



N3B-Los Alamos
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RECEIVED

JAN 31 2024

**SURFACE WATER
QUALITY BUREAU**



Environmental Management
Los Alamos Field Office
1200 Trinity Drive, Suite 400
Los Alamos, New Mexico 87544
(505) 562-1122

Date: January 31, 2024
Refer To: N3B-2024-0001

Shelly Lemon, Chief
Surface Water Quality Bureau
New Mexico Environment Department
1190 S. St. Francis Drive
P.O. Box 5469
Santa Fe, NM 87502-5469

Subject: Submittal of the 2023 Annual Data Report for Per- and Polyfluoroalkyl Substances in Stormwater

Dear Ms. Lemon:

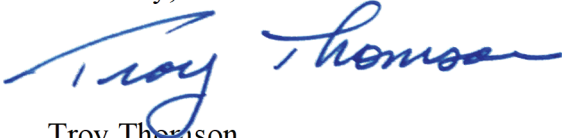
This letter and enclosures are being submitted in accordance with the requirements of the “Newport News Nuclear BWXT-Los Alamos, LLC, and United States Department of Energy, Environmental Management, Los Alamos Field Office Sampling and Reporting Plan for Per- and Polyfluoroalkyl Substances in Storm Water” (SARP). The SARP became effective on December 6, 2021. The SARP is a result of the settlement agreement regarding Newport News Nuclear BWXT-Los Alamos, LLC (N3B) and the U.S. Department of Energy’s (DOE’s) petition for review of the state certification of the “Los Alamos National Laboratory National Pollutant Discharge Elimination System Individual Storm Water Permit No. NM0030759,” filed December 30, 2020. The SARP was developed with collaboration and concurrence between N3B, DOE, and the New Mexico Environment Department Surface Water Quality Bureau (NMED-SWQB).

This annual report shall be prepared and submitted to NMED-SWQB as specified in the SARP:

Reporting: N3B and DOE will submit an annual PFAS data report to the NMED-SWQB Point Source Program Manager by January 31st after each sampling year (e.g., January 31, 2023 for the 2022 sampling season, etc.). In the annual report, N3B and DOE will detail the attempts made to collect a sample, including reasons why the sample could not be collected, and total samples collected to date. N3B and DOE will validate the PFAS data in accordance with N3B and DOE administrative procedures. The PFAS data will be validated within one month of receiving the final analytical report for the sampling season from the analytical lab. N3B and DOE will upload PFAS data to Intellus within one week of validation.

If you have questions, please contact Christian Maupin at (505) 695-4281 (christian.maupin@em-la.doe.gov) or Susan Wacaster at (505) 709-8704 (susan.wacaster@em.doe.gov).

Sincerely,



Troy Thomson
Program Manager
Environmental Remediation
N3B-Los Alamos

Sincerely,



Digitally signed by Brian
G. Harcek
Date: 2024.01.31
15:44:04 -07'00'

Brian Harcek, Director
Office of Quality and Regulatory Compliance
U.S. Department of Energy
Environmental Management
Los Alamos Field Office

Enclosure(s): Two hard copies with electronic files:

1. 2023 Annual Data Report for Per- and Polyfluoroalkyl Substances in Stormwater (EM2024-0013)

cc (letter with CD enclosure[s]):

Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-DOE-OB
Neelam Dhawan, NMED-HWB
Susan Lucas-Kamat, NMED-SWQB
emla.docs@em.doe.gov
n3brecords@em-la.doe.gov
Public Reading Room (EPRR)
PRS website

cc (letter and enclosure[s] emailed):

Ruben Alayon-Gonzalez, EPA Region 6, Dallas, TX
Esteban Herrera, EPA Region 6, Dallas, TX
Curry Jones, EPA Region 6, Dallas, TX
Brent Larsen, EPA Region 6, Dallas, TX
Rick Shean, NMED-RPD
Levi Dean, NMED-SWQB
Jeannette Hyatt, LANL
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Sean Sandborgh, N3B
Bradley Smith, N3B
Shannon Smith, N3B
Sophie Stauffer, N3B
Jeffrey Stevens, N3B
Jennifer von Rohr, N3B
Amanda White, N3B

2023 ANNUAL DATA REPORT FOR PER- AND POLYFLUOROALKYL SUBSTANCES IN STORMWATER

1.0 INTRODUCTION

This report provides information to the New Mexico Environment Department (NMED) concerning stormwater samples collected by Newport News Nuclear BWXT-Los Alamos, LLC (N3B) in 2023 for analysis of per- and polyfluoroalkyl substances (PFAS) under the “Sampling and Reporting Plan for Per- and Polyfluoroalkyl Substances in Storm Water” (SARP). The SARP is included as Exhibit B in the settlement agreement filed December 13, 2021, between the NMED Surface Water Quality Bureau and petitioners N3B and the U.S. Department of Energy (DOE) resolving the petition for review of the state certification of the Los Alamos National Laboratory stormwater Individual Permit, National Pollution Discharge Elimination System Permit Number NM0080759, filed December 30, 2020. All sample results and sample collection attempts are described in this report.

Monitoring year 2023 (March 2023 through November 2023) was the second year of monitoring for PFAS in stormwater samples pursuant to the SARP. The SARP designated 15 locations for PFAS monitoring (Figure 1). A sample was collected and analyzed for PFAS at one location: PJ-SMA-5.

2.0 PFAS ANALYSIS

2.1 Analytical Method and Analysis

Pursuant to the SARP,

Samples will be analyzed by an accredited lab pursuant to modified EPA Method 537.1 for all PFAS analytes tested by this method. However, if the new EPA draft Method 1633 (EPA 2021), “Analysis of Per- and Polyfluoroalkyl Substances (PFAS) in Aqueous, Solid, Biosolids, and Tissue Samples by LC-MS/MS” ¹ is readily available for PFAS analysis by accredited labs within 21 days after initial sample collection, then samples will be analyzed using the new EPA draft Method 1633 for all PFAS analytes tested by this method instead.

GEL Laboratories, LLC (GEL) received their National Environmental Laboratory Accreditation Program certification for the U.S. Environmental Protection Agency (EPA) draft method 1633 on November 1, 2022. The sample collected from PJ-SMA-5 on August 25, 2023, was analyzed for PFAS using EPA draft Method 1633. The sample was sent to GEL on August 31, 2023, under chain of custody (COC) form N3B-2023-4143. Sample information, shipping dates, receipt dates, and analysis dates for the sample are identified in Table 1.

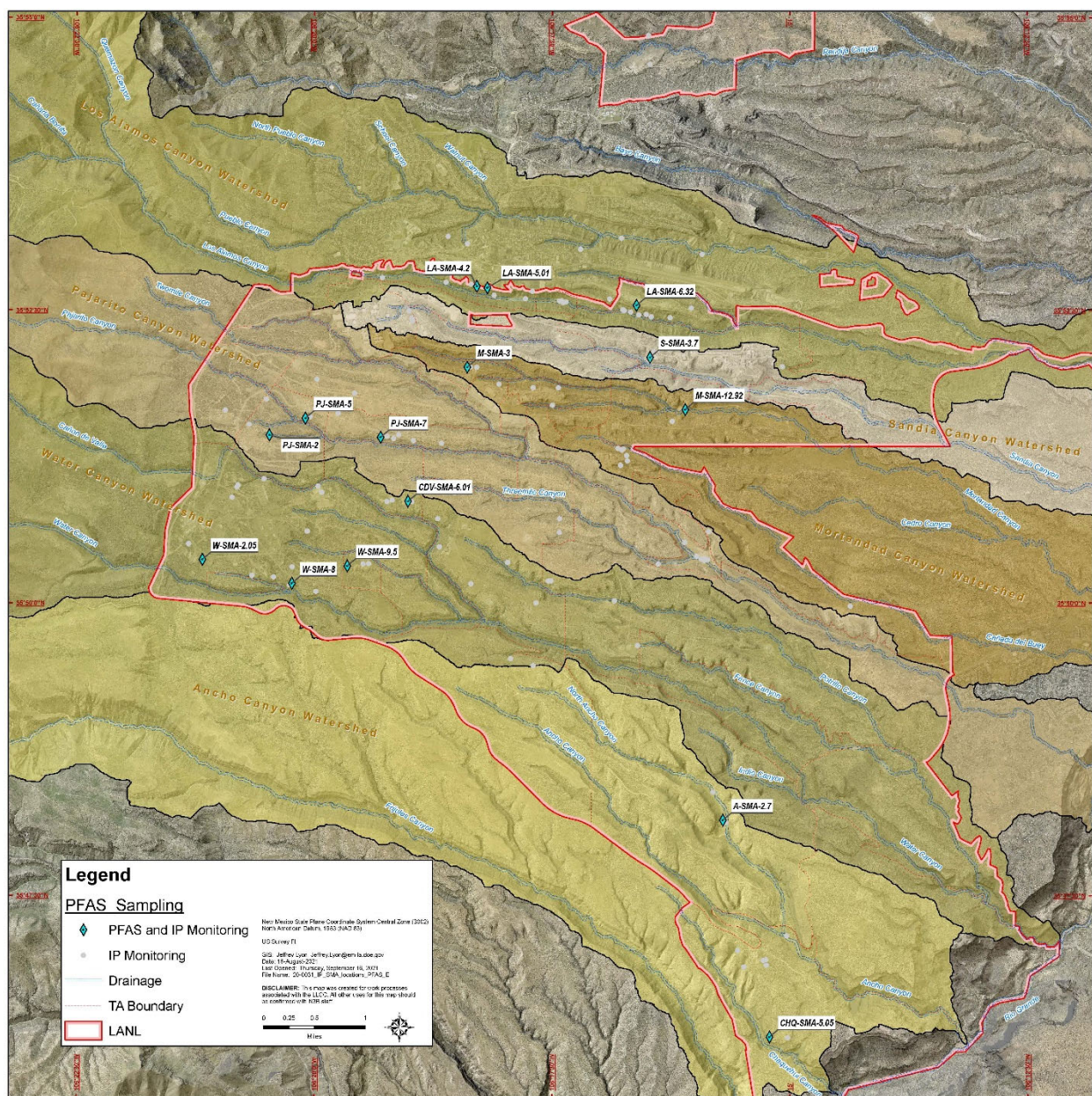


Figure 1. PFAS monitoring locations

Table 1
PFAS Sample Chain of Custody

Sample Location	COC	Sample Collection Date	Sample Retrieval Date	Sample Ship Date	Sample Receipt at GEL Date	Sample Analysis Date	GEL Result Report Date	Data Validation Date
PJ-SMA-5	N3B-2023-4143	8/25/2023	8/29/2023	8/31/2023	9/1/2023	9/19/2023	9/27/2023	9/27/2023

2.2 Data Validation

Analytical results meet the N3B minimum data quality objectives as outlined in N3B-PLN-SDM-1000, “Sample and Data Management Plan.” N3B-PLN-SDM-1000 sets the validation frequency criteria at 100% for Level 1 examination and Level 2 verification of data, and at 10% for Level 3 validation of data.

A Level 1 examination includes assessing the completeness of the data as delivered from the analytical laboratory, identifying any reporting errors, and evaluating the acceptability of the data for the intended use. A Level 2 verification includes evaluating the data to determine the extent to which the laboratory met the analytical method- and contract-specific quality control and reporting requirements. A Level 3 validation includes Levels 1 and 2 criteria, and determines the effect of potential anomalies encountered during analysis, and possible effects on data quality. A Level 3 validation is performed manually with method-specific data validation procedures.

Laboratory analytical data are validated by N3B personnel as outlined in N3B-PLN-SDM-1000; N3B-AP-SDM-3000, “General Guidelines for Data Validation”; N3B-AP-SDM-3014, “Examination and Verification of Analytical Laboratory Data”; and additional method-specific analytical data validation procedures. All associated validation procedures have been developed, where applicable, from the “Department of Defense (DoD)/DOE Consolidated Quality Systems Manual (QSM) for Environmental Laboratories,” the EPA “National Functional Guidelines,” EPA QA/G-8, “Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP),” and ANSI/ANS (American National Standards Institute/American Nuclear Society) 41.5.

All data collected under the SARP meet Level 2 data validation requirements.

3.0 SUMMARY OF DATA COLLECTED IN 2023

In monitoring year 2023, sampling for PFAS was attempted at 15 locations, and 2 samples were planned at each location. A sample at PJ-SMA-5 was collected on August 25, 2023.

3.1 Analytical Results

Analytical results were received and validated for PJ-SMA-5 on September 27, 2023. Forty PFAS parameters were analyzed, and the results are summarized in Table 2. The full data packages for these samples are included as Appendix A (on CD included with this document).

3.2 Sample Collection Attempts

The 15 sampling locations were activated for monitoring by April 24, 2023, and deactivated for the season by November 9, 2023. Table 3 details all sampling attempts at these locations and any downtime of the samplers during the 2023 monitoring season.

Since 2022, samples from four locations have been analyzed for PFAS.

4.0 PLANNED MONITORING IN 2024

In monitoring year 2024, PFAS sampling will be conducted at the same 15 locations as outlined in the SARP. Since one PFAS sample was collected at PJ-SMA-5 in 2023, only one sample will be collected at that location for monitoring year 2024. At the 11 locations from which a PFAS sample has not yet been collected, collection of 2 samples is planned. Due to the issues in 2022 with laboratory analysis and

numerous data qualifiers for the samples collected at M-SMA-3, S-SMA-3.7, and PJ-SMA-2, collection of 2 samples is planned at these locations as well. Compliance samples and analytical suites, as well as duplicate samples, will continue to be prioritized over the investigative PFAS samples.

5.0 ANALYTICAL LABORATORY CODES AND QUALIFIERS

The following analytical laboratory codes and qualifiers are used in Table 2 and are defined below.

BJ (laboratory data qualifier)	(Organic) The analyte was detected in the associated method blank and sample (B). The associated numerical value is an estimated quantity (J).
J+ (validation qualifier)	The analyte is classified as detected, but the reported concentration value is expected to be more uncertain than usual with a potential positive bias.
J (validation qualifier)	The analyte is classified as detected, but the reported concentration value is expected to be more uncertain than usual.
J (laboratory data qualifier)	(Organic) The associated numerical value is an estimated quantity.
LCMS/MS	liquid chromatography mass spectrometry/mass spectrometry
NQ (validation qualifier)	No validation qualifier flag is associated with this result, and the analyte is classified as detected.
U (validation qualifier)	The analyte is classified as not detected.
U (laboratory data qualifier)	(Organic) The associated numerical value is an estimated quantity.

Table 2
PFAS Analytical Results Summary

Field Sample ID	Location ID	Sample Date	Parameter Name	Report Result	Report Unit	Columns: 7–26																			
						Lab Qualifier (7)	Detected (8)	Filtered (9)	Lab Matrix (10)	COC # (11)	Lab Method (12)	Report Detection Limit (13)	Analysis Date (14)	% Moisture (15)	Analysis Deferred (16)	Analysis Lot ID (17)	Analysis Time (18)	Analysis Type Code (19)	Analytical Group Name (20)	Best Value (21)	Dilution Factor (22)	Field Preparation Code (23)	Lab Detection Limit (24)	Lab ID (25)	Lab QC Reporting Option (26)
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	1H, 1H, 2H, 2H-perfluorodecane sulfonic acid	25.6	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	76.8	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	76.8	GELC ^a	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoropentanoic acid	8.63	ng/L	BJ	Yes	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Methyl perfluorooctane sulfonamidoethanol[N-]	66.7	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	200	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	200	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	N-methyl perfluorooctanesulfonamidoacetic acid2	6.67	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	N-ethyl perfluorooctanesulfonamidoacetic acid2	6.67	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorodecane sulfonate	6.43	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	19.3	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	19.3	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorodecanoic acid	39.7	ng/L	— ^b	Yes	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorooctanoic acid	26.1	ng/L	—	Yes	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoroundecanoic acid	6.97	ng/L	J	Yes	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	1H, 1H, 2H, 2H-perfluorooctane sulfonic acid	25.3	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	76.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	76.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoropentanesulfonic acid	6.27	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	18.8	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	18.8	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorooctanesulfonic acid	135	ng/L	—	Yes	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	18.6	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	18.6	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Ethyl perfluorooctane sulfonamidoethanol[N-]	66.7	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	200	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	200	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	3-Perfluoropropyl propanoic acid	26.7	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	80.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	80.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorohexanesulfonic acid	6.09	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	18.3	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	18.3	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorotetradecanoic acid	6.67	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorononanoic acid	17.8	ng/L	J	Yes	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoro-1-heptanesulfonic acid	6.35	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	19.1	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	19.1	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoroheptanoic acid	6.67	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorobutanesulfonic acid	8.41	ng/L	J	Yes	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	17.7	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	17.7	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorobutanoic acid	26.7	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	80.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	80.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid	25.0	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	75.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	75.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	24.9	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	74.8	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	74.8	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoro-1-octanesulfonamide	6.67	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Methylperfluoro-1-octanesulfonamide[N-]	6.67	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorododecanoic acid	6.67	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorohexanoic acid	6.95	ng/L	J	Yes	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	4,8-Dioxa-3H-perfluorononanoic Acid	25.2	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	75.6	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	75.6	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	3-Perfluoropentyl propanoic acid	13.3	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	400	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	400	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Nonafluoro-3,6-dioxaheptanoic acid	13.3	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	40.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	40.0	GELC	Standard

Table 2 (continued)

Field Sample ID	Location ID	Sample Date	Parameter Name	Report Result	Report Unit	Columns: 7–26																			
						Lab Qualifier (7)	Detected (8)	Filtered (9)	Lab Matrix (10)	COC # (11)	Lab Method (12)	Report Detection Limit (13)	Analysis Date (14)	% Moisture (15)	Analysis Deferred (16)	Analysis Lot ID (17)	Analysis Time (18)	Analysis Type Code (19)	Analytical Group Name (20)	Best Value (21)	Dilution Factor (22)	Field Preparation Code (23)	Lab Detection Limit (24)	Lab ID (25)	Lab QC Reporting Option (26)
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoro(2-ethoxyethane)sulphonic acid	11.9	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	35.6	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	35.6	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	25.2	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	75.6	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	75.6	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Hexafluoropropylene oxide dimer acid GenX	26.7	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	80.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	80.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorotridecanoic acid	6.67	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Ethylperfluoro-1-octanesulfonamide[N-]	6.67	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	20.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	20.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoro-4-methoxybutanoic acid	13.3	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	40.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	40.0	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	3-Perfluoroheptyl propanoic acid	133	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	400	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	400	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorododecanesulfonic acid	6.47	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	19.4	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	19.4	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorononanesulfonic acid	6.43	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	19.2	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	19.2	GELC	Standard
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoro-3-methoxypropanoic acid	13.3	ng/L	U	No	No	W	N3B-2023-4143	EPA:1633_GEL_Mod	40.0	9/19/2023	100	Yes	2493826	14:04	INIT	EPA:1633_PFAS_40a	Yes	1.00	UF	40.0	GELC	Standard

Table 2 (continued)

Field Sample ID	Location ID	Sample Date	Parameter Name	Report Result	Report Unit	Columns 27–41														
						Lab Receipt Date (27)	Lab Report Date (28)	Method Category (29)	Method Detection Limit (30)	Original Lab Result (31)	Preparation Date (32)	Report Method Detection Limit (33)	Result Type (34)	Sample Retrieval Date (35)	Sampling Event (36)	Shipped Date (37)	Usable (38)	Validated Date (39)	Validation Qualifier (40)	Validation Reason Code (41)
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	1H, 1H, 2H, 2H-perfluorodecane sulfonic acid	25.6	ng/L	9/1/2023	9/27/2023	LCMS/MS	25.6	25.6	9/18/2023	25.6	TRG ^c	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoropentanoic acid	8.63	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	8.63	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	J+	PE4a
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Methyl perfluorooctane sulfonamidoethanol[N-]	66.7	ng/L	9/1/2023	9/27/2023	LCMS/MS	66.7	66.7	9/18/2023	66.7	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	N-methyl perfluorooctanesulfonamidoacetic acid2	6.67	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	6.67	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	N-ethyl perfluorooctanesulfonamidoacetic acid2	6.67	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	6.67	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorodecane sulfonate	6.43	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.43	6.43	9/18/2023	6.43	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorodecanoic acid	39.7	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	39.7	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	NQ	NQ
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorooctanoic acid	26.1	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	26.1	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	NQ	NQ
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoroundecanoic acid	6.97	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	6.97	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	J	J_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	1H, 1H, 2H, 2H-perfluorooctane sulfonic acid	25.3	ng/L	9/1/2023	9/27/2023	LCMS/MS	25.3	25.3	9/18/2023	25.3	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoropentanesulfonic acid	6.27	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.27	6.27	9/18/2023	6.27	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorooctanesulfonic acid	135	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.19	135	9/18/2023	6.19	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	NQ	NQ
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Ethyl perfluorooctane sulfonamidoethanol[N-]	66.7	ng/L	9/1/2023	9/27/2023	LCMS/MS	66.7	66.7	9/18/2023	66.7	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	3-Perfluoropropyl propanoic acid	26.7	ng/L	9/1/2023	9/27/2023	LCMS/MS	26.7	26.7	9/18/2023	26.7	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorohexanesulfonic acid	6.09	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.09	6.09	9/18/2023	6.09	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorotetradecanoic acid	6.67	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	6.67	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorononanoic acid	17.8	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	17.8	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	J	J_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoro-1-heptanesulfonic acid	6.35	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.35	6.35	9/18/2023	6.35	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoroheptanoic acid	6.67	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	6.67	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorobutanesulfonic acid	8.41	ng/L	9/1/2023	9/27/2023	LCMS/MS	5.91	8.41	9/18/2023	5.91	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	J	J_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorobutanoic acid	26.7	ng/L	9/1/2023	9/27/2023	LCMS/MS	26.7	26.7	9/18/2023	26.7	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	1H, 1H, 2H, 2H-Perfluorohexanesulfonic acid	25.0	ng/L	9/1/2023	9/27/2023	LCMS/MS	25.0	25.0	9/18/2023	25.0	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	24.9	ng/L	9/1/2023	9/27/2023	LCMS/MS	24.9	24.9	9/18/2023	24.9	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoro-1-octanesulfonamide	6.67	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	6.67	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Methylperfluoro-1-octanesulfonamide[N-]	6.67	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	6.67	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorododecanoic acid	6.67	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	6.67	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorohexanoic acid	6.95	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	6.95	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	J	J_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	4,8-Dioxa-3H-perfluorononanoic Acid	25.2	ng/L	9/1/2023	9/27/2023	LCMS/MS	25.2	25.2	9/18/2023	25.2	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	3-Perfluoropentyl propanoic acid	13.3	ng/L	9/1/2023	9/27/2023	LCMS/MS	13.3	13.3	9/18/2023	13.3	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Nonafluoro-3,6-dioxaheptanoic acid	13.3	ng/L	9/1/2023	9/27/2023	LCMS/MS	13.3	13.3	9/18/2023	13.3	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB

Table 2 (continued)

Field Sample ID	Location ID	Sample Date	Parameter Name	Report Result	Report Unit	Columns 27–41														
						Lab Receipt Date (27)	Lab Report Date (28)	Method Category (29)	Method Detection Limit (30)	Original Lab Result (31)	Preparation Date (32)	Report Method Detection Limit (33)	Result Type (34)	Sample Retrieval Date n (35)	Sampling Event (36)	Shipped Date (37)	Usable (38)	Validated Date (39)	Validation Qualifier (40)	Validation Reason Code (41)
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoro(2-ethoxyethane)sulphonic acid	11.9	ng/L	9/1/2023	9/27/2023	LCMS/MS	11.9	11.9	9/18/2023	11.9	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	25.2	ng/L	9/1/2023	9/27/2023	LCMS/MS	25.2	25.2	9/18/2023	25.2	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Hexafluoropropylene oxide dimer acid GenX	26.7	ng/L	9/1/2023	9/27/2023	LCMS/MS	26.7	26.7	9/18/2023	26.7	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorotridecanoic acid	6.67	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	6.67	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Ethylperfluoro-1-octanesulfonamide[N-]	6.67	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.67	6.67	9/18/2023	6.67	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoro-4-methoxybutanoic acid	13.3	ng/L	9/1/2023	9/27/2023	LCMS/MS	13.3	13.3	9/18/2023	13.3	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	3-Perfluoroheptyl propanoic acid	133	ng/L	9/1/2023	9/27/2023	LCMS/MS	133	133	9/18/2023	133	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorododecanesulfonic acid	6.47	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.47	6.47	9/18/2023	6.47	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluorononanesulfonic acid	6.43	ng/L	9/1/2023	9/27/2023	LCMS/MS	6.43	6.43	9/18/2023	6.43	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB
WT_PFAS-23-285278	PJ-SMA-5	8/25/2023	Perfluoro-3-methoxypropanoic acid	13.3	ng/L	9/1/2023	9/27/2023	LCMS/MS	13.3	13.3	9/18/2023	13.3	TRG	8/29/2023	PFAS Sample 1	8/31/2023	Yes	9/27/2023	U	U_LAB

Notes: Analytical laboratory codes and qualifiers are defined in section 5.

^a GELC = GEL Laboratories, LLC, Division of the GEL Group, Inc., Charleston, SC.

^b — = None.

^c TRG = Target analyte.

Table 3
Sampler Operability Status and Sampler Attempts

SMA	2023 Monitoring Season Sampler Operability and Sample Collection	Sampler Downtime (days)				Season Duration (days)
		Downtime Due To Triggering Event	Downtime Due To Equipment Failure	Downtime Due To Sample Collection	Total Downtime	
A-SMA-2.7	The sampler was activated for monitoring on 3/31/2023. The sampler was shut down for the monitoring season on 11/3/2023.	0	0	0	0	217
CDV-SMA-6.01	The sampler was activated for corrective action monitoring on 3/30/2023. The sampler was shut down for winter on 11/6/2023.	0	0	0	0	221
CHQ-SMA-5.05	The sampler was activated for monitoring on 4/24/2023. The sampler was shut down for winter on 11/7/2023.	0	0	0	0	197
LA-SMA-4.2	The sampler was activated for monitoring on 4/3/2023. The sampler was shut down for winter on 10/31/2023.	0	0	0	0	211
LA-SMA-5.01	The sampler was activated for baseline monitoring on 4/19/2023. The sampler was shut down for winter on 10/31/2023.	0	0	0	0	195
LA-SMA-6.32	The sampler was activated for monitoring on 4/12/2023. The sampler was shut down for winter on 11/1/2023.	0	0	0	0	203
M-SMA-12.92	The sampler was activated for monitoring on 4/21/2023. The sampler was shut down for winter on 11/9/2023.	0	0	0	0	202
M-SMA-3	The sampler was activated for monitoring on 4/3/2023. The sampler was shut down for winter on 10/25/2023.	0	0	0	0	205
PJ-SMA-2	The sampler was activated for monitoring on 3/30/2023. The sampler was shut down on 9/12/2023 because of Compliance Order on Consent soil sampling in the area.	0	0	0	0	166
PJ-SMA-5	The sampler was activated for monitoring on 4/6/2023. The sampler was enabled on 8/25/2023 and a full suite of samples were collected. The field crew retrieved the samples on 8/29/2023 and re-programed the sampler. The sampler was shut down for winter on 10/27/2023.	0	0	4	4	204
PJ-SMA-7	The sampler was activated for monitoring on 3/24/2023. The sampler was shut down for winter on 10/31/2023.	0	0	0	0	221
S-SMA-3.7	The sampler was activated for monitoring on 4/11/2023. The sampler was shut down for winter on 11/6/2023.	0	0	0	0	209
W-SMA-2.05	The sampler was activated for monitoring on 4/20/2023. The sampler was shut down for winter on 11/7/2023.	0	0	0	0	201
W-SMA-8	The sampler was activated for monitoring on 4/20/2023. The sampler was shut down for winter on 10/26/2023.	0	0	0	0	189
W-SMA-9.5	The sampler was activated for monitoring on 3/29/2023. The sampler was shut down for winter on 11/8/2023.	0	0	0	0	224

Appendix A

Sample Data Packages (on CD only)

N3B RECORDS	
Media Information Page	
This is a placeholder page for a record that cannot be uploaded or would lose meaning or content if uploaded. The record can be requested through regdocs@em-la.doe.gov	
Document Date: 1/31/2024	EM ID number: 703083-01
Document Title: Appendix A Submittal of the 2023 Annual Data Report for Per- and Polyfluoroalkyl Substances in Stormwater	<input checked="" type="checkbox"/> No restrictions <input type="checkbox"/> UCNI <input type="checkbox"/> Copyrighted
Media type and quantity: 1 CD	Software and version required to read media: Adobe Acrobat 9.0
Other document numbers or notes: Files are too numerous and large to upload.	