irrigation
____ Agricultural Irrigation
____ Livestock
____ Nursery Irrigation
____ Commercial/Industrial
____ Golf Course Irrigation
____ Site Investigation
X Monitoring
____ Test
____ Earth-Coupled Geothermal
____ HVAC Supply
____ HVAC Return

Class V Injection: ____ Recharge ____ Commercial/Industrial Disposal ____ Aquifer Storage and Recovery ____ Drainage

Remediation: ____ Recovery ____ Air Sparge ____ Other (Describe) ____

Other (Describe) ____ (Note: Not all types of wells are permitted by a given permitting authority)

Date Stamp

Confirmation# **895362**

Date: **05/22/2024**

Official Use Only

10. *Distance from Septic System if ≤ 200 ft. **> 200ft** 11. Facility Description ____ 12. Estimated Start Date **06/04/2024**

13. *Estimated Well Depth **30** ft. *Estimated Casing Depth **25** ft. *Primary Casing Diameter **1** in. Open Hole: From **0** To **0** ft.

14. Estimated Screen Interval: From **25** To **30** ft.

15. *Primary Casing Material: ____ Black Steel ____ Galvanized **X** PVC ____ Stainless Steel ____ Not Cased ____ Other: ____

16. Secondary Casing: ____ Telescope Casing ____ Liner ____ Surface Casing Diameter ____ in.

17. Secondary Casing Material: ____ Black Steel ____ Galvanized ____ PVC ____ Stainless Steel ____ Other ____

18. *Method of Construction, Repair, or Abandonment: ____ Auger ____ Cable Tool ____ Jetted ____ Rotary ____ Sonic ____ Combination (Two or More Methods) ____ Hand Driven (Well Point, Sand Point) **X** Hydraulic Point (Direct Push) ____ Horizontal Drilling ____ Plugged by Approved Method ____ Other (Describe) ____

19. Proposed Grouting Interval for the Primary, Secondary, and Additional Casing:

From	**0**	To	**23**	Seal Material (____ Bentonite	**X** Neat Cement	____ Other	____)
From	____	To	____	Seal Material (____ Bentonite	____ Neat Cement	____ Other	____)
From	____	To	____	Seal Material (____ Bentonite	____ Neat Cement	____ Other	____)
From	____	To	____	Seal Material (____ Bentonite	____ Neat Cement	____ Other	____)

20. Indicate total number of existing wells on site ____ List number of existing unused wells on site ____

21. *Is this well or any existing well or water withdrawal on the owner's contiguous property covered under a Consumptive/Water Use Permit (CUP/WUP) or CUP/WUP Application? ____ Yes **X** No If Yes, complete the following: CUP/WUP No. ____ District Well ID No. **560608**

22. Latitude **283024.955** Longitude **804018.4089**

23. Data Obtained From: ____ GPS **X** Map ____ Survey Datum: ____ NAD 27 **X** NAD 83 ____ WGS 84

I hereby certify that I will comply with the applicable rules of Title 40, Florida Administration Code, and that a water use permit or artificial recharge permit, if needed, has been or will be obtained prior to commencement of well construction. I further certify that information provided in this application is accurate and that I will obtain necessary approval from other federal, state, or local governments, if applicable. I agree to provide a well completion report to the District within 30 days after completion of the construction, repair, modification, or abandonment authorized by this permit, or the permit expiration, whichever occurs first.

Gregory W Campbell *Signature of Contractor | **2613** *License No.

I certify that I am the owner of the property, that the information provided is accurate, and that I am aware of my responsibilities under Chapter 373, Florida Statutes, to maintain or properly abandon this well; or, I certify that I am the agent for the owner, that the information provided is accurate, and that I have informed the owner of his responsibilities as stated above. Owner consents to allowing personnel of this WMD or Delegated Authority access to the well site during the construction, repair, modification, or abandonment authorized by this permit.

Gregory W Campbell *Signature of Owner or Agent | **05/22/2024** *Date

BELOW THIS LINE – FOR OFFICIAL USE ONLY

Approval Granted By *Kayla Davis* Issue Date **05/22/2024** Expiration Date **05/21/2025** Hydrologist Approval ____ initials

Fee Received $ **100** Receipt No. **114307** Check No. **OnLine-94318896-895362**

THIS PERMIT IS NOT VALID UNTIL PROPERLY SIGNED BY AUTHORIZED OFFICER OR REPRESENTATIVE OF THE WMD OR DELEGATED AUTHORITY. THE PERMIT SHALL BE AVAILABLE AT THE WELL SITE DURING ALL CONSTRUCTION, MODIFICATION, OR ABANDONMENT ACTIVITIES.

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APPENDIX F

RIS COMPLETION TICKETS

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Data Checker

Completion Ticket

On 5/19/2023 at 11:46 AM the following files were submitted to Tetra Tech

COMPLETION_AECOM_GSRY_20230519.txt

LITHOLOGY_AECOM_GSRY_20230519.txt

LOCATION_AECOM_GSRY_20230519.txt

PROJECT_AECOM_GSRY_20230519.txt

RESULT_AECOM_GSRY_20230519.txt

SAMPLE_AECOM_GSRY_20230519.txt

WATER_AECOM_GSRY_20230519.txt

The following comment was provided with this submission:
Hello TT and Happy Friday! Attached are GSRY files from Sept/Oct 2022. Please let me know if there are any issues. thanks! Jennifer

If you need to identify this session at a later date you may use the Ticket Key:

TetraTechExternalClientsProtectedDataRepository2023519_6502449142_kedd_AECOM

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RESOURCES

VALID VALUES

REQUEST A VALID VALUE

Data Checker

Completion Ticket

On 10/10/2024 at 2:03 PM the following files were submitted to Tetra Tech

COMPLETION_AECOM_GSRY_20241010.txt

LITHOLOGY_AECOM_GSRY_20241010.txt

LOCATION_AECOM_GSRY_20241010.txt

PROJECT_AECOM_GSRY_20241010.txt

RESULT_AECOM_GSRY_20241010.txt

SAMPLE_AECOM_GSRY_20241010.txt

WATER_AECOM_GSRY_20241010.txt

The following comment was provided with this submission:
AECOM - GSRY PFAS/VOCs Groundwater and Surface Water Sampling June2024

If you need to identify this session at a later date you may use the Ticket Key:

F:\TetraTechExternalClients\ProtectedData\Repository\20241010_3053240425_kedd_AECOM\

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