AECOM Imagine it. Delivered.

AECOM
3950 Sparks Drive Southeast
Grand Rapids, MI 49546
aecom.com

Project name:
PFAS Biosolids – Delhi

Project ref:
60588767

From:
AECOM

Date:
June 2023

To:
Stephanie Kammer
Michigan Department of Environment, Great Lakes and Energy – Water Resources Division
Constitution Hall, 3rd Floor, South Tower
525 West Allegan Street
P.O. Box 30473
Lansing, MI 48909-7973

CC:
Sydney Ruhala, EGLE

Addendum No. 1 Revision 1

Subject: Addendum No. 1 Revision 1 - Evaluation of Delhi Township Wastewater Treatment Plant Biosolids Land Application Sites 03N02W29-DT01 & DT02

1. Introduction

This document serves as an addendum to the Technical Memorandum titled *Evaluation of Delhi Township Wastewater Treatment Plant Biosolids Land Application Sites 03N02W29-DT01 & DT02.* The purpose of the investigation was to track the concentrations of per- and polyfluoroalkyl substances (PFAS), including possible fluctuations, at the land application sites. This document summarizes additional investigations at land application sites 03N02W29-DT01 (Site DT01) and 03N02W29-DT02 (Site DT02) from February 2020 through 2022. Groundwater monitoring wells installed at Site DT01 and Site DT02 were resampled on March 9, 2021, and April 27, 2022. The figures and tables provide both the recent and historic data.

2. Background

The March 2021 and April 2022 groundwater sampling event, conducted by AECOM, was performed in accordance with applicable AECOM, EGLE, and United States Environmental Protection Agency (USEPA) guidance documents, including the Scope of Work and the Quality Assurance Project Plan (QAPP), previously developed in 2018 and recently revised in March 2021. The USEPA has classified PFAS as emerging contaminants that EGLE regulates under Part 201, Environmental Remediation, and Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, Act 451 of 1994, as amended and their respective administrative rules, specifically Rule 299.44-299.50 (Generic Cleanup Criteria) and Rule 323.1057 (Rule 57) (Toxic Substances) of the Michigan Administrative Code. PFAS are a complex family of more than 4,750 human-made fluorinated organic chemicals. Due to their unique chemical properties, PFAS have been used in many industries and consumer products since the late 1950s.

The Delhi Township WWTP has an approved Industrial Pretreatment Program (IPP) but does not have the type of industrial users expected to be sources of PFAS. During its participation in the IPP PFAS Initiative, the Delhi Township WWTP found no sources of PFAS. AECOM initially sampled the influent, effluent, and biosolids at the Delhi Township WWTP on November 1, 2018. PFAS samples were also collected from multiple environmental media from two (2) agricultural fields, Sites DT01 and DT02, where biosolids from the Delhi Township WWTP were land applied (**Figure 1**). The results for the Delhi Township WWTP and the two (2) agricultural fields evaluated are presented in two (2) reports (AECOM, 2021a and 2021b).

3. Groundwater Sampling and Analytical Methodology

Site DT01 is a 12.3-acre field southeast of McCue Road and Grovenburg Road in Delhi Township, Michigan, bordering the northeast corner of the Delhi Township WWTP. The Blakeslee Drain flows along the eastern edge of Site DT02 until it connects with the Grovenburg Drain, which flows along the southern and eastern edge of Site DT01. Site DT02 is located directly south of Site DT01. Both Sites are owned by Delhi Charter Township (**Figure 1**). Surface soil, surface water, and groundwater were previously sampled for PFAS in 2019 and 2020. The following groundwater monitoring wells were resampled in March 2021 and April 2022: DT01-MW1D, DT01-MW1S, DT01-MW2D, DT01-MW2S, DT02-MW1D, DT02-MW1S, DT02-MW2D, and DT02-MW2S. The monitoring well locations and PFAS results are shown in **Figure 2**. A field duplicate sample was collected from DT01-MW1D in March 2021 and DT02-MW1S in April 2022 for quality control purposes.

Before collecting the groundwater samples, static water levels were measured using a decontaminated electronic water tape from the top of the well casing of each of the wells. Each monitoring well was purged, and groundwater samples were collected for PFAS analysis in laboratory supplied containers. Water quality parameters (temperature, specific conductance, pH, dissolved solids, oxidation-reduction potential, and turbidity) were recorded following AECOM groundwater Standard Operating Procedures using a YSI Pro DDS water quality meter. Water quality measurements recorded during purging are summarized in **Appendix A** and **Appendix B**.

4. Groundwater Sampling Results

The shallow and deep groundwater elevations from the fields sampled in March 2021 are presented in **Figure 3a-1** and **3b-1**. The shallow and deep groundwater elevations from the fields sampled in April 2022 are presented in **Figure 3a-2** and **3b-2.** The shallow groundwater flows towards the Grovenburg Drain between the two fields (**Figures 3a-1** and **3a-2**). The deep groundwater flows southwest within the area (**Figures 3b-1** and **3b-2**). The regional groundwater elevation map based on EGLE-provided groundwater elevation data is provided in **Figure 4** and shows that the groundwater comes from north and south of the subject fields and flows inward toward the Grovenburg Drain, which agrees with the measured shallow groundwater flow.

The laboratory analytical results for groundwater samples collected in March 2021 and April 2022 from monitoring wells DT01-MW1D, DT01-MW1S, DT01-MW2D, DT01-MW2S, DT02-MW1D, DT02-MW1S, DT02-MW2D, and DT02-MW2S summarized below and are presented in **Table 1**. Laboratory analytical reports are provided in **Appendix C** and **Appendix D**.

The total PFAS, perfluorooctanoic acid (PFOA), and perfluorooctane sulfonic acid (PFOS) data from the eight (8) monitoring wells are summarized below.

Groundwater Sample Location	Sample Date	Field Site	Total PFAS[1]	PFOA[1]	PFOS[1]
GW2103091530GSC	3/09/2021	DT01-MW1D	ND	< 4.19	< 4.19
GW2103091530GSC-FD	3/09/2021	DT01-MW1D	ND	< 4.10	< 4.10
GW2204271500GSC	4/27/2022	DT01-MW1D	ND	< 3.89	< 3.89
GW2103091500GSC	3/09/2021	DT01-MW1S	**4.82**	< 3.90	< 3.90
GW2204271350GSC	4/27/2022	DT01-MW1S	**11.53**	< 3.97	< 3.97
GW2103091340GSC	3/09/2021	DT01-MW2D	ND	< 4.11	< 4.11
GW2204271300GSC	4/27/2022	DT01-MW2D	ND	< 4.00	< 4.00
GW2103091415GSC	3/09/2021	DT01-MW2S	**9.07**	< 3.92	< 3.92
GW2204271220GSC	4/27/2022	DT01-MW2S	**2.16**	< 3.85	< 3.85
GW2103091220GSC	3/09/2021	DT02-MW1D	**4.06**	< 3.88	< 3.88
GW2204271125GSC	4/27/2022	DT02-MW1D	**5.96**	< 3.99	< 3.99
GW2103091255GSC	3/09/2021	DT02-MW1S	**86.86**	**3.25**	< 4.11
GW2204271035GSC	4/27/2022	DT02-MW1S	**163.21**	**7.83**	< 4.00
GW2204271035GSC-FD	4/27/2022	DT02-MW1S	**171.42**	**7.97**	< 4.00
GW2103091050GSC	3/09/2021	DT02-MW2D	**12.41**	< 3.99	< 3.99
GW2204270950GSC	4/27/2022	DT02-MW2D	ND	< 4.02	< 4.02
GW2103091010GSC	3/09/2021	DT02-MW2S	**38.60**	< 3.90	< 3.90
GW2204270900GSC	4/27/2022	DT02-MW2S	**37.54**	**1.10**	< 3.94

[1]Units are in nanograms per liter (ng/L) or parts per trillion. ND = there was no PFAS detected; please refer to Table 1 for the detection limits for each individual PFAS. Detections are shown in bold.

PFOA was detected in samples collected in March 2021 and April 2022 from DT02-MW1S and in April 2022 from DT02-MW2S. However, concentrations of PFOA did not exceed the Part 201 Residential and Nonresidential Drinking-Water Criteria (DWC) for PFOA of 8 ng/L. The other five (5) monitoring wells reported non-detectable values for PFOA. PFOS, which has a Part 201 DWC of 16 ng/L, was not detected in any of the eight (8) monitoring wells. There were no exceedances for the additional Part 201 DWC in 2021 or 2022 for perfluorohexane sulfonic acid (PFHxS), perfluorohexanoic acid (PFHxA), perfluorononanoic acid (PFNA), perfluorobutane sulfonic acid (PFBS), or hexafluoropropylene oxide-dimer acid (HFPO-DA) of 51, 400,000, 6, 420, and 370 ng/L, respectively.

PFAS was detected in six (6) of the eight (8) sampled monitoring wells. Of the 29 PFAS compounds analyzed, perfluorobutanoic acid (PFBA), perfluoropentanoic acid (PFPeA), PFHxA, perfluoroheptanoic acid (PFHpA), PFOA, PFNA and PFBS, were detected in the samples collected in March 2021 and April 2022. Perfluoropentane sulfonic acid (PFPeS) and PFHxS were also detected in April 2022. In March 2021, the highest total PFAS concentration of 86.86 ng/L was detected in the shallow, downgradient monitoring well DT02-MW1S, along the northern edge of Site DT02. Monitoring well DT02-MW1S also had the highest total PFAS concentration in April 2022 of 171.42 ng/L. DT02-MW1S is screened from 2 to 7 feet (ft) below ground surface (bgs), likely in a perched groundwater zone. This monitoring well also had the highest PFAS concentration for many of the detected PFAS. There were low detections of PFBA (i.e., 2.53 ng/L) and PFPeA (i.e., 3.43 ng/L) at the deeper well in this cluster, DT02-MW1D, screened from 12 to 17 ft bgs. The concentrations detected in April 2022 were similar to those detected in March 2021.

There were detections of PFBA, PFBS and PFPeS in the shallow monitoring well DT02-MW2S screened from 15 to 20 ft bgs. The PFAS concentrations in DT02-MW2S in April 2022 were similar to those from March 2021. In March 2021, concentrations of PFBA and PFBS were detected in the deeper monitoring well DT02-MW2D screened from 25 to 30 ft bgs, but no PFAS compounds were detected in April 2022. Both PFBA and PFBS are short-chain PFAS that adsorb less to soil when compared to similar PFAS with longer carbon chains from their families and are therefore expected to

travel more easily in groundwater and be detected more frequently. These two PFAS may be detected in the future, most likely at similar concentrations as those detected since 2020.

At Site DT01, only the shallow wells contained PFAS concentrations in March 2021 and April 2022. The most frequently detected PFAS, PFBS and PFBA, were also detected in DT01-MWS1 and DT01-MW2S. The PFAS concentrations were similar in 2021 and 2022. Only PFBS was detected in DT01-MW2S during all three years. DT01-MW1S is screened from 2 to 7 ft bgs, the same depth as DT02-MW1S. DT01-MW2S is screened from 6.5 to 11.5 ft bgs, and DT01-MW01D and DT01-MW02D are screened from 20 to 25 bgs.

5. Conclusions

The shallow groundwater flow continues to be generally inward toward the Grovenburg Drain between the two fields, with the maximum total PFAS concentration detected in downgradient well DT02-MW1S and the second highest total PFAS concentration in monitoring well DT02-MW2S. The PFAS concentrations detected in April 2022 were similar to those detected in March 2021 and January 2020. The regional groundwater flow shows the same flow pattern as those identified using the shallow monitoring wells. The deeper groundwater flow was determined to be to the southwest.

The groundwater at Sites DT01 and DT02 showed a low impact of short and long-chain PFAS, with the majority of PFAS detections being short-chain such as PFBA and PFBS. The short-chain PFAS have lower affinity to soils and are expected to be more easily transported in the aquifer. No exceedances of the Part 201 DWC were observed. Based on the regional groundwater flow, location of residential wells in the area, and minimal PFAS concentrations identified in the deep wells, there does not appear to be a potential risk to the downgradient drinking water wells.

6. References

AECOM, Evaluation of PFAS in Influent, Effluent, and Residuals of Wastewater Treatment Plants (WWTPs) in Michigan, April 2021a. Retrieved from: https://www.michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/IPP/pfas-initiatives-statewide-full-report.pdf

AECOM, Evaluation of Delhi Township Wastewater Treatment Plant Biosolids Land Application Sites 03N02W29-DT01 & DT02, AECOM, April 2021b. Retrieved from: https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Programs/WRD/Biosolids/PFAS-Biosolids-Field-Report-A-Delhi-WWTP.pdf

Michigan Department of Environment, Great Lakes, and Energy, *General PFAS Sampling Guidance* [Technical Guidance], 2018. Retrieved from: https://www.michigan.gov/pfasresponse/-/media/Project/Websites/PFAS-Response/Sampling-Guidance/General.pdf

Michigan Department of Environment, Great Lakes, and Energy, *Groundwater PFAS Sampling Guidance* [Technical Guidance], 2018. Retrieved from: https://www.michigan.gov/pfasresponse/-/media/Project/Websites/PFAS-Response/Sampling-Guidance/Groundwater.pdf

Attachments:

Figure 1	– Delhi Biosolids Application Fields Overview
Figure 2	– 03N02W29-DT01 & DT02 Groundwater Sampling Results
Figure 3a-1	– 03N02W29-DT01 & DT02 2021 Shallow Groundwater Contours
Figure 3a-2	– 03N02W29-DT01 & DT02 2022 Shallow Groundwater Contours
Figure 3b-1	– 03N02W29-DT01 & DT02 2021 Deep Groundwater Contours
Figure 3b-2	– 03N02W29-DT01 & DT02 2022 Deep Groundwater Contours
Figure 4	– 03N02W29-DT01 & DT02 Potential Receptors
Table 1	– 03N02W29-DT01 & DT02 Groundwater PFAS Analytical Results Summary
Appendix A	– 2021 Field Forms
Appendix B	– 2022 Field Forms
Appendix C	– 2021 Analytical Reports
Appendix D	– 2022 Analytical Reports

Figures

AECOM

Drawn: AA	Date: 2/1/2023
Approved: DB	Date: 2/4/2023
Project #: 60588767	

Legend

- Waste Water Treatment Plant
- Biosolids Application

N

0 1 2 Miles

FIGURE 1
DELHI BIOSOLIDS APPLICATION FIELDS OVERVIEW

DELHI, MI

Document Path: Z:\GrandRapids-USGRR01\DCS\GIS\ArcMap_GeoDB_Projects\ENV\GIS_Data\GIS\Biosolids_MDEQ\MXD\Delhi\2022\F1_Page16_Delhi_Fields_Overview.mxd

DT01-MW01S (Screen 2-7 ft bgs) 1/13/2020
21.4 (1.9 | 3 | ND | 9.8 | 1.4 | 1.5 | NA)
3/9/2021
4.8 (ND | ND | ND | 4.8 | ND | ND | ND)
4/27/2022
11.53 (ND | ND | ND | 10.3 | 1.23 | ND | ND)

DT01-MW01D (Screen 20-25 ft bgs) 1/13/2020
ND (ND | ND | ND | ND | ND | ND | NA)
3/9/2021
ND (ND | ND | ND | ND | ND | ND | ND)
4/27/2022
ND (ND | ND | ND | ND | ND | ND | ND)

DT02-MW01S (Screen 2-7 ft bgs) 1/14/2020
96.8 (11.6 | 5.7 | ND | 62.1 | ND | ND | NA)
3/9/2021
86.9 (10 | 3.3 | ND | 57.9 | ND | ND | ND)
4/27/2022
171.42 (29.4 | 7.97 | ND | 76.7 | ND | ND | ND)

DT02-MW01D (Screen 12-17 ft bgs) 1/14/2020
2.2 (ND | ND | ND | ND | ND | ND | NA)
3/9/2021
4.1 (ND | ND | ND | ND | ND | ND | ND)
4/27/2022
5.96 (ND | ND | ND | ND | ND | ND | ND)

03N02W29-DT01

03N02W29-DT02

DT01-MW02S (Screen 6.5-11.5 ft bgs) 1/13/2020
20.2 (ND | ND | ND | 13.4 | ND | ND | NA)
3/9/2021
9.1 (ND | ND | ND | 9.1 | ND | ND | ND)
4/27/2022
2.16 (ND | ND | ND | 2.16 | ND | ND | ND)

DT01-MW02D (Screen 20-25 ft bgs) 1/13/2020
ND (ND | ND | ND | ND | ND | ND | NA)
3/9/2021
ND (ND | ND | ND | ND | ND | ND | ND)
4/27/2022
ND (ND | ND | ND | ND | ND | ND | ND)

DT02-MW02S (Screen 15-20 ft bgs) 1/13/2020
2.7 (ND | ND | ND | 2.7 | ND | ND | NA)
3/9/2021
38.6 (ND | ND | ND | 35.5 | ND | ND | ND)
4/27/2022
40.96 (ND | 1.10 | ND | 33.0 | 2.32 | ND | ND)

DT02-MW02D (Screen 35-40 ft bgs) 1/13/2020
7.7 (ND | ND | ND | 4.3 | ND | ND | NA)
3/9/2021
12.4 (ND | ND | ND | 10.3 | ND | ND | ND)
4/27/2022
ND (ND | ND | ND | ND | ND | ND | ND)

MrA
Co
Pa
Pa
Co
Co
MaB
CvraaB

AECOM

Drawn: AA Date: 2/1/2023

Approved: DB Date: 2/4/2023

Project #: 60588767

Legend

Monitoring Well Sample

Biosolids Application Field

Soil Type

Sample Location (Well Screen) Sample Date
Total PFAS (PFHxA | PFOA | PFNA | PFBS | PFHxS | PFOS | HFPO-DA)

All sample results are in ng/L
ND = non-detect, refer to summary groundwater table for detailed results.
NA = Not Analyzed
Red text indicates exceedance of Part 201 DWC.

Michigan Part 201 Residential & Nonresidential Drinking Water Criteria (DWC), ng/L

PFHxA = 400,000	PFBS = 420
PFOA = 8	PFHxS = 51
PFNA = 6	PFOS = 16
	HFPO-DA = 370

Total PFAS is the sum of 24 and 29 PFAS analytes for samples collected in 2020 and 2021/2022, respectively.

0 170 340 680 Feet

N

FIGURE 2
03N02W29-DT01 & DT02
GROUNDWATER SAMPLING RESULTS

DELHI, MI

Document Path: Z:\GrandRapids-USGRR01\DCS\GIS\ArcMap_GeoDB_Projects\ENV\GIS_Data\GIS\Biosolids_MDEQ\MXD\Delhi\2022\F2_Delhi_DT01_DT02_GW_Part201_Chembox.mxd

AECOM

Drawn:	AA	Date: 2/1/2023
Approved:	DB	Date: 2/4/2023
Project #:	60588767	

Legend

- Monitoring Well Sample
- Biosolids Application Field
- Shallow Groundwater (GW) Contours (4 ft interval)
- Estimated Shallow GW Flow Direction

Note: All Groundwater Elevations are Estimated Using Measured Depth to Water From DEM Ground Elevation
* = Perched Elevation

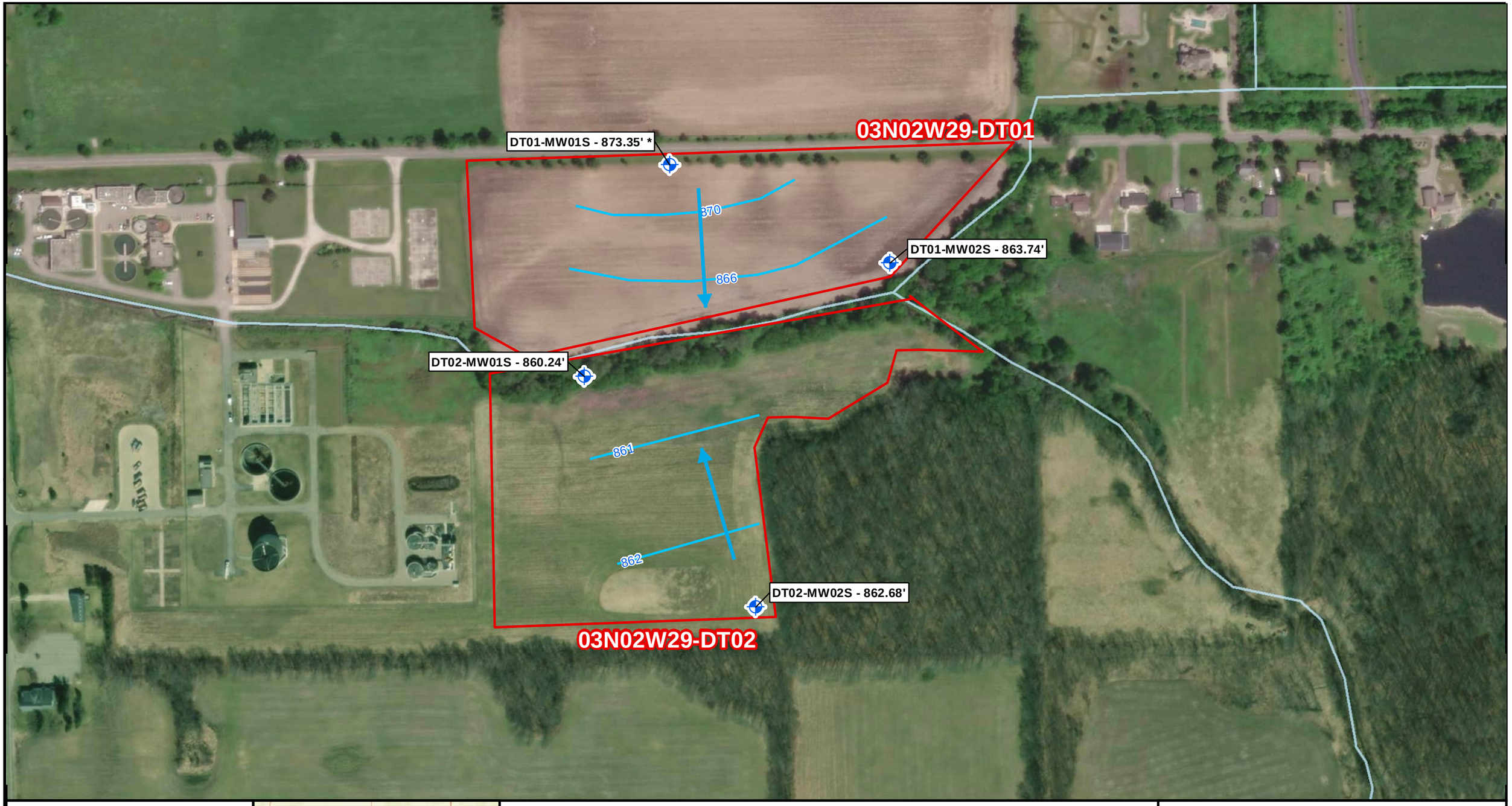
N

0 100 200 300 400 500 1,000 Feet

FIGURE 3a-1
03N02W29-DT01 & DT02
2021 SHALLOW GROUNDWATER CONTOURS

DELHI, MI

Document Path: Z:\GrandRapids-USGRR01\DCS\GIS\ArcMap_GeoDB_Projects\ENV\GIS_Data\GIS\Biosolids_MDEQ\MXD\Delhi\2022\F3a-1_Delhi_DT01_DT02_Shallow_GW_Contours.mxd



AECOM

Drawn:	AA	Date:	2/1/2023
Approved:	DB	Date:	2/4/2023
Project #:	60588767		

Legend

- Monitoring Well Sample
- Biosolids Application Field
- Shallow Groundwater (GW) Contours (4 ft interval)
- Estimated Shallow GW Flow Direction

Note: All Groundwater Elevations are Estimated Using Measured Depth to Water From DEM Ground Elevation
* = Perched Elevation

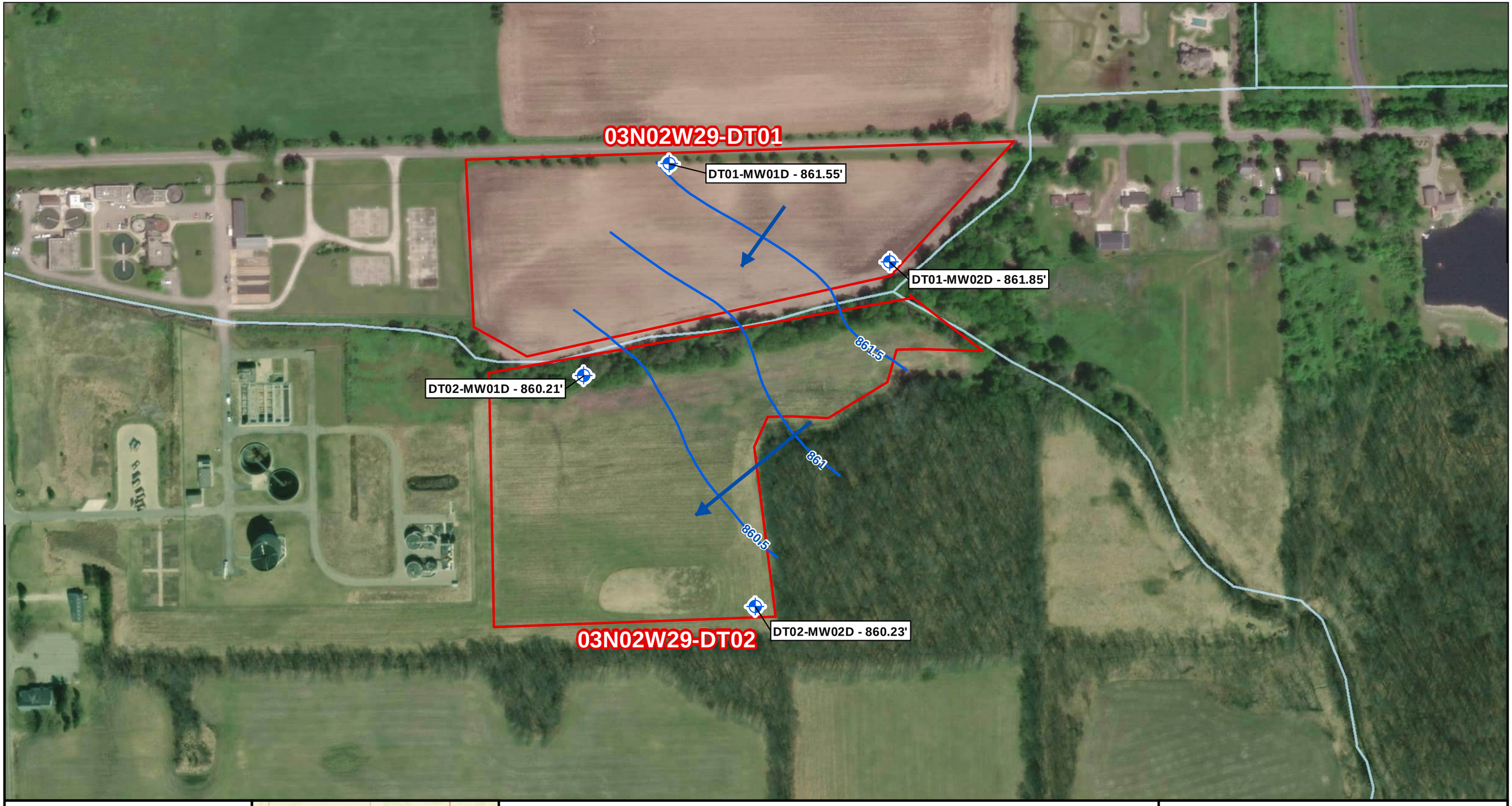
N

0 100 200 300 400 500 1,000 Feet

FIGURE 3a-2
03N02W29-DT01 & DT02
2022 SHALLOW GROUNDWATER CONTOURS

DELHI, MI

Document Path: Z:\GrandRapids-USGRR01\DCS\GIS\ArcMap_GeoDB_Projects\ENV\GIS_Data\GIS\Biosolids_MDEQ\MXD\Delhi\2022\F3a-2_Delhi_DT01_DT02_Shallow_GW_Contours.mxd



AECOM

Drawn:	AA	Date:	2/1/2023
Approved:	DB	Date:	2/4/2023
Project #:	60588767		

Legend

- Monitoring Well Sample
- Biosolids Application Field
- Deep Groundwater (GW) Contours (0.5 ft interval)
- Estimated Deep GW Flow Direction

Note: All Groundwater Elevations are Estimated Using Measured Depth to Water From DEM Ground Elevation

N

0 100 200 300 400 500 1,000 Feet

FIGURE 3b-1
03N02W29-DT01 & DT02
2021 DEEP GROUNDWATER CONTOURS

DELHI, MI

Document Path: Z:\GrandRapids-USGRR01\DCS\GIS\ArcMap_GeoDB_Projects\ENV\GIS_Data\GIS\Biosolids_MDEQ\MXD\Delhi\2022\F3b-1_Delhi_DT01_DT02_Deep_GW_Contours.mxd

DT01-MW01D - 863.44'

03N02W29-DT01

DT01-MW02D - 863.21'

863

DT02-MW01D - 861.83'

862.5

862

03N02W29-DT02

DT02-MW02D - 861.56'

AECOM

Drawn: AA Date: 2/1/2023

Approved: DB Date: 2/4/2023

Project #: 60588767

Legend

- Monitoring Well Sample
- Biosolids Application Field
- Deep Groundwater (GW) Contours (0.5 ft interval)
- Estimated Deep GW Flow Direction

Note: All Groundwater Elevations are Estimated Using Measured Depth to Water From DEM Ground Elevation

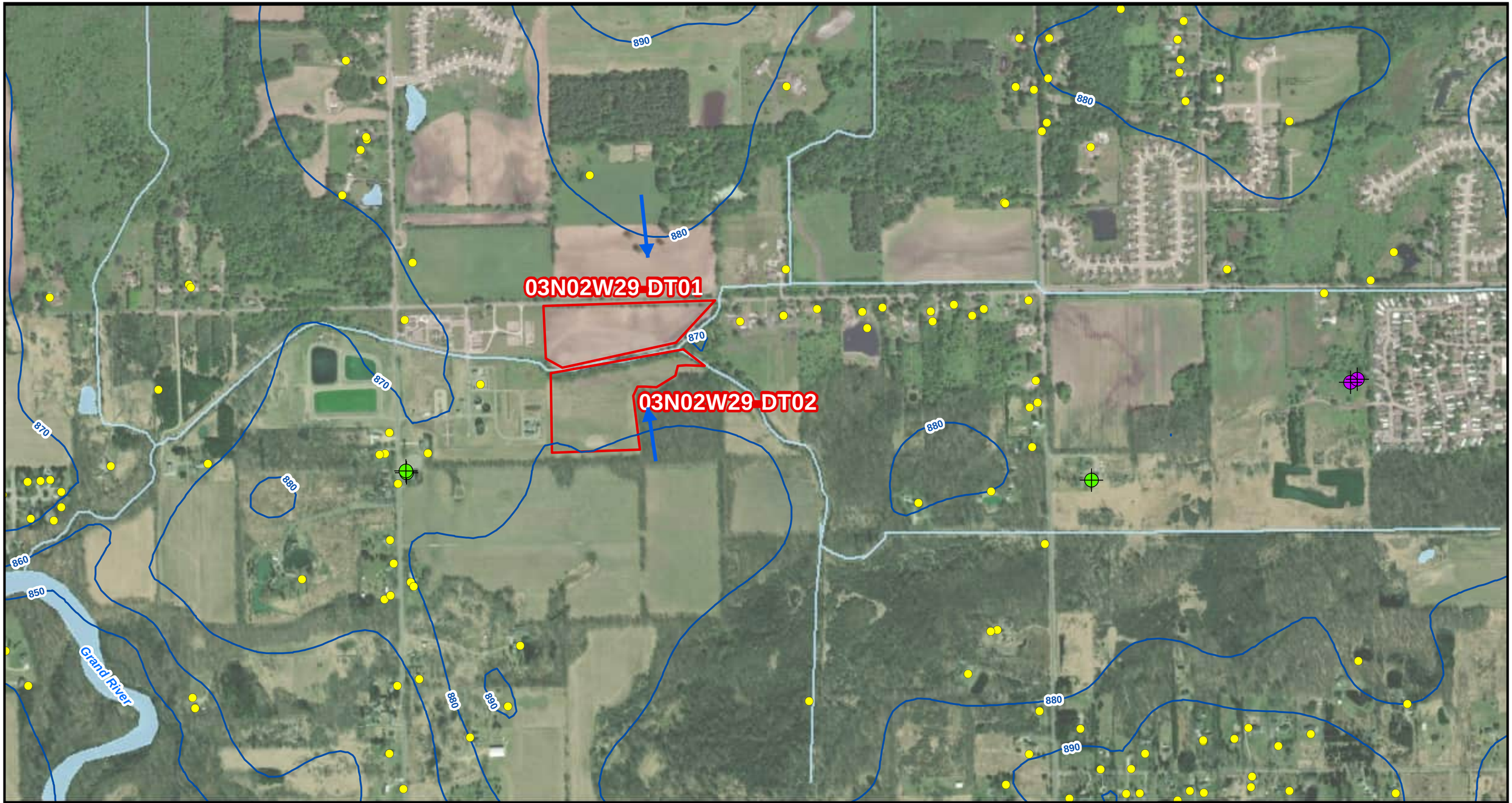
N

0 100 200 300 400 500 1,000 Feet

FIGURE 3b-2
03N02W29-DT01 & DT02
2022 DEEP GROUNDWATER CONTOURS

DELHI, MI

Document Path: Z:\GrandRapids-USGRR01\DCS\GIS\ArcMap_GeoDB_Projects\ENV\GIS_Data\GIS\Biosolids_MDEQ\MXD\Delhi\2022\F3b-2_Delhi_DT01_DT02_Deep_GW_Contours.mxd



AECOM

Drawn:	AA	Date: 2/1/2023
Approved:	DB	Date: 2/4/2023
Project #:	60588767	

Legend

- Wellogic Water Wells
- Wellogic Type I Wells
- Wellogic Type II Wells
- Biosolids Application Field
- GW Elevation Contours (10' interval)
- Approximate GW Flow Direction

N

0 400 800 1,200 1,600 2,000 4,000 Feet

FIGURE 4
03N02W29-DT01 & DT02
POTENTIAL RECEPTORS

DELHI, MI

Document Path: Z:\GrandRapids-USGRR01\DCS\GIS\ArcMap_GeoDB_Projects\ENV\GIS_Data\GIS\Biosolids_MDEQ\MXD\Delhi\2022\F4_Delhi_DT01_DT02_Potential_Receptors.mxd

Table

Table 1

03N02W29-DT01 & DT02 Groundwater

PFAS Analytical Results Summary

Location	Sample Date	Total PFAS	PFBA		PFPeA		PFHxA		PFHpA		PFOA		PFNA		PFDA		PFUnA		PFDoA		PFTrDA		PFTeDA		PFBS		PFPeS		PFHxS		PFHpS		PFOS		PFNS		PFDS		FOSA		4:2 FTSA		6:2 FTSA		8:2 FTSA		N-EtFOSAA		NMeFOSAA		PFECHS		9Cl-PF3ONS		11Cl-PF3OUdS		ADONA		HFPO-DA	
DELH-DT01-MW1D	1/13/2020	**ND**	< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		---		---		---		---		---	
	3/9/2021	**ND**	< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19		< 4.19	
	3/9/2021 FD	**ND**	< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10		< 4.10	
	4/27/2022	**ND**	< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89		< 3.89	
DELH-DT01-MW1S	1/13/2020	**21**	**1.88**	J	**1.94**	J	**1.89**	J	< 3.95		**3.00**	J	< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		**9.82**		< 3.95		**1.36**	J	< 3.95		**1.5**	J, Q	< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		---		---		---		---		---	
	3/9/2021	**5**	< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		**4.82**		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90	
	4/27/2022	**12**	< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		**10.3**		< 3.97		**1.23**	J	< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97		< 3.97	
DELH-DT01-MW2D	1/13/2020	**ND**	< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04		< 4.04	
	3/9/2021	**ND**	< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11	
	4/27/2022	**ND**	< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00	
DELH-DT01-MW2S	1/13/2020	**20**	**6.81**		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		**13.4**		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06		< 4.06	
	1/13/2020 FD	**20**	**6.60**		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		**13.8**		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		< 3.98		---		---		---		---		---	
	3/9/2021	**9**	< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		**9.07**		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92		< 3.92	
	4/27/2022	**2**	< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		**2.16**	J	< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85		< 3.85	
DELH-DT02-MW1D	1/14/2020	**2**	**2.22**	J	< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		< 3.93		---		---		---		---		---	
	3/9/2021	**4**	**2.36**	J	**1.7**	J	< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88		< 3.88	
	4/27/2022	**6**	**2.53**	J	**3.43**	J	< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99	
DELH-DT02-MW1S	1/14/2020	**97**	**6.1**		**7.67**		**11.6**		**3.68**	J,Q	**5.65**		< 4.24		< 4.24		< 4.24		< 4.24		< 4.24		< 4.24		**62.1**		< 4.24		< 4.24		< 4.24		< 4.24		< 4.24		< 4.24		< 4.24		< 4.24		< 4.24		< 4.24		< 4.24		< 4.24		---		---		---		---		---	
	3/9/2021	**87**	**5.56**		**7.41**		**10**		**2.74**	J	**3.25**	J	< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		**57.9**		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11		< 4.11	
	4/27/2022	**163**	**17.7**		**31**		**29**		**8.18**		**7.83**		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		**69.5**		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00	
	4/27/2022 FD	**171**	**17.6**		**31.4**		**29.4**		**8.35**		**7.97**		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		**76.7**		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00	
DELH-DT02-MW2D	1/13/2020	**8**	**3.45**	J	< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		**4.27**		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		< 4.00		---		---		---		---		---	
	3/9/2021	**12**	**2.11**	J	< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		**10.3**		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99		< 3.99	
	4/27/2022	**ND**	< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02		< 4.02	
DELH-DT02-MW2S	1/13/2020	**3**	< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		**2.67**	J	< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		< 3.95		---		---		---		---		---	
	3/9/2021	**39**	**3.1**	J	< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		**35.5**		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90		< 3.90	
	4/27/2022	**38**	**3.44**	J	< 3.94		< 3.94		< 3.94		**1.1**	J, Q	< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		**33**		**1.1**	J	2.32	J	< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94		< 3.94	

All values are in nanograms per liter (**ng/L**) or parts per trillion (**ppt**)
"<" = Values Below Level of Quantitation (**LOQ**)
"--" = Not analyzed
"J" = Estimated Concentration. The amount detected is below the LOQ.
"B" = This compound was also detected in the method blank.
"D" = Dilution was performed.
"Q" =The ion transition ratio is outside of the acceptance criteria.
Bolded values indicate detection

Perfluoroalkyl Carboxylic Acids (**PFCAs**)
Perfluoroalkane Sulfonic Acids (**PFSAs**)
Perfluoroalkane Sulfonamides (**FASAs**)
Fluorotelomer Sulfonic Acids (**FTSAs**)
N-Ethyl Perfluoroalkane Sulfonamidoacetic Acids (**EtFASAAs**)
N-Methyl Perfluoroalkane Sulfonamidoacetic Acids (**MeFASAAs**)
Cyclic PFAS
PFAS Replacement Chemistry Compounds

PFBA = Perfluorobutanoic acid
PFPeA = Perfluoropentanoic acid
PFHxA = Perfluorohexanoic acid
PFHpA = Perfluoroheptanoic acid
PFOA = Perfluorooctanoic acid
PFNA = Perfluorononanoic acid
PFDA = Perfluorodecanoic acid
PFUnDA = Perfluoroundecanoic acid
PFDoDA = Perfluorododecanoic acid
PFTrDA = Perfluorotridecanoic acid
PFTeDA = Perfluorotetradecanoic acid
PFBS = Perfluorobutane sulfonic acid
PFPeS = Perfluoropentane sulfonic acid
PFHxS = Perfluorohexane sulfonic acid
PFHpS = Perfluoroheptane sulfonic acid
PFOS = Perfluorooctane sulfonic acid
PFNS = Perfluorononane sulfonic acid
PFDS = Perfluorodecane sulfonic acid
FOSA = Perfluorooctane sulfonamide
4:2 FTSA = 4:2 Fluorotelomer sulfonic acid
6:2 FTSA = 4:2 Fluorotelomer sulfonic acid
8:2 FTSA = 4:2 Fluorotelomer sulfonic acid
9Cl-PF3ONS or F53B-Minor = 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid
11Cl-PF3ONS or F53B-Major = 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid
PFECHS = Perfluoroethylcyclohexanesulfonate
EtFOSAA = N-Ethyl perfluorooctane sulfonamidoacetic acid
MeFOSAA = N-Methyl perfluorooctane sulfonamidoacetic acid
ADONA = Dodecafluoro-3H-4,8-dioxanonanoate
HFPO-DA or Gen-X = Hexafluoropropylene oxide dimer acid

EGLE Part 201 Drinking Water Criteria (DWC) (ng/L)
PFOA = 8; PFOS = 16; PFNA =6; PFHxS=51
PFHxA = 400,000; PFBS = 420; HFPO-DA = 370;

Concentration exceeds DWC criteria
Concentration exceeds GSI criteria
Concentration exceeds both DWC and GSI criteria

EGLE Part 201 Groundwater Surfacewater Interface (GSI) Criteria (ng/L)
(Surface water not used for drinking water - Non-drink)
PFOA = 170
PFOS = 12
PFBS = 670,000

Appendix A –
2021 Field Forms

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT01-MW01D GW210309S30GSL-FD

Client: EGLE
Project: Delhi
Project #: ~~6088~~ 60588767

Sample ID: ~~GW2T09~~ GW210309S30GSL

INSPECTION

Label on well?	(YES)	NO	NA	Is cap locked?	(YES)	NO	NA
Is reference mark visible?	YES	(NO)	NA	Standing water present?	YES	(NO)	NA
Condition of well	good			Any indication of surface runoff in well?	YES	(NO)	NA
Weather	clear			Air Temperature:	65°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 3-9-21 Time: 1505 AM/PM

Depth to Water: 15.83 Measured with: (Electronic Tape)

Length of Well: 29.14 Decontamination: (DI Water)

WELL PURGING

Date: 3-9-21 Begin Time: 1505 AM/PM Purging Equipment: Peristaltic

End Time: 1515 AM/PM Decontamination: ~~Pre-Steam Cleaned~~ (New Tubing) DI Water Other

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well

_____ ft. - depth of water (before purge start)

_____ ft. =length of water column

x conversion factor (2" well) 0.16

_____ Gal. =1 casing volume

Yield: (HIGH) LOW

If low, recovery time: _____

Actual volume purged 2 gallons

Actual purge flow rate 300 ml/min or L/min

Notes: Field Duplicate
10 minutes orange colored purge water

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1515	.4	16.31	7.10	0.467	11.57	0.36	11.5	-125.2
1520	.8	16.31	7.13	0.467	5.76	0.15	11.5	-141.6
1525	1.2	16.31	7.15	0.467	6.07	0.12	11.6	-148.3
1530	1.6	16.31	7.18	0.470	8.31	0.04	11.7	-158.7
						0.04		
Final: 1530	1.6	16.31	7.18	0.470	8.31	~~0.04~~	11.7	-158.7

SAMPLE COLLECTION

Date: 3-9-21 Time: 1530 AM/PM Method Low Flow

Appearance of Sample: clear Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 6-250ml HDPE Bottles

SAMPLING PERSONNEL

Name: Garth Cashman Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT01-MW01S

Client: EGLE
Project: Delhi
Project #: 60588767

Sample ID: ~~GW2109 GSC~~ GW210309 1500 GSC

INSPECTION

Label on well?	YES	NO	NA	Is cap locked?	YES	NO	NA
Is reference mark visible?	YES	NO	NA	Standing water present?	YES	NO	NA
Condition of well	good			Any indication of surface runoff in well?	YES	NO	NA
Weather	clear			Air Temperature:	65°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 3-9-21 Time: 1430 AM/PM

Depth to Water: 6.14 Measured with: Electronic Tape

Length of Well: 10.53 Decontamination: DI Water

WELL PURGING

Date: 3-9-21 Begin Time: 1430 AM/PM Purging Equipment: Peristaltic

End Time: 1445 AM/PM Decontamination: Pre Steam Cleaned New Tubing | DI Water | Other

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well

_____ ft. - depth of water (before purge start)

_____ ft. =length of water column

x conversion factor (2" well) 0.16

_____ Gal. =1 casing volume

Yield: (HIGH) LOW

If low, recovery time: _____

Actual volume purged 2 gallons

Actual purge flow rate 200 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1445	.3	6.14	7.45	0.417	9.29	10.23	6.9	-12.9
1450	.6	6.35	7.46	0.410	6.27	10.61	6.9	-8.2
1455	.9	6.35	7.46	0.404	4.85	10.75	6.9	-7.0
1500	1.2	6.35	7.46	0.403	4.21	10.83	6.8	-6.4
Final: 1500	1.2	6.35	7.46	0.403	4.21	10.83	6.8	-6.4

SAMPLE COLLECTION

Date: 3-9-21 Time: 1500 AM/PM Method Low flow

Appearance of Sample: clear Actual Sample Flow Rate: 200 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2-250ml Bottles

SAMPLING PERSONNEL

Name: Garth Cashnear Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Client: EGLE
Project: Delhi
Project #: 60588767

Well ID: DTOL-MW02S

FB2103091400GSC

Sample ID: GW210309 1415 GSC

INSPECTION

Label on well?	YES	NO	NA	Is cap locked?	YES	NO	NA
Is reference mark visible?	YES	NO	NA	Standing water present?	YES	NO	NA
Condition of well	good			Any indication of surface runoff in well?	YES	NO	NA
Weather	Hazy			Air Temperature:	62°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 3-9-21 Time: 1350 AM/PM

Depth to Water: 8.07 Measured with: Electronic Tape

Length of Well: 14.06 Decontamination: DI Water

WELL PURGING

Date: 3-9-21 Begin Time: 1350 AM/PM Purging Equipment: Peristaltic Pump

End Time: 1355 AM/PM Decontamination: Pre Steam Cleaned New Tubing DI Water Other

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well

_____ ft. - depth of water (before purge start)

_____ ft. =length of water column

x conversion factor (2" well) 0.16

_____ Gal. =1 casing volume

Yield: HIGH LOW

If low, recovery time: _____

Actual volume purged 2 gallons

Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1400	.4	8.47	6.80	1.123	9.01	3.31	8.7	-31.7
1405	.8	8.57	6.80	1.138	9.15	3.01	9.2	-34.6
1410	1.2	8.57	6.80	1.140	9.10	3.00	9.2	-35.1
1415	1.6	8.57	6.80	1.163	8.16	3.00	9.2	-36.5
Final: 1415	1.6	8.57	6.80	1.163	8.16	3.00	9.2	-36.5

SAMPLE COLLECTION

Date: 3-9-21 Time: 1415 AM/PM Method Low Flow

Appearance of Sample: clear Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2-250ml Bottles / 2-250ml Bottles Field Blank

SAMPLING PERSONNEL

Name: Garth Castner Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT01-MW02D

Client: EGLE
Project: Delhi
Project #: 60588767

Sample ID: GW210309 1340 GSC

INSPECTION

Label on well?	(YES)	NO	NA	Is cap locked?	(YES)	NO	NA
Is reference mark visible?	YES	(NO)	NA	Standing water present?	YES	(NO)	NA
Condition of well	good			Any indication of surface runoff in well?	YES	(NO)	NA
Weather	clear			Air Temperature:	61°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 3-9-21 Time: 1310 AM/PM

Depth to Water: 8.14 Measured with: (Electronic Tape)

Length of Well: 26.50 Decontamination: (DI Water)

WELL PURGING

Date: 3-9-21 Begin Time: 1310 AM/PM Purging Equipment: Peristaltic

End Time: 1320 AM/PM Decontamination: Pre Steam Cleaned DI Water Other (New Tubing)

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well

_____ ft. - depth of water (before purge start)

_____ ft. =length of water column

x conversion factor (2" well) 0.16

_____ Gal. =1 casing volume

Yield: ~~HIGH~~ LOW

If low, recovery time: _____

Actual volume purged 2 gallons

Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1320	.4	8.14	7.08	0.600	4.10	0.95	10.2	-103.3
1325	.8	8.14	7.09	0.601	6.32	0.86	10.3	-108.8
1330	1.2	8.14	7.09	0.601	3.91	0.71	10.2	-113.8
1335	1.6	8.14	7.10	0.600	4.41	0.69	10.2	-115.0
1340	2.0	8.14	7.10	0.601	6.63	0.65	10.2	-116.9
Final: 1340	2.0	8.14	7.10	0.601	6.63	0.65	10.2	-116.9

SAMPLE COLLECTION

Date: 3-9-21 Time: 1340 AM/PM Method Low flow

Appearance of Sample: Clear Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2-250 ml Bottles

SAMPLING PERSONNEL

Name: Garth Cousineau Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT02-MW01S

Client: EGLE
Project: Delphi
Project #: 60588767

Sample ID: GW2103091255 GSC

INSPECTION

Label on well?	(YES)	NO	NA	Is cap locked?	(YES)	NO	NA
Is reference mark visible?	(YES)	NO	NA	Standing water present?	YES	(NO)	NA
Condition of well	good			Any indication of surface runoff in well?	YES	(NO)	NA
Weather	clear			Air Temperature:	63°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 3-9-21 Time: 1225 AM/PM

Depth to Water: 5.23 Measured with: (Electronic Tape)

Length of Well: 9.85 Decontamination: (DI Water)

WELL PURGING

Date: 3-9-21 Begin Time: 1225 AM/PM Purging Equipment: Peristaltic

End Time: 1240 AM/PM Decontamination: Pre Steam Cleaned DI Water Other (~~New Tubing~~)

CALCULATION OF 1 CASING VOLUME

____ ft. Length of well

____ ft. - depth of water (before purge start)

____ ft. =length of water column

x conversion factor (2" well) 0.16

____ Gal. =1 casing volume

Yield: (~~HIGH~~ LOW)

If low, recovery time: ____

Actual volume purged 2 gallons

Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1240	.4	5.23	7.06	0.533	7.67	4.29	6.9	-54.9
1245	.8	5.23	7.12	0.443	9.62	4.10	7.0	-49.6
1250	1.2	5.23	7.14	0.411	7.35	3.82	6.8	-48.7
1255	1.6	5.23	7.14	0.406	7.34	3.89	6.8	-48.3
Final: 1255	1.6	5.23	7.14	0.406	7.34	3.89	6.8	-48.3

SAMPLE COLLECTION

Date: 3-9-21 Time: 1255 AM/PM Method Low Flow

Appearance of Sample: clear Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2-250ml Bottles

SAMPLING PERSONNEL

Name: Garth Casimoar Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT02-MW01D

Client: Egle
Project: Dahi
Project #: 60588767

Sample ID: GW210309 1220 GSL

INSPECTION

Label on well?	YES	NO	NA	Is cap locked?	YES	NO	NA
Is reference mark visible?	YES	NO	NA	Standing water present?	YES	NO	NA
Condition of well	good			Any indication of surface runoff in well?	YES	NO	NA
Weather	clear			Air Temperature:	57°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 3-9-21 Time: 1125 AM/PM

Depth to Water: 7.23 Measured with: Electronic Tape

Length of Well: 19.85 Decontamination: DI Water

WELL PURGING

Date: 3-9-21 Begin Time: 1130 AM/PM Purging Equipment: Peristaltic

End Time: 1200 AM/PM Decontamination: ~~Pre Steam Cleaned~~ New Tubing DI Water Other

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well

_____ ft. - depth of water (before purge start)

_____ ft. =length of water column

x conversion factor (2" well) 0.16

_____ Gal. =1 casing volume

Yield: HIGH LOW

If low, recovery time: _____

Actual volume purged _____ gallons

Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1200	.4	7.23	7.14	0.568	17.59	0.91	9.9	-86.9
1205	.8	7.23	7.16	0.569	14.77	0.55	10.0	-102.2
1210	1.2	7.23	7.16	0.569	7.72	0.60	10.0	-107.5
1215	1.6	7.23	7.17	0.571	3.42	0.53	10.1	-112.9
1220	2.0	7.23	7.19	0.570	4.52	0.51	10.2	-115.0
Final: 1220	2.0	7.23	7.19	0.570	4.52	0.51	10.2	-115.0

SAMPLE COLLECTION

Date: 3-9-21 Time: 1220 AM/PM Method Low Flow

Appearance of Sample: clear Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2-250 ml Bottles

SAMPLING PERSONNEL

Name: Garth Casman Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT02-MW02D

Client: Egle
Project: Delhi
Project #: 60588767

Sample ID: GW2103091050GS

INSPECTION

Label on well?	(YES)	NO	NA	Is cap locked?	(YES)	NO	NA
Is reference mark visible?	(YES)	NO	NA	Standing water present?	YES	(NO)	NA
Condition of well	good			Any indication of surface runoff in well?	YES	(NO)	NA
Weather	clear			Air Temperature:	43°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 3-09-21 Time: 1020 AM/PM

Depth to Water: 20.66
Length of Well: 42.14

Measured with: (Electronic Tape)
Decontamination: (DI Water)

WELL PURGING

Date: 3-9-21 Begin Time: 1020 AM/PM End Time: 1030 AM/PM

Purging Equipment: Peristaltic

Decontamination: ~~Pre Steam Cleaned~~ (New Tubing) DI Water Other

CALCULATION OF 1 CASING VOLUME

ft. Length of well
ft. - depth of water (before purge start)
ft. =length of water column
x conversion factor (2" well) 0.16
Gal. =1 casing volume

Yield: (HIGH) LOW
If low, recovery time:

Actual volume purged 2 gallons
Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1030	.3	20.66	7.06	0.547	14.01	0.58	9.7	-123.5
1035	.6	20.66	7.06	0.542	9.06	0.30	9.7	-134.8
1040	.9	20.66	7.07	0.539	8.75	0.18	9.8	-143.8
1045	1.2	20.66	7.08	0.542	9.33	0.13	9.8	-148.9
1050	1.5	20.66	7.08	0.540	8.04	0.11	9.8	-153.9
Final: 1050	1.5	20.66	7.08	0.540	8.04	0.11	9.8	-153.9

SAMPLE COLLECTION

Date: 3-9-21 Time: 1050 AM/PM Method Low Flow

Appearance of Sample: Clear Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2-250ml Bottles

SAMPLING PERSONNEL

Name: Garth Cousineau Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT02-MW025

Client: EGLE
Project: Biosolids/Delhi
Project #: 60588367

Sample ID: GW 210309 1010 GSL

INSPECTION

Label on well?	YES	NO	NA	Is cap locked?	YES	NO	NA
Is reference mark visible?	YES	NO	NA	Standing water present?	YES	NO	NA
Condition of well	Good			Any indication of surface runoff in well?	YES	NO	NA
Weather	Clear			Air Temperature:	47°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 3-9-21 Time: 0935 AM/PM

Depth to Water: 20.67 Measured with: Electronic Tape

Length of Well: 22.9 Decontamination: DI Water

WELL PURGING

Date: 3-9-21 Begin Time: 0935 AM/PM Purging Equipment: Peristaltic

End Time: 0950 AM/PM Decontamination: Pre Steam Cleaned DI Water Other New Tubing

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well

_____ ft. - depth of water (before purge start)

_____ ft. =length of water column

x conversion factor (2" well) 0.16

_____ Gal. =1 casing volume

Yield: ~~HIGH~~ LOW

If low, recovery time: _____

Actual volume purged 2 gallons

Actual purge flow rate 200 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 0950	.3	20.67	7.00	0.649	6.11	1.30	8.7	-116.8
0955	.6	20.67	6.98	0.648	5.80	0.55	8.8	-130.7
1000	.9	20.67	6.98	0.648	4.58	0.36	8.8	-138.4
1005	1.2	20.67	6.97	0.650	3.69	0.33	8.8	-140.8
1010	1.5	20.67	6.96	0.650	3.61	0.28	8.9	-144.6
Final: 1010	1.5	20.67	6.96	0.650	3.61	0.28	8.9	-144.6

SAMPLE COLLECTION

Date: 3-9-21 Time: AM/PM Method Low Flow

Appearance of Sample: Clear Actual Sample Flow Rate: 200 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2 - 250ml Bottles

SAMPLING PERSONNEL

Name: Garth Cousineau Company: AECOM

Appendix B –
2022 Field Forms

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT01-MW2ID

Client: EGLE
Project: Biosolids WWTP field Delhi
Project #

Sample ID: GW220427 1500 GS

INSPECTION

Label on well?	(YES)	NO	NA	Is cap locked?	(YES)	NO	NA
Is reference mark visible?	(YES)	NO	NA	Standing water present?	YES	(NO)	NA
Condition of well	good			Any indication of surface runoff in well?	YES	(NO)	NA
Weather	Partly Cloudy			Air Temperature:	36°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 4-27-22 Time: 1400 AM/PM

Depth to Water: 13.94
Length of Well: 15.23

Measured with: (Electronic Tape)
Decontamination: (DI Water)

WELL PURGING

Date: 4-27-22 Begin Time: 1400 AM/PM End Time: 1425 AM/PM

Purging Equipment: (Perilstaltic Pump)
Decontamination: (New Tubing)

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well
_____ ft. - depth of water (before purge start)
_____ ft. =length of water column
x conversion factor (2" well) 0.16
_____ Gal. =1 casing volume

Yield: (HIGH) LOW
If low, recovery time: _____

Actual volume purged 2 gallons
Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1425	.4	14.76	7.24	0.478	91.98	0.30	10.3	-91.8
1430	.8	14.76	7.24	0.482	67.63	0.25	10.7	-93.9
1425	1.2	14.76	7.25	0.485	52.30	0.22	10.5	-96.4
1440	1.6	14.76	7.25	0.481	54.33	0.98	10.7	-91.5
1445	2.0	14.76	7.25	0.486	53.91	0.26	10.6	-97.6
1450	2.4	14.76	7.25	0.485	54.66	0.25	10.5	-97.7
1455	2.8	14.76	7.25	0.484	52.12	0.25	10.5	-97.6
1500	3.2	14.76	7.25	0.484	52.91	0.24	10.5	-97.6
Final: 1500	3.2	14.76	7.25	0.484	52.91	0.24	10.5	-97.6

SAMPLE COLLECTION

Date: 4-27-22 Time: 1500 AM/PM Method Low Flow

Appearance of Sample: Clear
Actual Sample Flow Rate: 350 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2- HDPE 250ml Bottles

SAMPLING PERSONNEL

Name Garth Cousineau (AECOM) Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT01-MW1S

Client: EGLE
Project: Biosolids WWTP field Delhi
Project #

Sample ID: GW220427 1350 GSC

INSPECTION

Label on well?	YES	NO	NA	Is cap locked?	YES	NO	NA
Is reference mark visible?	YES	NO	NA	Standing water present?	YES	NO	NA
Condition of well	good			Any indication of surface runoff in well?	YES	NO	NA
Weather	& partly cloudy			Air Temperature:	36°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 4-27-22 Time: 1315 AM/PM

Depth to Water: 4.03
Length of Well: 7.00

Measured with: Electronic Tape
Decontamination: DI Water

WELL PURGING

Date: 4-27-22 Begin Time: 1315 AM/PM End Time: 1330 AM/PM

Purging Equipment: Perilstaltic Pump
Decontamination: New Tubing

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well
_____ ft. - depth of water (before purge start)
_____ ft. =length of water column
x conversion factor (2" well) 0.16
_____ Gal. =1 casing volume

Yield: ~~HIGH~~ LOW
If low, recovery time: _____

Actual volume purged 2 gallons
Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1330	.4	4.97	7.25	0.488	23.61	2.40	8.2	32.0
1335	.8	4.97	7.27	0.373	4.27	5.70	8.3	61.0
1340	1.2	4.97	7.27	0.370	4.23	5.76	8.3	62.9
1345	1.6	4.97	7.27	0.369	3.62	5.82	8.3	64.7
1350	2.0	4.97	7.26	0.368	3.47	5.84	8.4	66.2
Final: 1350	2.0	4.97	7.26	0.368	3.47	5.84	8.4	66.2

SAMPLE COLLECTION

Date: 4-27-22 Time: 1350 AM/PM Method Low Flow

Appearance of Sample: Clear

Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2- HDPE 250ml Bottles

SAMPLING PERSONNEL

Name Garth Cousineau (AECOM) Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT01-MW2D

Client: EGLE
Project: Biosolids WWTP field Delhi
Project #

Sample ID: GW220427 1300 GSC

INSPECTION

Label on well?	YES	NO	NA	Is cap locked?	YES	NO	NA
Is reference mark visible?	YES	NO	NA	Standing water present?	YES	NO	NA
Condition of well	good			Any indication of surface runoff in well?	YES	NO	NA
Weather	cloudy			Air Temperature:	36°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 4-27-22 Time: 1230 AM/PM

Depth to Water: 6.78
Length of Well: 25.00

Measured with: Electronic Tape
Decontamination: DI Water

WELL PURGING

Date: 4-27-22 Begin Time: 1230 AM/PM End Time: 1240 AM/PM

Purging Equipment: Peristaltic Pump
Decontamination: New Tubing

CALCULATION OF 1 CASING VOLUME

ft. Length of well
ft. - depth of water (before purge start)
ft. =length of water column
x conversion factor (2" well) 0.16
Gal. =1 casing volume

Yield: ~~HIGH~~ LOW
If low, recovery time:

Actual volume purged 2 gallons
Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1240	.4	7.80	7.12	0.582	7.68	1.66	8.4	-50.8
1245	.8	7.80	7.14	0.578	8.16	2.35	8.2	-57.4
1250	1.2	7.80	7.12	0.579	6.23	1.44	8.2	-57.1
1255	1.6	7.80	7.12	0.580	7.38	0.89	8.5	-57.2
1300	2.0	7.80	7.11	0.587	6.81	0.59	8.9	-59.4
Final: 1300	2.0	7.80	7.11	0.587	6.81	0.59	8.9	-59.4

SAMPLE COLLECTION

Date: 4-27-22 Time: 1300 AM/PM Method Low Flow

Appearance of Sample: clear
Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2- HDPE 250ml Bottles

SAMPLING PERSONNEL

Name Garth Cousineau (AECOM) Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT01-MW2S

Client: EGLE
Project: Biosolids WWTP field Delhi
Project #

Sample ID: GW220427/1220GSC

INSPECTION

Label on well?	(YES)	NO	NA	Is cap locked?	(YES)	NO	NA
Is reference mark visible?	(YES)	NO	NA	Standing water present?	YES	(NO)	NA
Condition of well	good			Any indication of surface runoff in well?	YES	(NO)	NA
Weather	cloudy			Air Temperature:	36°C		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 4-27-22 Time: 1150 AM/PM

Depth to Water: 7.02 Measured with: (Electronic Tape)

Length of Well: 11.5 Decontamination: (DI Water)

WELL PURGING

Date: 4-27-22 Begin Time: 1150 AM/PM Purging Equipment: (Perilstaltic Pump)

End Time: 1205 AM/PM Decontamination: (New Tubing)

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well

_____ ft. - depth of water (before purge start)

_____ ft. =length of water column

x conversion factor (2" well) 0.16

_____ Gal. =1 casing volume

Yield: ~~HIGH~~ LOW

If low, recovery time: _____

Actual volume purged 2 gallons

Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1205	.4	9.62	6.81	1.006	7.87	2.46	6.8	95.0
1210	.8	9.62	6.81	1.006	7.15	2.46	6.8	96.3
1215	1.2	9.62	6.81	1.005	6.73	2.47	6.8	98.1
1220	1.6	9.62	6.81	1.005	5.87	2.48	6.8	98.9
Final: 1220	1.6	9.62	6.81	1.005	5.87	2.48	6.8	98.9

SAMPLE COLLECTION

Date: 4-27-22 Time: 1220 AM/PM Method Low Flow

Appearance of Sample: clear Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2- HDPE 250ml Bottles

SAMPLING PERSONNEL

Name Garth Cousineau (AECOM) Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT02-MW01D

Client: EGLE
Project: Biosolids WWTP field Delhi
Project #

Sample ID: GW220427112500

INSPECTION

Label on well?	(YES)	NO	NA	Is cap locked?	(YES)	NO	NA
Is reference mark visible?	(YES)	NO	NA	Standing water present?	YES	(NO)	NA
Condition of well	good			Any indication of surface runoff in well?	YES	(NO)	NA
Weather	Partly Cloudy			Air Temperature:	35°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 4-27-22 Time: 1045 AM/PM

Depth to Water: 5.61 Measured with: (Electronic Tape) / ~~Bl Water~~

Length of Well: 17.00 Decontamination:

WELL PURGING

Date: 4-27-22 Begin Time: 1045 AM/PM Purging Equipment: (Peristaltic Pump)

End Time: 1100 AM/PM Decontamination: (New Tubing)

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well

_____ ft. - depth of water (before purge start)

_____ ft. =length of water column

x conversion factor (2" well) 0.16

_____ Gal. =1 casing volume

Yield: ~~HIGH~~ / LOW

If low, recovery time: _____

Actual volume purged 2 gallons

Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1100	.4	5.69	7.10	0.553	68.13	1.24	8.2	-30.2
1105	.8	5.69	7.12	0.558	33.40	0.18	8.4	-64.3
1110	1.2	5.69	7.12	0.558	25.87	0.17	8.4	-65.5
1115	1.6	5.69	7.12	0.559	9.43	0.17	8.4	-66.5
1120	2.0	5.69	7.12	0.559	7.91	0.17	8.4	-67.0
1125	2.4	5.69	7.12	0.558	4.33	0.17	8.3	-67.3
Final: 1125	2.4	5.69	7.12	0.558	4.33	0.17	8.3	-67.3

SAMPLE COLLECTION

Date: 4-27-22 Time: 1125 AM/PM Method Low Flow

Appearance of Sample: Clear Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2- HDPE 250ml Bottles

SAMPLING PERSONNEL

Name Garth Cousineau (AECOM) Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT02-MW01S

Client: EGLE
Project: Biosolids WWTP field ~~Delhi~~ Delhi
Project #

Sample ID: GW220427 1035 GSC
FB220427 1030 GSC
GW220427 1035 GSC-FD

INSPECTION

Label on well?	(YES)	NO	NA	Is cap locked?	(YES)	NO	NA
Is reference mark visible?	(YES)	NO	NA	Standing water present?	YES	(NO)	NA
Condition of well	good			Any indication of surface runoff in well?	YES	(NO)	NA
Weather	Partly Cloudy			Air Temperature:	35°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 4-27-22 Time: 1005 AM/PM

Depth to Water: 4.27
Length of Well: 7.00

Measured with: (Electronic Tape)
Decontamination: (DI Water)

WELL PURGING

Date: 4-27-22 Begin Time: 1005 AM/PM End Time: 1040 AM/PM

Purging Equipment: (Peristaltic Pump)
Decontamination: (New Tubing)

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well
_____ ft. - depth of water (before purge start)
_____ ft. =length of water column
x conversion factor (2" well) 0.16
_____ Gal. =1 casing volume

Yield: (HIGH) LOW
If low, recovery time: _____

Actual volume purged 2 gallons
Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 1020	.4	4.33	6.91	0.354	4.76	1.17	8.1	30.5
1025	.8	4.33	6.91	0.354	4.28	1.17	8.1	30.6
1030	1.2	4.33	6.91	0.354	4.51	1.16	8.2	31.4
1035	1.6	4.33	6.91	0.355	4.01	1.14	8.1	37.7
Final: 1035	1.6	4.33	6.91	0.355	4.01	1.14	8.1	37.7

SAMPLE COLLECTION

Date: 4-27-22 Time: 1035 AM/PM Method Low Flow

Appearance of Sample: clear Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2- HDPE 250ml Bottles / 2 FB Bottles / 2 Field Duplicate

SAMPLING PERSONNEL

Name Garth Cousineau (AECOM) Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT02-MW02S

Client: EGLE
Project: Biosolids WWTP field Delhi
Project #

Sample ID: GW220427090GSC

INSPECTION

Label on well?	(YES)	NO	NA	Is cap locked?	(YES)	NO	NA
Is reference mark visible?	(YES)	NO	NA	Standing water present?	YES	(NO)	NA
Condition of well	good			Any indication of surface runoff in well?	YES	(NO)	NA
Weather	Partly Cloudy			Air Temperature:	35°F		

Notes:

STATIC WATER LEVEL PRIOR TO PURGING

Date: 4-27-22 Time: 0830 AM/PM

Depth to Water: 19.32
Length of Well: 20.00

Measured with: (Electronic Tape)
Decontamination: (DI Water)

WELL PURGING

Date: 4-27-22 Begin Time: 0830 AM/PM End Time: 0845 AM/PM

Purging Equipment: (Peristaltic Pump)
Decontamination: (New Tubing)

CALCULATION OF 1 CASING VOLUME

_____ ft. Length of well
_____ ft. - depth of water (before purge start)
_____ ft. =length of water column
x conversion factor (2" well) 0.16
_____ Gal. =1 casing volume

Yield: (HIGH) LOW
If low, recovery time: _____
Actual volume purged 2 gallons
Actual purge flow rate 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 0845	.4	19.33	6.95	0.635	11.72	0.55	6.6	-56.7
0850	.8	19.33	6.94	0.637	7.67	0.39	6.7	-51.2
0855	1.2	19.33	6.94	0.636	6.62	0.37	6.6	-51.0
0900	1.6	19.33	6.94	0.637	6.33	0.37	6.8	-50.6
Final: 0900	1.6	19.33	6.94	0.637	6.33	0.37	6.8	-50.6

SAMPLE COLLECTION

Date: 4-27-22 Time: 0900 AM/PM Method Low Flow

Appearance of Sample: Clear
Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2- HDPE 250ml Bottles

SAMPLING PERSONNEL

Name Garth Cousineau (AECOM) Company: AECOM

AECOM

Low Flow Ground Water Sample Collection Record

Well ID: DT02-MW02D

Client: EGLE
Project: Biosolids WWTP field Delhi
Project #

Sample ID: GW220427 0950 GSC

INSPECTION

Label on well?	(YES)	NO	NA	Is cap locked?	(YES)	NO	NA
Is reference mark visible?	(YES)	NO	NA	Standing water present?	YES	(NO)	NA
Condition of well	Good			Any indication of surface runoff in well?	YES	(NO)	NA
Weather	Partly Cloudy			Air Temperature:	35°F		
Notes:							

STATIC WATER LEVEL PRIOR TO PURGING

Date: 4-27-22 Time: 0915 AM/PM

Depth to Water: 19.33
Length of Well: 40.00

Measured with: (Electronic Tape)
Decontamination: (DI Water)

WELL PURGING

Date: 4-27-22 Begin Time: 0915 AM/PM End Time: 0930 AM/PM

Purging Equipment: (Peristaltic Pump)
Decontamination: (New Tubing)

CALCULATION OF 1 CASING VOLUME

ft.	Length of well	
ft.	- depth of water (before purge start)	
ft.	=length of water column	
	x conversion factor (2" well) 0.16	
Gal.	=1 casing volume	

Yield: (HIGH) LOW
If low, recovery time:

Actual volume purged: 2 gallons
Actual purge flow rate: 300 ml/min or L/min

Notes

Time	Volume (gallons)	Depth to Water (Feet) <0.33'	pH (SU) +/- 0.1	Conductivity (mS/cm) +-3%	Turbidity (NTU) +-10%	D.O. (mg/L) +/- 10%	Temp (°C) +/- 5%	ORP +/- 10 mV
Start: 0930	.4	19.33	7.08	0.517	21.77	0.50	7.6	-91.0
0935	.8	19.33	7.08	0.517	20.79	0.41	7.6	-92.2
0940	1.2	19.33	7.07	0.521	21.32	0.35	7.8	-93.2
0945	1.6	19.33	7.07	0.521	20.18	0.34	7.8	-93.3
0950	2.0	19.33	7.07	0.521	21.95	0.34	7.7	-93.3
Final: 0950	2.0	19.33	7.07	0.521	21.95	0.34	7.7	-93.3

SAMPLE COLLECTION

Date: 4-27-22 Time: 0950 AM/PM Method: Low Flow

Appearance of Sample: Clear
Actual Sample Flow Rate: 300 ml/min or L/min

SAMPLE BOTTLE COLLECTED: 2- HDPE 250ml Bottles

SAMPLING PERSONNEL

Name: Garth Cousineau (AECOM) Company: AECOM

Appendix C – 2021 Analytical Reports

April 02, 2021

Vista Work Order No. 2103185

Dr. Dorin Bogdan
AECOM
5350 Sparks Dr SE
Grand Rapids, MI 49546

Dear Dr. Bogdan,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on March 16, 2021 under your Project Name 'DELHI Well sampling/Bio solids'.

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

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

Sincerely,

Martha Maier
Laboratory Director

Vista Work Order No. 2103185
Case Narrative

Sample Condition on Receipt:

Ten aqueous samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. The samples were received in good condition and within the recommended temperature requirements. A revised Chain-of-Custody (CoC) was received by email on March 16th, 2021.

Analytical Notes:

PFAS Isotope Dilution Method

The following samples contained particulate and were centrifuged prior to extraction:

Laboratory ID	Sample Name
2103185-02	GW2103091530GSC-FD
2103185-06	GW2103091340GSC
2103185-07	GW2103091255GSC
2103185-09	GW2103091050GSC

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

Holding Times

The samples were extracted and analyzed within the hold times.

Quality Control

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

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 the LOQ. The OPR recoveries were within the acceptance criteria.

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

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2103185-01	GW2103091530GSC	09-Mar-21 15:30	16-Mar-21 13:34	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2103185-02	GW2103091530GSC-FD	09-Mar-21 15:30	16-Mar-21 13:34	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2103185-03	GW2103091500GSC	09-Mar-21 15:00	16-Mar-21 13:34	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2103185-04	GW2103091415GSC	09-Mar-21 14:15	16-Mar-21 13:34	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2103185-05	FB2103091400GSC	09-Mar-21 14:00	16-Mar-21 13:34	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2103185-06	GW2103091340GSC	09-Mar-21 13:40	16-Mar-21 13:34	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2103185-07	GW2103091255GSC	09-Mar-21 12:55	16-Mar-21 13:34	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2103185-08	GW2103091220GSC	09-Mar-21 12:20	16-Mar-21 13:34	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2103185-09	GW2103091050GSC	09-Mar-21 10:50	16-Mar-21 13:34	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2103185-10	GW2103091010GSC	09-Mar-21 10:10	16-Mar-21 13:34	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

Vista Project: 2103185

Client Project: DELHI Well sampling/Bio solids

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Matrix: Aqueous

Laboratory Data

Lab Sample: B1C0179-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFPeA	2706-90-3	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFBS	375-73-5	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
4:2 FTS	757124-72-4	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFHxA	307-24-4	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFPeS	2706-91-4	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
HFPO-DA	13252-13-6	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFHpA	375-85-9	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
ADONA	919005-14-4	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFHxS	355-46-4	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
6:2 FTS	27619-97-2	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFOA	335-67-1	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFecHS	646-83-3	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFHpS	375-92-8	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFNA	375-95-1	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFOSA	754-91-6	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	29-Mar-21 17:02	1
PFOS	1763-23-1	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
9Cl-PF3ONS	756426-58-1	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFDA	335-76-2	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
8:2 FTS	39108-34-4	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFNS	68259-12-1	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
MeFOSAA	2355-31-9	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
EtFOSAA	2991-50-6	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFUnA	2058-94-8	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFDS	335-77-3	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
11Cl-PF3OUdS	763051-92-9	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFDoA	307-55-1	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFTrDA	72629-94-8	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
PFTeDA	376-06-7	ND	1.00	2.00	4.00		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	98.5	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C3-PFPeA	IS	84.6	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C3-PFBS	IS	92.9	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C3-HFPO-DA	IS	90.9	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C2-4:2 FTS	IS	96.8	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C2-PFHxA	IS	88.5	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C4-PFHpA	IS	83.4	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C3-PFHxS	IS	92.7	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Matrix: Aqueous

Laboratory Data

Lab Sample: B1C0179-BLK1
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	97.6	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C5-PFNA	IS	86.4	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C8-PFOSA	IS	27.7	10 - 150		B1C0179	23-Mar-21	0.250 L	29-Mar-21 17:02	1
13C2-PFOA	IS	87.4	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C8-PFOS	IS	90.8	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C2-PFDA	IS	79.3	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C2-8:2 FTS	IS	80.0	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
d3-MeFOSAA	IS	73.6	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C2-PFUnA	IS	77.3	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
d5-EtFOSAA	IS	63.2	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C2-PFDoA	IS	70.3	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1
13C2-PFTeDA	IS	69.2	20 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:33	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

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

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Matrix: Aqueous

Laboratory Data

Lab Sample: B1C0179-BS1
Column: BEH C18

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	46.4	40.0	116	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFPeA	2706-90-3	41.8	40.0	105	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFBS	375-73-5	41.9	40.0	105	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
4:2 FTS	757124-72-4	42.7	40.0	107	60 - 145		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFHxA	307-24-4	48.0	40.0	120	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFPeS	2706-91-4	45.0	40.0	112	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
HFPO-DA	13252-13-6	39.3	40.0	98.3	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFHpA	375-85-9	43.8	40.0	110	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
ADONA	919005-14-4	49.5	40.0	124	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFHxS	355-46-4	44.1	40.0	110	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
6:2 FTS	27619-97-2	41.4	40.0	103	60 - 140		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFOA	335-67-1	44.3	40.0	111	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFecHS	646-83-3	46.9	40.0	117	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFHpS	375-92-8	45.0	40.0	112	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFNA	375-95-1	45.8	40.0	115	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFOSA	754-91-6	44.2	40.0	110	65 - 140		B1C0179	23-Mar-21	0.250 L	29-Mar-21 17:12	1
PFOS	1763-23-1	41.5	40.0	104	65 - 140		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
9Cl-PF3ONS	756426-58-1	40.7	40.0	102	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFDA	335-76-2	44.4	40.0	111	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
8:2 FTS	39108-34-4	44.7	40.0	112	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFNS	68259-12-1	40.6	40.0	102	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
MeFOSAA	2355-31-9	43.6	40.0	109	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
EtFOSAA	2991-50-6	43.2	40.0	108	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFUnA	2058-94-8	41.6	40.0	104	65 - 140		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFDS	335-77-3	37.0	40.0	92.5	50 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
11Cl-PF3OUdS	763051-92-9	45.8	40.0	114	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFDoA	307-55-1	42.9	40.0	107	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFTrDA	72629-94-8	44.2	40.0	111	60 - 140		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
PFTeDA	376-06-7	45.7	40.0	114	65 - 135		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	96.0	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C3-PFPeA	IS	84.2	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C3-PFBS	IS	94.4	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C3-HFPO-DA	IS	83.3	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C2-4:2 FTS	IS	97.3	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1

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

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Matrix: Aqueous

Laboratory Data

Lab Sample: B1C0179-BS1
Column: BEH C18

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	IS	85.2	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C4-PFHpA	IS	79.4	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C3-PFHxS	IS	94.6	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C2-6:2 FTS	IS	91.9	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C5-PFNA	IS	82.5	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C8-PFOSA	IS	30.4	10 - 150		B1C0179	23-Mar-21	0.250 L	29-Mar-21 17:12	1
13C2-PFOA	IS	86.0	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C8-PFOS	IS	93.5	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C2-PFDA	IS	77.2	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C2-8:2 FTS	IS	87.0	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
d3-MeFOSAA	IS	74.3	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C2-PFUnA	IS	78.0	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
d5-EtFOSAA	IS	65.1	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C2-PFDoA	IS	72.1	25 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1
13C2-PFTeDA	IS	70.0	20 - 150		B1C0179	23-Mar-21	0.250 L	26-Mar-21 21:43	1

Sample ID: GW2103091530GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT01-MW01D
Matrix: Aqueous
Date Collected: 09-Mar-21 15:30

Laboratory Data

Lab Sample: 2103185-01
Date Received: 16-Mar-21 13:34
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFPeA	2706-90-3	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFBS	375-73-5	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
4:2 FTS	757124-72-4	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFHxA	307-24-4	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFPeS	2706-91-4	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
HFPO-DA	13252-13-6	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFHpA	375-85-9	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
ADONA	919005-14-4	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFHxS	355-46-4	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
6:2 FTS	27619-97-2	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFOA	335-67-1	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFecHS	646-83-3	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFHpS	375-92-8	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFNA	375-95-1	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFOSA	754-91-6	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	29-Mar-21 17:23	1
PFOS	1763-23-1	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
9Cl-PF3ONS	756426-58-1	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFDA	335-76-2	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
8:2 FTS	39108-34-4	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFNS	68259-12-1	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
MeFOSAA	2355-31-9	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
EtFOSAA	2991-50-6	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFUnA	2058-94-8	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFDS	335-77-3	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
11Cl-PF3OUdS	763051-92-9	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFDoA	307-55-1	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFTrDA	72629-94-8	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
PFTeDA	376-06-7	ND	1.05	2.09	4.19		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	87.9	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C3-PFPeA	IS	88.6	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C3-PFBS	IS	94.4	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C3-HFPO-DA	IS	63.4	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C2-4:2 FTS	IS	115	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C2-PFHxA	IS	92.1	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C4-PFHpA	IS	85.1	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C3-PFHxS	IS	101	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1

Sample ID: GW2103091530GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT01-MW01D
Matrix: Aqueous
Date Collected: 09-Mar-21 15:30

Laboratory Data

Lab Sample: 2103185-01
Date Received: 16-Mar-21 13:34
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	94.0	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C5-PFNA	IS	92.0	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C8-PFOSA	IS	59.4	10 - 150		B1C0179	23-Mar-21	0.239 L	29-Mar-21 17:23	1
13C2-PFOA	IS	89.3	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C8-PFOS	IS	104	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C2-PFDA	IS	87.9	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C2-8:2 FTS	IS	97.6	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
d3-MeFOSAA	IS	99.8	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C2-PFUnA	IS	93.3	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
d5-EtFOSAA	IS	92.1	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C2-PFDoA	IS	88.7	25 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1
13C2-PFTeDA	IS	82.9	20 - 150		B1C0179	23-Mar-21	0.239 L	26-Mar-21 21:54	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
Results reported to the DL.

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

Sample ID: GW2103091530GSC-FD

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT01-MW01D
Matrix: Aqueous
Date Collected: 09-Mar-21 15:30

Laboratory Data

Lab Sample: 2103185-02
Date Received: 16-Mar-21 13:34
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFPeA	2706-90-3	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFBS	375-73-5	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
4:2 FTS	757124-72-4	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFHxA	307-24-4	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFPeS	2706-91-4	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
HFPO-DA	13252-13-6	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFHpA	375-85-9	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
ADONA	919005-14-4	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFHxS	355-46-4	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
6:2 FTS	27619-97-2	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFOA	335-67-1	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFecHS	646-83-3	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFHpS	375-92-8	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFNA	375-95-1	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFOSA	754-91-6	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	29-Mar-21 17:33	1
PFOS	1763-23-1	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
9Cl-PF3ONS	756426-58-1	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFDA	335-76-2	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
8:2 FTS	39108-34-4	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFNS	68259-12-1	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
MeFOSAA	2355-31-9	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
EtFOSAA	2991-50-6	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFUnA	2058-94-8	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFDS	335-77-3	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
11Cl-PF3OUdS	763051-92-9	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFDoA	307-55-1	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFTrDA	72629-94-8	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
PFTeDA	376-06-7	ND	1.03	2.05	4.10		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	51.3	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C3-PFPeA	IS	89.0	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C3-PFBS	IS	100	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C3-HFPO-DA	IS	94.6	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C2-4:2 FTS	IS	118	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C2-PFHxA	IS	93.8	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C4-PFHpA	IS	89.7	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C3-PFHxS	IS	95.6	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1

Sample ID: GW2103091530GSC-FD

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT01-MW01D
Matrix: Aqueous
Date Collected: 09-Mar-21 15:30

Laboratory Data

Lab Sample: 2103185-02
Date Received: 16-Mar-21 13:34
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	93.7	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C5-PFNA	IS	88.0	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C8-PFOSA	IS	59.5	10 - 150		B1C0179	23-Mar-21	0.244 L	29-Mar-21 17:33	1
13C2-PFOA	IS	92.9	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C8-PFOS	IS	103	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C2-PFDA	IS	84.6	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C2-8:2 FTS	IS	95.3	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
d3-MeFOSAA	IS	97.8	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C2-PFUnA	IS	89.8	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
d5-EtFOSAA	IS	86.0	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C2-PFDoA	IS	85.7	25 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1
13C2-PFTeDA	IS	80.2	20 - 150		B1C0179	23-Mar-21	0.244 L	26-Mar-21 22:04	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2103091500GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT01-MW01S
Matrix: Aqueous
Date Collected: 09-Mar-21 15:00

Laboratory Data

Lab Sample: 2103185-03
Date Received: 16-Mar-21 13:34
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFPeA	2706-90-3	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFBS	375-73-5	4.82	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
4:2 FTS	757124-72-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFHxA	307-24-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFPeS	2706-91-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
HFPO-DA	13252-13-6	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFHpA	375-85-9	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
ADONA	919005-14-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFHxS	355-46-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
6:2 FTS	27619-97-2	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFOA	335-67-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFecHS	646-83-3	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFHpS	375-92-8	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFNA	375-95-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFOSA	754-91-6	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	29-Mar-21 17:43	1
PFOS	1763-23-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
9Cl-PF3ONS	756426-58-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFDA	335-76-2	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
8:2 FTS	39108-34-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFNS	68259-12-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
MeFOSAA	2355-31-9	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
EtFOSAA	2991-50-6	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFUnA	2058-94-8	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFDS	335-77-3	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
11Cl-PF3OUdS	763051-92-9	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFDoA	307-55-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFTrDA	72629-94-8	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
PFTeDA	376-06-7	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	103	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C3-PFPeA	IS	92.1	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C3-PFBS	IS	105	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C3-HFPO-DA	IS	82.7	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C2-4:2 FTS	IS	103	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C2-PFHxA	IS	96.4	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C4-PFHpA	IS	91.1	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C3-PFHxS	IS	103	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1

Sample ID: GW2103091500GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT01-MW01S
Matrix: Aqueous
Date Collected: 09-Mar-21 15:00

Laboratory Data

Lab Sample: 2103185-03
Date Received: 16-Mar-21 13:34
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	100	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C5-PFNA	IS	96.2	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C8-PFOSA	IS	60.9	10 - 150		B1C0179	23-Mar-21	0.257 L	29-Mar-21 17:43	1
13C2-PFOA	IS	95.3	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C8-PFOS	IS	114	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C2-PFDA	IS	95.8	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C2-8:2 FTS	IS	99.5	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
d3-MeFOSAA	IS	103	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C2-PFUnA	IS	99.5	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
d5-EtFOSAA	IS	94.4	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C2-PFDoA	IS	91.7	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1
13C2-PFTeDA	IS	81.6	20 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 22:14	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2103091415GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT01-MW02S
Matrix: Aqueous
Date Collected: 09-Mar-21 14:15

Laboratory Data

Lab Sample: 2103185-04
Date Received: 16-Mar-21 13:34
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFPeA	2706-90-3	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFBS	375-73-5	9.07	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
4:2 FTS	757124-72-4	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFHxA	307-24-4	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFPeS	2706-91-4	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
HFPO-DA	13252-13-6	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFHpA	375-85-9	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
ADONA	919005-14-4	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFHxS	355-46-4	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
6:2 FTS	27619-97-2	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFOA	335-67-1	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFecHS	646-83-3	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFHpS	375-92-8	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFNA	375-95-1	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFOSA	754-91-6	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	29-Mar-21 17:54	1
PFOS	1763-23-1	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
9Cl-PF3ONS	756426-58-1	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFDA	335-76-2	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
8:2 FTS	39108-34-4	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFNS	68259-12-1	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
MeFOSAA	2355-31-9	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
EtFOSAA	2991-50-6	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFUnA	2058-94-8	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFDS	335-77-3	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
11Cl-PF3OUdS	763051-92-9	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFDoA	307-55-1	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFTrDA	72629-94-8	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
PFTeDA	376-06-7	ND	0.980	1.96	3.92		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	104	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C3-PFPeA	IS	91.4	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C3-PFBS	IS	108	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C3-HFPO-DA	IS	93.6	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C2-4:2 FTS	IS	120	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C2-PFHxA	IS	95.2	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C4-PFHpA	IS	91.8	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C3-PFHxS	IS	104	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1

Sample ID: GW2103091415GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT01-MW02S
Matrix: Aqueous
Date Collected: 09-Mar-21 14:15

Laboratory Data

Lab Sample: 2103185-04
Date Received: 16-Mar-21 13:34
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	109	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C5-PFNA	IS	96.5	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C8-PFOSA	IS	62.8	10 - 150		B1C0179	23-Mar-21	0.255 L	29-Mar-21 17:54	1
13C2-PFOA	IS	93.6	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C8-PFOS	IS	105	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C2-PFDA	IS	89.9	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C2-8:2 FTS	IS	101	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
d3-MeFOSAA	IS	102	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C2-PFUnA	IS	96.5	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
d5-EtFOSAA	IS	93.0	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C2-PFDoA	IS	93.4	25 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1
13C2-PFTeDA	IS	85.6	20 - 150		B1C0179	23-Mar-21	0.255 L	26-Mar-21 22:56	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: FB2103091400GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DELHI - Blank
Matrix: Aqueous
Date Collected: 09-Mar-21 14:00

Laboratory Data

Lab Sample: 2103185-05
Date Received: 16-Mar-21 13:34
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFPeA	2706-90-3	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFBS	375-73-5	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
4:2 FTS	757124-72-4	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFHxA	307-24-4	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFPeS	2706-91-4	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
HFPO-DA	13252-13-6	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFHpA	375-85-9	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
ADONA	919005-14-4	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFHxS	355-46-4	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
6:2 FTS	27619-97-2	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFOA	335-67-1	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFecHS	646-83-3	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFHpS	375-92-8	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFNA	375-95-1	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFOSA	754-91-6	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	29-Mar-21 18:04	1
PFOS	1763-23-1	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
9Cl-PF3ONS	756426-58-1	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFDA	335-76-2	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
8:2 FTS	39108-34-4	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFNS	68259-12-1	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
MeFOSAA	2355-31-9	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
EtFOSAA	2991-50-6	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFUnA	2058-94-8	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFDS	335-77-3	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
11Cl-PF3OUdS	763051-92-9	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFDoA	307-55-1	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFTrDA	72629-94-8	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
PFTeDA	376-06-7	ND	0.988	1.98	3.95		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	97.0	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C3-PFPeA	IS	85.8	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C3-PFBS	IS	97.0	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C3-HFPO-DA	IS	72.6	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C2-4:2 FTS	IS	96.3	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C2-PFHxA	IS	91.0	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C4-PFHpA	IS	82.4	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C3-PFHxS	IS	96.2	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1

Sample ID: FB2103091400GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DELHI - Blank
Matrix: Aqueous
Date Collected: 09-Mar-21 14:00

Laboratory Data

Lab Sample: 2103185-05
Date Received: 16-Mar-21 13:34
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	94.9	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C5-PFNA	IS	90.0	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C8-PFOSA	IS	37.3	10 - 150		B1C0179	23-Mar-21	0.253 L	29-Mar-21 18:04	1
13C2-PFOA	IS	88.1	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C8-PFOS	IS	103	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C2-PFDA	IS	85.0	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C2-8:2 FTS	IS	91.9	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
d3-MeFOSAA	IS	85.2	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C2-PFUnA	IS	90.5	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
d5-EtFOSAA	IS	72.4	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C2-PFDoA	IS	85.1	25 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1
13C2-PFTeDA	IS	73.1	20 - 150		B1C0179	23-Mar-21	0.253 L	26-Mar-21 23:06	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2103091340GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT01-MW02D
Matrix: Aqueous
Date Collected: 09-Mar-21 13:40

Laboratory Data

Lab Sample: 2103185-06
Date Received: 16-Mar-21 13:34
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFPeA	2706-90-3	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFBS	375-73-5	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
4:2 FTS	757124-72-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFHxA	307-24-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFPeS	2706-91-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
HFPO-DA	13252-13-6	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFHpA	375-85-9	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
ADONA	919005-14-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFHxS	355-46-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
6:2 FTS	27619-97-2	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFOA	335-67-1	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFecHS	646-83-3	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFHpS	375-92-8	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFNA	375-95-1	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFOSA	754-91-6	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	29-Mar-21 18:15	1
PFOS	1763-23-1	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
9Cl-PF3ONS	756426-58-1	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFDA	335-76-2	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
8:2 FTS	39108-34-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFNS	68259-12-1	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
MeFOSAA	2355-31-9	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
EtFOSAA	2991-50-6	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFUnA	2058-94-8	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFDS	335-77-3	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
11Cl-PF3OUdS	763051-92-9	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFDoA	307-55-1	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFTrDA	72629-94-8	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
PFTeDA	376-06-7	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	47.5	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C3-PFPeA	IS	92.3	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C3-PFBS	IS	101	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C3-HFPO-DA	IS	86.9	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C2-4:2 FTS	IS	127	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C2-PFHxA	IS	94.8	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C4-PFHpA	IS	88.2	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C3-PFHxS	IS	99.0	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1

Sample ID: GW2103091340GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT01-MW02D
Matrix: Aqueous
Date Collected: 09-Mar-21 13:40

Laboratory Data

Lab Sample: 2103185-06
Date Received: 16-Mar-21 13:34
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	94.5	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C5-PFNA	IS	92.8	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C8-PFOSA	IS	62.6	10 - 150		B1C0179	23-Mar-21	0.243 L	29-Mar-21 18:15	1
13C2-PFOA	IS	92.4	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C8-PFOS	IS	103	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C2-PFDA	IS	85.6	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C2-8:2 FTS	IS	97.1	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
d3-MeFOSAA	IS	93.7	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C2-PFUnA	IS	91.5	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
d5-EtFOSAA	IS	84.2	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C2-PFDoA	IS	89.8	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1
13C2-PFTeDA	IS	82.8	20 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:17	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2103091255GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT02-MW01S
Matrix: Aqueous
Date Collected: 09-Mar-21 12:55

Laboratory Data

Lab Sample: 2103185-07
Date Received: 16-Mar-21 13:34
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	5.56	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFPeA	2706-90-3	7.41	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFBS	375-73-5	57.9	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
4:2 FTS	757124-72-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFHxA	307-24-4	10.0	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFPeS	2706-91-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
HFPO-DA	13252-13-6	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFHpA	375-85-9	2.74	1.03	2.06	4.11	J	B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
ADONA	919005-14-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFHxS	355-46-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
6:2 FTS	27619-97-2	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFOA	335-67-1	3.25	1.03	2.06	4.11	J	B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFecHS	646-83-3	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFHpS	375-92-8	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFNA	375-95-1	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFOSA	754-91-6	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	29-Mar-21 18:56	1
PFOS	1763-23-1	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
9Cl-PF3ONS	756426-58-1	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFDA	335-76-2	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
8:2 FTS	39108-34-4	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFNS	68259-12-1	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
MeFOSAA	2355-31-9	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
EtFOSAA	2991-50-6	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFUnA	2058-94-8	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFDS	335-77-3	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
11Cl-PF3OUdS	763051-92-9	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFDoA	307-55-1	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFTrDA	72629-94-8	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
PFTeDA	376-06-7	ND	1.03	2.06	4.11		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	34.2	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C3-PFPeA	IS	83.5	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C3-PFBS	IS	92.3	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C3-HFPO-DA	IS	85.0	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C2-4:2 FTS	IS	109	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C2-PFHxA	IS	87.2	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C4-PFHpA	IS	80.8	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C3-PFHxS	IS	91.3	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1

Sample ID: GW2103091255GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT02-MW01S
Matrix: Aqueous
Date Collected: 09-Mar-21 12:55

Laboratory Data

Lab Sample: 2103185-07
Date Received: 16-Mar-21 13:34
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	89.8	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C5-PFNA	IS	84.7	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C8-PFOSA	IS	57.7	10 - 150		B1C0179	23-Mar-21	0.243 L	29-Mar-21 18:56	1
13C2-PFOA	IS	87.5	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C8-PFOS	IS	95.1	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C2-PFDA	IS	79.4	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C2-8:2 FTS	IS	88.8	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
d3-MeFOSAA	IS	91.1	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C2-PFUnA	IS	87.3	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
d5-EtFOSAA	IS	83.7	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C2-PFDoA	IS	82.4	25 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1
13C2-PFTeDA	IS	77.5	20 - 150		B1C0179	23-Mar-21	0.243 L	26-Mar-21 23:27	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2103091220GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT02-MW01D
Matrix: Aqueous
Date Collected: 09-Mar-21 12:20

Laboratory Data

Lab Sample: 2103185-08
Date Received: 16-Mar-21 13:34
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	2.36	0.971	1.95	3.88	J	B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFPeA	2706-90-3	1.70	0.971	1.95	3.88	J	B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFBS	375-73-5	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
4:2 FTS	757124-72-4	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFHxA	307-24-4	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFPeS	2706-91-4	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
HFPO-DA	13252-13-6	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFHpA	375-85-9	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
ADONA	919005-14-4	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFHxS	355-46-4	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
6:2 FTS	27619-97-2	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFOA	335-67-1	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFecHS	646-83-3	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFHpS	375-92-8	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFNA	375-95-1	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFOSA	754-91-6	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	29-Mar-21 19:06	1
PFOS	1763-23-1	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
9Cl-PF3ONS	756426-58-1	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFDA	335-76-2	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
8:2 FTS	39108-34-4	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFNS	68259-12-1	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
MeFOSAA	2355-31-9	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
EtFOSAA	2991-50-6	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFUnA	2058-94-8	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFDS	335-77-3	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
11Cl-PF3OUdS	763051-92-9	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFDoA	307-55-1	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFTrDA	72629-94-8	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
PFTeDA	376-06-7	ND	0.971	1.95	3.88		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	95.7	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C3-PFPeA	IS	93.6	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C3-PFBS	IS	98.6	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C3-HFPO-DA	IS	94.5	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C2-4:2 FTS	IS	120	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C2-PFHxA	IS	98.2	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C4-PFHpA	IS	89.8	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C3-PFHxS	IS	106	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1

Sample ID: GW2103091220GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT02-MW01D
Matrix: Aqueous
Date Collected: 09-Mar-21 12:20

Laboratory Data

Lab Sample: 2103185-08
Date Received: 16-Mar-21 13:34
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	100	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C5-PFNA	IS	92.5	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C8-PFOSA	IS	73.5	10 - 150		B1C0179	23-Mar-21	0.257 L	29-Mar-21 19:06	1
13C2-PFOA	IS	99.9	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C8-PFOS	IS	106	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C2-PFDA	IS	87.6	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C2-8:2 FTS	IS	104	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
d3-MeFOSAA	IS	101	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C2-PFUnA	IS	99.1	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
d5-EtFOSAA	IS	91.4	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C2-PFDoA	IS	92.3	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1
13C2-PFTeDA	IS	89.8	20 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:37	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2103091050GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT02-MW02D
Matrix: Aqueous
Date Collected: 09-Mar-21 10:50

Laboratory Data

Lab Sample: 2103185-09
Date Received: 16-Mar-21 13:34
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	2.11	0.998	1.99	3.99	J	B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFPeA	2706-90-3	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFBS	375-73-5	10.3	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
4:2 FTS	757124-72-4	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFHxA	307-24-4	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFPeS	2706-91-4	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
HFPO-DA	13252-13-6	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFHpA	375-85-9	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
ADONA	919005-14-4	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFHxS	355-46-4	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
6:2 FTS	27619-97-2	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFOA	335-67-1	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFecHS	646-83-3	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFHpS	375-92-8	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFNA	375-95-1	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFOSA	754-91-6	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	29-Mar-21 19:17	1
PFOS	1763-23-1	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
9Cl-PF3ONS	756426-58-1	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFDA	335-76-2	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
8:2 FTS	39108-34-4	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFNS	68259-12-1	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
MeFOSAA	2355-31-9	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
EtFOSAA	2991-50-6	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFUnA	2058-94-8	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFDS	335-77-3	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
11Cl-PF3OUdS	763051-92-9	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFDoA	307-55-1	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFTrDA	72629-94-8	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
PFTeDA	376-06-7	ND	0.998	1.99	3.99		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	34.2	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C3-PFPeA	IS	90.2	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C3-PFBS	IS	96.4	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C3-HFPO-DA	IS	78.8	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C2-4:2 FTS	IS	110	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C2-PFHxA	IS	96.3	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C4-PFHpA	IS	87.2	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C3-PFHxS	IS	102	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1

Sample ID: GW2103091050GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT02-MW02D
Matrix: Aqueous
Date Collected: 09-Mar-21 10:50

Laboratory Data

Lab Sample: 2103185-09
Date Received: 16-Mar-21 13:34
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	92.6	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C5-PFNA	IS	87.9	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C8-PFOSA	IS	56.0	10 - 150		B1C0179	23-Mar-21	0.251 L	29-Mar-21 19:17	1
13C2-PFOA	IS	89.4	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C8-PFOS	IS	94.6	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C2-PFDA	IS	85.5	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C2-8:2 FTS	IS	87.7	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
d3-MeFOSAA	IS	96.0	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C2-PFUnA	IS	93.6	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
d5-EtFOSAA	IS	86.3	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C2-PFDoA	IS	83.1	25 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1
13C2-PFTeDA	IS	82.9	20 - 150		B1C0179	23-Mar-21	0.251 L	26-Mar-21 23:48	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2103091010GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT02-MW02S
Matrix: Aqueous
Date Collected: 09-Mar-21 10:10

Laboratory Data

Lab Sample: 2103185-10
Date Received: 16-Mar-21 13:34
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	3.10	0.974	1.95	3.90	J	B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFPeA	2706-90-3	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFBS	375-73-5	35.5	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
4:2 FTS	757124-72-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFHxA	307-24-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFPeS	2706-91-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
HFPO-DA	13252-13-6	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFHpA	375-85-9	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
ADONA	919005-14-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFHxS	355-46-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
6:2 FTS	27619-97-2	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFOA	335-67-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFecHS	646-83-3	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFHpS	375-92-8	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFNA	375-95-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFOSA	754-91-6	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	29-Mar-21 19:27	1
PFOS	1763-23-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
9Cl-PF3ONS	756426-58-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFDA	335-76-2	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
8:2 FTS	39108-34-4	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFNS	68259-12-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
MeFOSAA	2355-31-9	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
EtFOSAA	2991-50-6	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFUnA	2058-94-8	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFDS	335-77-3	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
11Cl-PF3OUdS	763051-92-9	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFDoA	307-55-1	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFTrDA	72629-94-8	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
PFTeDA	376-06-7	ND	0.974	1.95	3.90		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	104	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C3-PFPeA	IS	90.4	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C3-PFBS	IS	95.2	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C3-HFPO-DA	IS	97.8	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C2-4:2 FTS	IS	84.5	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C2-PFHxA	IS	92.5	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C4-PFHpA	IS	87.1	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C3-PFHxS	IS	94.9	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1

Sample ID: GW2103091010GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/Bio solids
Location: DT02-MW02S
Matrix: Aqueous
Date Collected: 09-Mar-21 10:10

Laboratory Data

Lab Sample: 2103185-10
Date Received: 16-Mar-21 13:34
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	95.8	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C5-PFNA	IS	88.1	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C8-PFOSA	IS	64.5	10 - 150		B1C0179	23-Mar-21	0.257 L	29-Mar-21 19:27	1
13C2-PFOA	IS	91.9	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C8-PFOS	IS	97.5	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C2-PFDA	IS	88.3	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C2-8:2 FTS	IS	95.0	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
d3-MeFOSAA	IS	93.4	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C2-PFUnA	IS	90.9	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
d5-EtFOSAA	IS	82.7	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C2-PFDoA	IS	85.6	25 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1
13C2-PFTeDA	IS	86.4	20 - 150		B1C0179	23-Mar-21	0.257 L	26-Mar-21 23:58	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

DATA QUALIFIERS & ABBREVIATIONS

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

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

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

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

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	**Method**
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA TO-9A

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

MATRIX: Drinking Water	
Description of Test	**Method**
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

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

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

Vista Analytical Laboratory

—revised COC— rec'd via email on 03/16/21 1414 mws 03/17/21

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 2103185 Temp: 3.6, 1.5 °C
Storage ID: 3.6 Storage Secured: Yes ☑ No ☐

Project ID: **DELHI Well sampling/ Bio solids** PO#: **60588767** Sampler: **Garth Cousineau** (name)

TAT (check one): Standard: [X] 21 days; Rush (surcharge may apply) [ ] 14 days [ ] 7 days Specify:

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Stephanie Kammer	**EGLE**	**525 W. Allegan St**	**Lansing**	**MI**	**517-897-1597**	**517-241-3571**

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Garth Cousineau			see original COC		
Dorin Bogdan	3/16/2021	17:00			

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762

~~Method of Shipment:~~

ATTN: _____ Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	Mod. EPA Method 537 PFOA/ PFOS	UCMR3 PFAS List:6	537 List: 14	PFAS List of 24	Other: Please List Below	PFAS List of 28 + PFECHS	EPA Method 537(DW only) PFOA/ PFOS	UCMR3 PFAS List:6	PFAS List: 14	Comments
GW2103091530GSC	**3/9/21**	**1530**	**DT01-MW01D**	**2**	**P**	**AQ**						**X**				
GW2103091530GSC-FD	**3/9/21**	**1530**	**DT01-MW01D**	**2**	**P**	**AQ**						**X**				**FIELD DUPLICATE**
GW2103091500GSC	**3/9/21**	**1500**	**DT01-MW01S**	**2**	**P**	**AQ**						**X**				
GW2103091415GSC	**3/9/21**	**1415**	**DT01-MW02S**	**2**	**P**	**AQ**						**X**				
FB2103091400GSC	**3/9/21**	**1400**	**DELHI - Blank**	**2**	**P**	**AQ**						**X**				**FIELD BLANK**
GW2103091340GSC	**3/9/21**	**1340**	**DT01-MW02D**	**2**	**P**	**AQ**						**X**				
GW2103091255GSC	**3/9/21**	**1255**	**DT02-MW01S**	**2**	**P**	**AQ**						**X**				
GW2103091220GSC	**3/9/21**	**1220**	**DT02-MW01D**	**2**	**P**	**AQ**						**X**				
GW2103091050GSC	**3/9/21**	**1050**	**DT02-MW02D**	**2**	**P**	**AQ**						**X**				
GW2103091010GSC	**3/9/21**	**1010**	**DT02-MW02S**	**2**	**P**	**AQ**						**X**				

Special Instructions/Comments: **Send Results and Acknowledgements to:**
Michael.Wolf@aecom.com
Dorin.Bogdan@aecom.com
Robert.Kennedy@aecom.com

SEND DOCUMENTATION AND RESULTS TO:

Name: **Stephanie Kammer**
Company: **EGLE**
Address: **525 W. Allegan St**
City: **Lansing** MI 48909
Phone: **517-897-1597** **517-241-3571**
Email:

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

Bottle Preservation Type: T = Thiosulfate, TZ = Trizma: _____

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

Page 1 of 4 — see revised COC —

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 2103185 Temp: 3.6, 1.6.7 °C
Storage ID: R-13, WR-2 Storage Secured: Yes ☒ No ☐

Project ID: **DELHI Well sampling/ Bio solids** PO#: **60588767** Sampler: **Garth Cousineau** (name)

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

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Stephanie Kammer	EGLE	525 W. Allegan St	Lansing	MI	517-897-1597	517-241-3571

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
~~Garth Cousineau~~ Michal Kascian	3/15/21	1830	Karen Y. Frost KYF	03/16/21	12:34
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762

Method of Shipment:

ATTN: Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	Mod. EPA Method 537: PFOA/ PFOS	UCMR3 PFAS List:6	537 List: 14	PFAS List of 24	Other: Please List Below	PFAS List of 28 - Branch and Linear	EPA Method 537(DW only): PFOA/ PFOS	UCMR3 PFAS List:6	PFAS List: 14	Comments
GW2103091530GSC	3/9/21	1530	DT01-MW01D	2	P	AQ				X						
GW2103091530GSC-FD	3/9/21	1530	DT01-MW01D	2	P	AQ				X						FIELD DUPLICATE
GW2103091500GSC	3/9/21	1500	DT01-MW01S	2	P	AQ				X						
GW2103091415GSC	3/9/21	1415	DT01-MW02S	2	P	AQ				X						
FB2103091400GSC	3/9/21	1400	DELHI	2	P	AQ				X						FIELD BLANK
GW2103091340GSC	3/9/21	1340	DT01-MW02D	2	P	AQ				X						
GW2103091255GSC	3/9/21	1255	DT02-MW01S	2	P	AQ				X						
GW2103091220GSC	3/9/21	1220	DT02-MW01D	2	P	AQ				X						
GW2103091050GSC	3/9/21	1050	DT02-MW02D	2	P	AQ				X						
GW2103091010GSC	3/9/21	1010	DT02-MW02S	2	P	AQ				X						

Special Instructions/Comments: **Send Results and Acknowledgements to:**
Michael.Wolf@aecom.com
Dorin.Bogdan@aecom.com
Robert.Kennedy@aecom.com

SEND DOCUMENTATION AND RESULTS TO:
Name: **Stephanie Kammer**
Company: **EGLE**
Address: **525 W. Allegan St**
City: **Lansing** MI 48909
Phone: **517-897-1597** **517-241-3571**
Email:

Container Types: P= HDPE, PJ= HDPE Jar, O = Other:
Bottle Preservation Type: T = Thiosulfate, TZ = Trizma:
Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

Vista Analytical Laboratory

Sample Log-In Checklist

Vista Work Order #: 2103185 TAT std

Samples Arrival:	**Date/Time** 03/16/21 13:34		**Initials:** KS		**Location:** WR-2 **Shelf/Rack:** N/A		
Delivered By:	(FedEx)	UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	(Ice)		Blue Ice		Techni Ice	Dry Ice	None
Temp °C: 3.6 (uncorrected)			**Probe used:** Y (N)		**Thermometer ID:** IR-4		
Temp °C: 3.6 (corrected)							

	YES	NO	NA
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Airbill ✓ Trk # 7847 7748 5881	✓		
Shipping Documentation Present?	✓		
Shipping Container: Vista, (Client), Retain, (Return)		Dispose	
Chain of Custody / Sample Documentation Present?	✓		
Chain of Custody / Sample Documentation Complete?	✓		
Holding Time Acceptable?	✓		

Logged In:	**Date/Time** 03/17/21 0841	**Initials:** WWS	**Location:** R-13, WR-2 **Shelf/Rack:** 2-2, F-5	
COC Anomaly/Sample Acceptance Form completed?			✓	✓

Comments:

Vista Analytical Laboratory

Sample Log-In Checklist

Page # 2 of 2

Vista Work Order #: 2103185 TAT std

Samples Arrival:	**Date/Time** 03/16/21 13:34		**Initials:** KS		**Location:** WR-2 **Shelf/Rack:** N/A		
Delivered By:	FedEx	UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	Ice		Blue Ice		Techni Ice	Dry Ice	None
Temp °C: 1.5 (uncorrected)			**Probe used:** Y / N		**Thermometer ID:** IR-4		
Temp °C: 1.5 (corrected)							

					YES	NO	NA
Shipping Container(s) Intact?					✓		
Shipping Custody Seals Intact?							✓
Airbill ✓	Trk # 7847 7765 3745				✓		
Shipping Documentation Present?					✓		
Shipping Container	Vista	Client	Retain	Return		Dispose	
Chain of Custody / Sample Documentation Present?					✓		
Chain of Custody / Sample Documentation Complete?					✓		
Holding Time Acceptable?					✓		

Logged In:	**Date/Time** 03/17/21 0841	**Initials:** MWS	**Location:** R-13, WR-2 **Shelf/Rack:** B-2, F-5	
COC Anomaly/Sample Acceptance Form completed?			✓	✓

Comments:

CoC/Label Reconciliation Report WO# 2103185

	LabNumber	CoC Sample ID		SampleAlias	Sample Date/Time		Container	BaseMatrix	Report Matrix	Sample Comments
C1	2103185-01	A GW2103091530GSC	☑	DT01-MW01D	09-Mar-21 15:30	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-01	B GW2103091530GSC	☑	DT01-MW01D	09-Mar-21 15:30	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
C1	2103185-02	A GW2103091530GSC-FD	☑	DT01-MW01D	09-Mar-21 15:30	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-02	B GW2103091530GSC-FD	☑	DT01-MW01D	09-Mar-21 15:30	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
C2	2103185-03	A GW2103091500GSC	☑	DT01-MW01S	09-Mar-21 15:00	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-03	B GW2103091500GSC	☑	DT01-MW01S	09-Mar-21 15:00	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-04	A GW2103091415GSC	☑	DT01-MW02S	09-Mar-21 14:15	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-04	B GW2103091415GSC	☑	DT01-MW02S	09-Mar-21 14:15	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-05	A FB2103091400GSC	☑	DELHI - Blank	09-Mar-21 14:00	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-05	B FB2103091400GSC	☑	DELHI - Blank	09-Mar-21 14:00	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-06	A GW2103091340GSC	☑	DT01-MW02D	09-Mar-21 13:40	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-06	B GW2103091340GSC	☑	DT01-MW02D	09-Mar-21 13:40	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
C1	2103185-07	A GW2103091255GSC	☑	DT02-MW01S	09-Mar-21 12:55	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-07	B GW2103091255GSC	☑	DT02-MW01S	09-Mar-21 12:55	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
C2	2103185-08	A GW2103091220GSC	☑	DT02-MW01D	09-Mar-21 12:20	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-08	B GW2103091220GSC	☑	DT02-MW01D	09-Mar-21 12:20	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-09	A GW2103091050GSC	☑	DT02-MW02D	09-Mar-21 10:50	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-09	B GW2103091050GSC	☑	DT02-MW02D	09-Mar-21 10:50	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-10	A GW2103091010GSC	☑	DT02-MW02S	09-Mar-21 10:10	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	
	2103185-10	B GW2103091010GSC	☑	DT02-MW02S	09-Mar-21 10:10	☑	HDPE Bottle, 250 mL	Aqueous	Aqueous	

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

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

Comments: C1 = Cooler 1 of 2
C2 = Cooler 2 of 2

Preservation Documented: Na2S2O3 Trizma NH4CH3CO2 (None ALL) Other

Verifed by/Date: KS 03/17/21

Appendix D – 2022 Analytical Reports

May 26, 2022

Vista Work Order No. 2205053

Dr. Dorin Bogdan
AECOM
5350 Sparks Dr SE
Grand Rapids, MI 49546

Dear Dr. Bogdan,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 04, 2022 under your Project Name 'DELHI Well sampling/ Bio solids'.

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

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

Sincerely,

Jamie Fox
Laboratory Director

Vista Work Order No. 2205053
Case Narrative

Sample Condition on Receipt:

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

Analytical Notes:

PFAS Isotope Dilution Method

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

Holding Times

The samples were extracted and analyzed within the hold times.

Quality Control

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

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 the LOQ. The OPR recoveries were within the acceptance criteria.

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

TABLE OF CONTENTS

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2205053-01	GW2204271500GSC	27-Apr-22 15:00	04-May-22 09:35	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2205053-02	GW2204271035GSC-FD	27-Apr-22 10:35	04-May-22 09:35	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2205053-03	GW2204271350GSC	27-Apr-22 13:50	04-May-22 09:35	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2205053-04	GW2204271220GSC	27-Apr-22 12:20	04-May-22 09:35	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2205053-05	FB2204271030GSC	27-Apr-22 10:30	04-May-22 09:35	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2205053-06	GW2204271300GSC	27-Apr-22 13:00	04-May-22 09:35	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2205053-07	GW2204271035GSC	27-Apr-22 10:35	04-May-22 09:35	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2205053-08	GW2204271125GSC	27-Apr-22 11:25	04-May-22 09:35	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2205053-09	GW2204270950GSC	27-Apr-22 09:50	04-May-22 09:35	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2205053-10	GW2204270900GSC	27-Apr-22 09:00	04-May-22 09:35	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Matrix: Aqueous

Laboratory Data

Lab Sample: B22E062-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFPeA	2706-90-3	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFBS	375-73-5	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
4:2 FTS	757124-72-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFHxA	307-24-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFPeS	2706-91-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
HFPO-DA	13252-13-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFHpA	375-85-9	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
ADONA	919005-14-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFHxS	355-46-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
6:2 FTS	27619-97-2	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFOA	335-67-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFecHS	646-83-3	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFHpS	375-92-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFNA	375-95-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFOSA	754-91-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFOS	1763-23-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
9Cl-PF3ONS	756426-58-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFDA	335-76-2	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
8:2 FTS	39108-34-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFNS	68259-12-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
MeFOSAA	2355-31-9	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
EtFOSAA	2991-50-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFUnA	2058-94-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFDS	335-77-3	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
11Cl-PF3OUdS	763051-92-9	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFDoA	307-55-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFTrDA	72629-94-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
PFTeDA	376-06-7	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 02:42	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	79.3	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C3-PFPeA	IS	81.3	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C3-PFBS	IS	83.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C3-HFPO-DA	IS	89.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C2-4:2 FTS	IS	85.2	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C2-PFHxA	IS	82.4	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C4-PFHpA	IS	76.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C3-PFHxS	IS	82.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1

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

Client Data

Name: AECOM Matrix: Aqueous

Project: DELHI Well sampling/ Bio solids

Laboratory Data

Lab Sample: B22E062-BLK1 Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-6:2 FTS	IS	79.2	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C5-PFNA	IS	70.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C8-PFOSA	IS	57.6	10 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C2-PFOA	IS	87.2	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C8-PFOS	IS	82.2	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C2-PFDA	IS	85.9	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C2-8:2 FTS	IS	87.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
d3-MeFOSAA	IS	76.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C2-PFUnA	IS	81.5	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
d5-EtFOSAA	IS	78.9	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C2-PFDoA	IS	67.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1
13C2-PFTeDA	IS	70.9	20 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:42	1

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

Results reported to the DL.

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

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

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Matrix: Aqueous

Laboratory Data

Lab Sample: B22E062-BS1
Column: BEH C18

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	44.7	40.0	112	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFPeA	2706-90-3	44.0	40.0	110	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFBS	375-73-5	39.7	40.0	99.1	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
4:2 FTS	757124-72-4	49.5	40.0	124	60 - 145		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFHxA	307-24-4	43.0	40.0	108	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFPeS	2706-91-4	37.8	40.0	94.5	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
HFPO-DA	13252-13-6	42.0	40.0	105	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFHpA	375-85-9	42.4	40.0	106	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
ADONA	919005-14-4	41.6	40.0	104	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFHxS	355-46-4	35.8	40.0	89.4	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
6:2 FTS	27619-97-2	46.3	40.0	116	60 - 140		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFOA	335-67-1	41.1	40.0	103	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFecHS	646-83-3	42.8	40.0	107	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFHpS	375-92-8	41.6	40.0	104	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFNA	375-95-1	44.8	40.0	112	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFOSA	754-91-6	45.4	40.0	114	65 - 140		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFOS	1763-23-1	46.3	40.0	116	65 - 140		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
9Cl-PF3ONS	756426-58-1	47.0	40.0	117	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFDA	335-76-2	35.4	40.0	88.6	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
8:2 FTS	39108-34-4	45.7	40.0	114	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFNS	68259-12-1	38.1	40.0	95.3	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
MeFOSAA	2355-31-9	39.8	40.0	99.5	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
EtFOSAA	2991-50-6	40.2	40.0	100	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFUnA	2058-94-8	44.6	40.0	112	65 - 140		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFDS	335-77-3	43.2	40.0	108	50 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
11Cl-PF3OUdS	763051-92-9	45.2	40.0	113	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFDoA	307-55-1	42.6	40.0	107	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFTrDA	72629-94-8	44.8	40.0	112	60 - 140		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
PFTeDA	376-06-7	43.0	40.0	108	65 - 135		B22E062	23-May-22	0.250 L	25-May-22 02:52	1

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	77.5	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C3-PFPeA	IS	82.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C3-PFBS	IS	86.4	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C3-HFPO-DA	IS	82.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C2-4:2 FTS	IS	69.3	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1

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

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Matrix: Aqueous

Laboratory Data

Lab Sample: B22E062-BS1
Column: BEH C18

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	IS	84.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C4-PFHpA	IS	82.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C3-PFHxS	IS	83.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C2-6:2 FTS	IS	80.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C5-PFNA	IS	75.2	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C8-PFOSA	IS	53.7	10 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C2-PFOA	IS	90.5	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C8-PFOS	IS	79.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C2-PFDA	IS	89.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C2-8:2 FTS	IS	88.4	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
d3-MeFOSAA	IS	75.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C2-PFUnA	IS	74.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
d5-EtFOSAA	IS	66.4	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C2-PFDoA	IS	61.9	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1
13C2-PFTeDA	IS	69.7	20 - 150		B22E062	23-May-22	0.250 L	25-May-22 02:52	1

Sample ID: GW2204271500GSC **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT01-MW01D
Matrix: Aqueous
Date Collected: 27-Apr-22 15:00

Laboratory Data

Lab Sample: 2205053-01
Date Received: 04-May-22 09:35
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFPeA	2706-90-3	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFBS	375-73-5	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
4:2 FTS	757124-72-4	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFHxA	307-24-4	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFPeS	2706-91-4	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
HFPO-DA	13252-13-6	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFHpA	375-85-9	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
ADONA	919005-14-4	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFHxS	355-46-4	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
6:2 FTS	27619-97-2	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFOA	335-67-1	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFecHS	646-83-3	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFHpS	375-92-8	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFNA	375-95-1	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFOSA	754-91-6	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFOS	1763-23-1	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
9Cl-PF3ONS	756426-58-1	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFDA	335-76-2	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
8:2 FTS	39108-34-4	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFNS	68259-12-1	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
MeFOSAA	2355-31-9	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
EtFOSAA	2991-50-6	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFUnA	2058-94-8	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFDS	335-77-3	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
11Cl-PF3OUdS	763051-92-9	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFDoA	307-55-1	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFTrDA	72629-94-8	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
PFTeDA	376-06-7	ND	0.972	1.95	3.89		B22E062	23-May-22	0.257 L	25-May-22 03:03	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	70.6	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C3-PFPeA	IS	84.8	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C3-PFBS	IS	86.3	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C3-HFPO-DA	IS	78.4	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C2-4:2 FTS	IS	79.1	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C2-PFHxA	IS	85.7	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C4-PFHpA	IS	76.2	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1

Sample ID: GW2204271500GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT01-MW01D
Matrix: Aqueous
Date Collected: 27-Apr-22 15:00

Laboratory Data

Lab Sample: 2205053-01
Date Received: 04-May-22 09:35
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFHxS	IS	83.4	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C2-6:2 FTS	IS	81.6	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C5-PFNA	IS	75.5	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C8-PFOSA	IS	62.5	10 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C2-PFOA	IS	91.4	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C8-PFOS	IS	92.2	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C2-PFDA	IS	86.5	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C2-8:2 FTS	IS	82.3	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
d3-MeFOSAA	IS	79.5	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C2-PFUnA	IS	79.9	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
d5-EtFOSAA	IS	76.0	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C2-PFDoA	IS	76.7	25 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1
13C2-PFTeDA	IS	80.9	20 - 150		B22E062	23-May-22	0.257 L	25-May-22 03:03	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2204271035GSC-FD

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT02-MW01S
Matrix: Aqueous
Date Collected: 27-Apr-22 10:35

Laboratory Data

Lab Sample: 2205053-02
Date Received: 04-May-22 09:35
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	17.6	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFPeA	2706-90-3	31.4	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFBS	375-73-5	76.7	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
4:2 FTS	757124-72-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFHxA	307-24-4	29.4	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFPeS	2706-91-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
HFPO-DA	13252-13-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFHpA	375-85-9	8.35	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
ADONA	919005-14-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFHxS	355-46-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
6:2 FTS	27619-97-2	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFOA	335-67-1	7.97	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFecHS	646-83-3	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFHpS	375-92-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFNA	375-95-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFOSA	754-91-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFOS	1763-23-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
9Cl-PF3ONS	756426-58-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFDA	335-76-2	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
8:2 FTS	39108-34-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFNS	68259-12-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
MeFOSAA	2355-31-9	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
EtFOSAA	2991-50-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFUnA	2058-94-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFDS	335-77-3	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
11Cl-PF3OUdS	763051-92-9	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFDoA	307-55-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFTrDA	72629-94-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
PFTeDA	376-06-7	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 03:14	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	63.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C3-PFPeA	IS	77.9	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C3-PFBS	IS	73.5	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C3-HFPO-DA	IS	77.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C2-4:2 FTS	IS	81.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C2-PFHxA	IS	84.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C4-PFHpA	IS	86.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1

Sample ID: GW2204271035GSC-FD

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT02-MW01S
Matrix: Aqueous
Date Collected: 27-Apr-22 10:35

Laboratory Data

Lab Sample: 2205053-02
Date Received: 04-May-22 09:35
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFHxS	IS	86.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C2-6:2 FTS	IS	83.4	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C5-PFNA	IS	83.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C8-PFOSA	IS	68.9	10 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C2-PFOA	IS	91.2	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C8-PFOS	IS	87.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C2-PFDA	IS	92.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C2-8:2 FTS	IS	91.3	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
d3-MeFOSAA	IS	79.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C2-PFUnA	IS	78.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
d5-EtFOSAA	IS	90.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C2-PFDoA	IS	76.2	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1
13C2-PFTeDA	IS	67.5	20 - 150		B22E062	23-May-22	0.250 L	25-May-22 03:14	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2204271350GSC **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT01-MW01S
Matrix: Aqueous
Date Collected: 27-Apr-22 13:50

Laboratory Data

Lab Sample: 2205053-03
Date Received: 04-May-22 09:35
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFPeA	2706-90-3	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFBS	375-73-5	10.3	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
4:2 FTS	757124-72-4	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFHxA	307-24-4	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFPeS	2706-91-4	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
HFPO-DA	13252-13-6	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFHpA	375-85-9	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
ADONA	919005-14-4	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFHxS	355-46-4	1.23	0.992	1.98	3.97	J	B22E062	23-May-22	0.252 L	25-May-22 03:24	1
6:2 FTS	27619-97-2	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFOA	335-67-1	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFecHS	646-83-3	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFHpS	375-92-8	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFNA	375-95-1	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFOSA	754-91-6	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFOS	1763-23-1	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
9Cl-PF3ONS	756426-58-1	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFDA	335-76-2	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
8:2 FTS	39108-34-4	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFNS	68259-12-1	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
MeFOSAA	2355-31-9	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
EtFOSAA	2991-50-6	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFUnA	2058-94-8	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFDS	335-77-3	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
11Cl-PF3OUdS	763051-92-9	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFDoA	307-55-1	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFTrDA	72629-94-8	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
PFTeDA	376-06-7	ND	0.992	1.98	3.97		B22E062	23-May-22	0.252 L	25-May-22 03:24	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	71.5	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C3-PFPeA	IS	78.9	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C3-PFBS	IS	80.5	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C3-HFPO-DA	IS	77.0	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C2-4:2 FTS	IS	75.6	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C2-PFHxA	IS	80.4	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C4-PFHpA	IS	76.4	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1

Sample ID: GW2204271350GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT01-MW01S
Matrix: Aqueous
Date Collected: 27-Apr-22 13:50

Laboratory Data

Lab Sample: 2205053-03
Date Received: 04-May-22 09:35
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFHxS	IS	78.1	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C2-6:2 FTS	IS	80.9	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C5-PFNA	IS	73.0	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C8-PFOSA	IS	61.2	10 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C2-PFOA	IS	89.7	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C8-PFOS	IS	82.8	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C2-PFDA	IS	82.5	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C2-8:2 FTS	IS	89.2	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
d3-MeFOSAA	IS	76.4	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C2-PFUnA	IS	79.3	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
d5-EtFOSAA	IS	77.7	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C2-PFDoA	IS	70.3	25 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1
13C2-PFTeDA	IS	70.8	20 - 150		B22E062	23-May-22	0.252 L	25-May-22 03:24	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2204271220GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT01-MW02S
Matrix: Aqueous
Date Collected: 27-Apr-22 12:20

Laboratory Data

Lab Sample: 2205053-04
Date Received: 04-May-22 09:35
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFPeA	2706-90-3	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFBS	375-73-5	2.16	0.962	1.92	3.85	J	B22E062	23-May-22	0.260 L	25-May-22 04:06	1
4:2 FTS	757124-72-4	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFHxA	307-24-4	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFPeS	2706-91-4	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
HFPO-DA	13252-13-6	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFHpA	375-85-9	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
ADONA	919005-14-4	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFHxS	355-46-4	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
6:2 FTS	27619-97-2	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFOA	335-67-1	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFecHS	646-83-3	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFHpS	375-92-8	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFNA	375-95-1	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFOSA	754-91-6	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFOS	1763-23-1	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
9Cl-PF3ONS	756426-58-1	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFDA	335-76-2	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
8:2 FTS	39108-34-4	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFNS	68259-12-1	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
MeFOSAA	2355-31-9	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
EtFOSAA	2991-50-6	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFUnA	2058-94-8	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFDS	335-77-3	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
11Cl-PF3OUdS	763051-92-9	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFDoA	307-55-1	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFTrDA	72629-94-8	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
PFTeDA	376-06-7	ND	0.962	1.92	3.85		B22E062	23-May-22	0.260 L	25-May-22 04:06	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	68.9	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C3-PFPeA	IS	80.6	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C3-PFBS	IS	82.7	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C3-HFPO-DA	IS	85.7	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C2-4:2 FTS	IS	79.6	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C2-PFHxA	IS	86.6	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C4-PFHpA	IS	82.0	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1

Sample ID: GW2204271220GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT01-MW02S
Matrix: Aqueous
Date Collected: 27-Apr-22 12:20

Laboratory Data

Lab Sample: 2205053-04
Date Received: 04-May-22 09:35
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFHxS	IS	90.5	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C2-6:2 FTS	IS	66.9	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C5-PFNA	IS	74.3	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C8-PFOSA	IS	64.0	10 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C2-PFOA	IS	88.5	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C8-PFOS	IS	87.9	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C2-PFDA	IS	91.3	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C2-8:2 FTS	IS	91.4	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
d3-MeFOSAA	IS	76.5	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C2-PFUnA	IS	86.7	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
d5-EtFOSAA	IS	82.7	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C2-PFDoA	IS	74.9	25 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1
13C2-PFTeDA	IS	77.8	20 - 150		B22E062	23-May-22	0.260 L	25-May-22 04:06	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: FB2204271030GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Matrix: Aqueous
Date Collected: 27-Apr-22 10:30

Laboratory Data

Lab Sample: 2205053-05
Date Received: 04-May-22 09:35
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFPeA	2706-90-3	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFBS	375-73-5	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
4:2 FTS	757124-72-4	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFHxA	307-24-4	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFPeS	2706-91-4	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
HFPO-DA	13252-13-6	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFHpA	375-85-9	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
ADONA	919005-14-4	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFHxS	355-46-4	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
6:2 FTS	27619-97-2	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFOA	335-67-1	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFecHS	646-83-3	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFHpS	375-92-8	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFNA	375-95-1	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFOSA	754-91-6	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFOS	1763-23-1	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
9Cl-PF3ONS	756426-58-1	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFDA	335-76-2	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
8:2 FTS	39108-34-4	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFNS	68259-12-1	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
MeFOSAA	2355-31-9	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
EtFOSAA	2991-50-6	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFUnA	2058-94-8	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFDS	335-77-3	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
11Cl-PF3OUdS	763051-92-9	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFDoA	307-55-1	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFTrDA	72629-94-8	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
PFTeDA	376-06-7	ND	0.968	1.94	3.87		B22E062	23-May-22	0.258 L	25-May-22 04:17	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	77.2	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C3-PFPeA	IS	77.6	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C3-PFBS	IS	87.7	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C3-HFPO-DA	IS	80.7	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C2-4:2 FTS	IS	73.4	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C2-PFHxA	IS	85.8	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C4-PFHpA	IS	77.2	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1

Sample ID: FB2204271030GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Matrix: Aqueous
Date Collected: 27-Apr-22 10:30

Laboratory Data

Lab Sample: 2205053-05
Date Received: 04-May-22 09:35
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFHxS	IS	79.4	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C2-6:2 FTS	IS	77.2	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C5-PFNA	IS	75.3	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C8-PFOSA	IS	46.5	10 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C2-PFOA	IS	90.2	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C8-PFOS	IS	89.5	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C2-PFDA	IS	82.3	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C2-8:2 FTS	IS	98.3	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
d3-MeFOSAA	IS	63.8	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C2-PFUnA	IS	83.6	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
d5-EtFOSAA	IS	68.0	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C2-PFDoA	IS	76.2	25 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1
13C2-PFTeDA	IS	67.6	20 - 150		B22E062	23-May-22	0.258 L	25-May-22 04:17	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2204271300GSC **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT01-MW02D
Matrix: Aqueous
Date Collected: 27-Apr-22 13:00

Laboratory Data

Lab Sample: 2205053-06
Date Received: 04-May-22 09:35
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFPeA	2706-90-3	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFBS	375-73-5	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
4:2 FTS	757124-72-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFHxA	307-24-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFPeS	2706-91-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
HFPO-DA	13252-13-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFHpA	375-85-9	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
ADONA	919005-14-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFHxS	355-46-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
6:2 FTS	27619-97-2	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFOA	335-67-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFecHS	646-83-3	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFHpS	375-92-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFNA	375-95-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFOSA	754-91-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFOS	1763-23-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
9Cl-PF3ONS	756426-58-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFDA	335-76-2	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
8:2 FTS	39108-34-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFNS	68259-12-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
MeFOSAA	2355-31-9	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
EtFOSAA	2991-50-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFUnA	2058-94-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFDS	335-77-3	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
11Cl-PF3OUdS	763051-92-9	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFDoA	307-55-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFTrDA	72629-94-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
PFTeDA	376-06-7	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:27	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	66.9	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C3-PFPeA	IS	78.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C3-PFBS	IS	84.5	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C3-HFPO-DA	IS	82.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C2-4:2 FTS	IS	80.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C2-PFHxA	IS	81.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C4-PFHpA	IS	78.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1

Sample ID: GW2204271300GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT01-MW02D
Matrix: Aqueous
Date Collected: 27-Apr-22 13:00

Laboratory Data

Lab Sample: 2205053-06
Date Received: 04-May-22 09:35
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFHxS	IS	84.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C2-6:2 FTS	IS	85.2	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C5-PFNA	IS	75.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C8-PFOSA	IS	59.0	10 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C2-PFOA	IS	87.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C8-PFOS	IS	84.4	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C2-PFDA	IS	86.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C2-8:2 FTS	IS	93.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
d3-MeFOSAA	IS	69.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C2-PFUnA	IS	83.4	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
d5-EtFOSAA	IS	81.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C2-PFDoA	IS	78.2	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1
13C2-PFTeDA	IS	76.9	20 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:27	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2204271035GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT02-MW01S
Matrix: Aqueous
Date Collected: 27-Apr-22 10:35

Laboratory Data

Lab Sample: 2205053-07
Date Received: 04-May-22 09:35
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	17.7	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFPeA	2706-90-3	31.0	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFBS	375-73-5	69.5	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
4:2 FTS	757124-72-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFHxA	307-24-4	29.0	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFPeS	2706-91-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
HFPO-DA	13252-13-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFHpA	375-85-9	8.18	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
ADONA	919005-14-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFHxS	355-46-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
6:2 FTS	27619-97-2	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFOA	335-67-1	7.83	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFecHS	646-83-3	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFHpS	375-92-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFNA	375-95-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFOSA	754-91-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFOS	1763-23-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
9Cl-PF3ONS	756426-58-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFDA	335-76-2	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
8:2 FTS	39108-34-4	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFNS	68259-12-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
MeFOSAA	2355-31-9	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
EtFOSAA	2991-50-6	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFUnA	2058-94-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFDS	335-77-3	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
11Cl-PF3OUdS	763051-92-9	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFDoA	307-55-1	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFTrDA	72629-94-8	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
PFTeDA	376-06-7	ND	1.00	2.00	4.00		B22E062	23-May-22	0.250 L	25-May-22 04:38	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	57.5	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C3-PFPeA	IS	71.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C3-PFBS	IS	75.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C3-HFPO-DA	IS	67.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C2-4:2 FTS	IS	74.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C2-PFHxA	IS	81.5	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C4-PFHpA	IS	77.3	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1

Sample ID: GW2204271035GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT02-MW01S
Matrix: Aqueous
Date Collected: 27-Apr-22 10:35

Laboratory Data

Lab Sample: 2205053-07
Date Received: 04-May-22 09:35
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFHxS	IS	78.9	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C2-6:2 FTS	IS	77.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C5-PFNA	IS	71.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C8-PFOSA	IS	57.6	10 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C2-PFOA	IS	84.3	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C8-PFOS	IS	73.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C2-PFDA	IS	83.3	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C2-8:2 FTS	IS	82.9	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
d3-MeFOSAA	IS	71.9	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C2-PFUnA	IS	79.9	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
d5-EtFOSAA	IS	75.9	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C2-PFDoA	IS	72.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1
13C2-PFTeDA	IS	67.3	20 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:38	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2204271125GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT02-MW01D
Matrix: Aqueous
Date Collected: 27-Apr-22 11:25

Laboratory Data

Lab Sample: 2205053-08
Date Received: 04-May-22 09:35
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	2.53	0.999	2.00	3.99	J	B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFPeA	2706-90-3	3.43	0.999	2.00	3.99	J	B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFBS	375-73-5	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
4:2 FTS	757124-72-4	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFHxA	307-24-4	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFPeS	2706-91-4	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
HFPO-DA	13252-13-6	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFHpA	375-85-9	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
ADONA	919005-14-4	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFHxS	355-46-4	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
6:2 FTS	27619-97-2	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFOA	335-67-1	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFecHS	646-83-3	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFHpS	375-92-8	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFNA	375-95-1	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFOSA	754-91-6	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFOS	1763-23-1	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
9Cl-PF3ONS	756426-58-1	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFDA	335-76-2	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
8:2 FTS	39108-34-4	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFNS	68259-12-1	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
MeFOSAA	2355-31-9	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
EtFOSAA	2991-50-6	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFUnA	2058-94-8	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFDS	335-77-3	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
11Cl-PF3OUdS	763051-92-9	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFDoA	307-55-1	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFTrDA	72629-94-8	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
PFTeDA	376-06-7	ND	0.999	2.00	3.99		B22E062	23-May-22	0.250 L	25-May-22 04:48	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	54.3	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C3-PFPeA	IS	68.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C3-PFBS	IS	74.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C3-HFPO-DA	IS	70.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C2-4:2 FTS	IS	63.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C2-PFHxA	IS	79.7	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C4-PFHpA	IS	73.5	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1

Sample ID: GW2204271125GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT02-MW01D
Matrix: Aqueous
Date Collected: 27-Apr-22 11:25

Laboratory Data

Lab Sample: 2205053-08
Date Received: 04-May-22 09:35
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFHxS	IS	77.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C2-6:2 FTS	IS	69.4	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C5-PFNA	IS	69.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C8-PFOSA	IS	59.0	10 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C2-PFOA	IS	81.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C8-PFOS	IS	75.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C2-PFDA	IS	79.4	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C2-8:2 FTS	IS	85.8	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
d3-MeFOSAA	IS	64.5	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C2-PFUnA	IS	76.0	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
d5-EtFOSAA	IS	69.1	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C2-PFDoA	IS	68.6	25 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1
13C2-PFTeDA	IS	71.4	20 - 150		B22E062	23-May-22	0.250 L	25-May-22 04:48	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2204270950GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT02-MW02D
Matrix: Aqueous
Date Collected: 27-Apr-22 09:50

Laboratory Data

Lab Sample: 2205053-09
Date Received: 04-May-22 09:35
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFPeA	2706-90-3	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFBS	375-73-5	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
4:2 FTS	757124-72-4	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFHxA	307-24-4	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFPeS	2706-91-4	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
HFPO-DA	13252-13-6	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFHpA	375-85-9	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
ADONA	919005-14-4	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFHxS	355-46-4	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
6:2 FTS	27619-97-2	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFOA	335-67-1	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFecHS	646-83-3	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFHpS	375-92-8	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFNA	375-95-1	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFOSA	754-91-6	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFOS	1763-23-1	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
9Cl-PF3ONS	756426-58-1	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFDA	335-76-2	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
8:2 FTS	39108-34-4	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFNS	68259-12-1	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
MeFOSAA	2355-31-9	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
EtFOSAA	2991-50-6	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFUnA	2058-94-8	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFDS	335-77-3	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
11Cl-PF3OUdS	763051-92-9	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFDoA	307-55-1	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFTrDA	72629-94-8	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
PFTeDA	376-06-7	ND	1.01	2.01	4.02		B22E062	23-May-22	0.249 L	25-May-22 04:59	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	60.8	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C3-PFPeA	IS	78.7	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C3-PFBS	IS	82.6	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C3-HFPO-DA	IS	80.4	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C2-4:2 FTS	IS	76.3	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C2-PFHxA	IS	77.4	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C4-PFHpA	IS	74.8	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1

Sample ID: GW2204270950GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT02-MW02D
Matrix: Aqueous
Date Collected: 27-Apr-22 09:50

Laboratory Data

Lab Sample: 2205053-09
Date Received: 04-May-22 09:35
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFHxS	IS	82.1	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C2-6:2 FTS	IS	74.2	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C5-PFNA	IS	76.3	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C8-PFOSA	IS	51.5	10 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C2-PFOA	IS	87.4	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C8-PFOS	IS	86.1	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C2-PFDA	IS	84.9	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C2-8:2 FTS	IS	80.3	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
d3-MeFOSAA	IS	76.1	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C2-PFUnA	IS	80.7	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
d5-EtFOSAA	IS	73.8	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C2-PFDoA	IS	75.7	25 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1
13C2-PFTeDA	IS	73.0	20 - 150		B22E062	23-May-22	0.249 L	25-May-22 04:59	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

Sample ID: GW2204270900GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT02-MW02S
Matrix: Aqueous
Date Collected: 27-Apr-22 09:00

Laboratory Data

Lab Sample: 2205053-10
Date Received: 04-May-22 09:35
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	3.44	0.984	1.97	3.94	J	B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFPeA	2706-90-3	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFBS	375-73-5	33.0	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
4:2 FTS	757124-72-4	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFHxA	307-24-4	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFPeS	2706-91-4	1.10	0.984	1.97	3.94	J	B22E062	23-May-22	0.254 L	25-May-22 05:09	1
HFPO-DA	13252-13-6	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFHpA	375-85-9	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
ADONA	919005-14-4	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFHxS	355-46-4	2.32	0.984	1.97	3.94	J	B22E062	23-May-22	0.254 L	25-May-22 05:09	1
6:2 FTS	27619-97-2	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFOA	335-67-1	1.10	0.984	1.97	3.94	J, Q	B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFecHS	646-83-3	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFHpS	375-92-8	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFNA	375-95-1	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFOSA	754-91-6	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFOS	1763-23-1	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
9Cl-PF3ONS	756426-58-1	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFDA	335-76-2	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
8:2 FTS	39108-34-4	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFNS	68259-12-1	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
MeFOSAA	2355-31-9	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
EtFOSAA	2991-50-6	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFUnA	2058-94-8	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFDS	335-77-3	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
11Cl-PF3OUdS	763051-92-9	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFDoA	307-55-1	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFTrDA	72629-94-8	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
PFTeDA	376-06-7	ND	0.984	1.97	3.94		B22E062	23-May-22	0.254 L	25-May-22 05:09	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	57.7	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C3-PFPeA	IS	82.1	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C3-PFBS	IS	89.6	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C3-HFPO-DA	IS	96.7	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C2-4:2 FTS	IS	88.1	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C2-PFHxA	IS	84.6	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C4-PFHpA	IS	76.8	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1

Sample ID: GW2204270900GSC

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: DELHI Well sampling/ Bio solids
Location: DT02-MW02S
Matrix: Aqueous
Date Collected: 27-Apr-22 09:00

Laboratory Data

Lab Sample: 2205053-10
Date Received: 04-May-22 09:35
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFHxS	IS	86.7	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C2-6:2 FTS	IS	92.5	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C5-PFNA	IS	78.2	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C8-PFOSA	IS	65.6	10 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C2-PFOA	IS	98.1	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C8-PFOS	IS	89.8	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C2-PFDA	IS	79.8	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C2-8:2 FTS	IS	95.2	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
d3-MeFOSAA	IS	76.0	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C2-PFUnA	IS	86.0	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
d5-EtFOSAA	IS	80.8	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C2-PFDoA	IS	76.3	25 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1
13C2-PFTeDA	IS	69.1	20 - 150		B22E062	23-May-22	0.254 L	25-May-22 05:09	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

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

DATA QUALIFIERS & ABBREVIATIONS

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

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

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	21-023-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2020018
Massachusetts Department of Environmental Protection	M-CA413
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	2211390
New Hampshire Environmental Accreditation Program	207721
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Ohio Environmental Protection Agency	87778
Oregon Laboratory Accreditation Program	4042-021
Pennsylvania Department of Environmental Protection	018
Texas Commission on Environmental Quality	T104704189-22-13
Vermont Department of Health	VT-4042
Virginia Department of General Services	11276
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

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

NELAP Accredited Test Methods

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

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

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

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

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

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 2205053 Temp: 0.8, 4.7 °C
Storage ID: R-13, WR-2 Storage Secured: Yes ☒ No ☐

Project ID: **DELHI Well sampling/ Bio solids** PO#: **60588767** Sampler: **Garth Cousineau** (name)

TAT (check one): Standard: [X] 21 days; Rush (surcharge may apply): [ ] 14 days [ ] 7 days Specify:

Invoice to: Name	Company	Address	City	State	Ph#	Fax#
Stephanie Kammer	EGLE	525 W. Allegan St	Lansing	MI	517-897-1597	517-241-3571

Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
Garth Cousineau	5-3-22	1500	Kelia Wadsworth Kelia Wadsworth 05/03/22	0935	KW 05/04/22
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762

Method of Shipment:

ATTN: Tracking No.:

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	Mod. EPA Method 537: PFOA/ PFOS	UCMR3 PFAS List 6	537 List: 14	PFAS List of 24	PFAS List of 28+PFeCHS	EPA Method 537(DW only): PFOA/ PFOS	UCMR3 PFAS List 6	PFAS List: 14	Comments
GW2204271500GSC	4/27/22	1500	DT01-MW01D	2	P	AQ					X				
GW2204271035GSC-FD	4/27/22	1035	DT02-MW01S	2	P	AQ					X				FIELD DUPLICATE
GW2204271350GSC	4/27/22	1350	DT01-MW01S	2	P	AQ					X				
GW2204271220GSC	4/27/22	1220	DT01-MW02S	2	P	AQ					X				
FB2204271030GSC	4/27/22	1030		2	P	AQ					X				FIELD BLANK
GW2204271300GSC	4/27/22	1300	DT01-MW02D	2	P	AQ					X				
GW2204271035GSC	4/27/22	1035	DT02-MW01S	2	P	AQ					X				
GW2204271125GSC	4/27/22	1125	DT02-MW01D	2	P	AQ					X				
GW2204270950GSC	4/27/22	0950	DT02-MW02D	2	P	AQ					X				
GW2204270900GSC	4/27/22	0900	DT02-MW02S	2	P	AQ					X				

Special Instructions/Comments: **Send Results and Acknowledgements to:**
Michael.Wolf@aecom.com
Dorin.Bogdan@aecom.com
Robert.Kennedy@aecom.com

SEND DOCUMENTATION AND RESULTS TO:
Name: **Stephanie Kammer**
Company: **EGLE**
Address: **525 W. Allegan St**
City: **Lansing** MI 48909
Phone: **517-897-1597** **517-241-3571**
Email:

Container Types: P= HDPE, PJ= HDPE Jar, O = Other:
Bottle Preservation Type: T = Thiosulfate, TZ = Trizma:
Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

use full list

EGLE PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES (PFAS) MINIMUM LABORATORY ANALYTE LIST

Below is the minimum laboratory PFAS analyte list for analysis of deer, drinking water, groundwater, surface water, soil, wastewater effluent, and landfill leachate samples collected by Michigan's Departments of Environment, Great Lakes, and Energy, Health and Human Services, Agriculture and Rural Development, and Natural Resources.

This minimum analyte list was developed based on the potential for these chemicals to be found in Michigan, the availability of the chemical standards used for testing, and the ability of available laboratories to test for these PFAS. This list includes PFAS that can be tested for in drinking water using United States Environmental Protection Agency (USEPA) Methods 537 Rev.1.1 or 537.1, which are the only methods that should be used when analyzing drinking water samples. Other testing methodology may be used to test for PFAS in other media (not drinking water). This list is not exhaustive of PFAS in Michigan's environment.

A fish icon (🐟) precedes those compounds that are also currently being tested for in fish tissue.

Analyte Name	Acronym	Fluorinated Carbon Chain Length	Molecular Formula	CAS Number	USEPA Method 537 Rev. 1.1	USEPA Method 537.1
🐟 Perfluorotetradecanoic acid	PFTeA	C_{14}	$C_{13}F_{27}COOH$	376-06-7	X	
🐟 Perfluorotridecanoic acid	PFTriA	C_{13}	$C_{12}F_{25}COOH$	72629-94-8	X	
🐟 Perfluorododecanoic acid	PFDoA	C_{12}	$C_{11}F_{23}COOH$	307-55-1	X	
🐟 Perfluoroundecanoic acid	PFUnA	C_{11}	$C_{10}F_{21}COOH$	2058-94-8	X	
🐟 Perfluorodecanoic acid	PFDA	C_{10}	$C_9F_{19}COOH$	335-76-2	X	
🐟 Perfluorononanoic acid	PFNA	C_9	$C_8F_{17}COOH$	375-95-1	X	
🐟 Perfluorooctanoic acid	PFOA	C_8	$C_7F_{15}COOH$	335-67-1	X	
🐟 Perfluoroheptanoic acid	PFHpA	C_7	$C_6F_{13}COOH$	375-85-9	X	
🐟 Perfluorohexanoic acid	PFHxA	C_6	$C_5F_{11}COOH$	307-24-4	X	
🐟 Perfluoropentanoic acid	PFPeA	C_5	C_4F_9COOH	2706-90-3		
🐟 Perfluorobutanoic acid	PFBA	C_4	C_3F_7COOH	375-22-4		
🐟 Perfluorodecanesulfonic acid	PFDS	C_{10}	$C_{10}F_{21}SO_3H$	335-77-3		
Perfluorononanesulfonic acid	PFNS	C_9	$C_9F_{19}SO_3H$	68259-12-1		
🐟 Perfluorooctanesulfonic acid	PFOS	C_8	$C_8F_{17}SO_3H$	1763-23-1	X	
Perfluoroheptanesulfonic acid	PFHpS	C_7	$C_7F_{15}SO_3H$	375-92-8		
🐟 Perfluorohexanesulfonic acid	PFHxS	C_6	$C_6F_{13}SO_3H$	355-46-4	X	
Perfluoropentanesulfonic acid	PFPeS	C_5	$C_5F_{11}SO_3H$	2706-91-4		
🐟 Perfluorobutanesulfonic acid	PFBS	C_4	$C_4F_9SO_3H$	375-73-5	X	

2205053

Analyte Name	Acronym	Fluorinated Carbon Chain Length	Molecular Formula	CAS Number	USEPA Method 537 Rev. 1.1	USEPA Method 537.1
Perfluorooctanesulfonamide	PFOSA	C_8	$C_8F_{17}SO_2NH_2$	754-91-6		
Fluorotelomer sulfonic acid 8:2	FtS 8:2	C_8	$C_8F_{17}CH_2CH_2SO_3$	39108-34-4		
Fluorotelomer sulfonic acid 6:2	FtS 6:2	C_6	$C_6F_{13}CH_2CH_2SO_3$	27619-97-2		
Fluorotelomer sulfonic acid 4:2	FtS 4:2	C_4	$C_4F_9CH_2CH_2SO_3$	757124-72-4		
'-(N-Ethylperfluorooctanesulfonamido) cetic acid	N-EtFOSAA	C_8	$C_8F_{17}SO_2N(C_2H_5)CH_2COOH$	2991-50-6	X	
'-(N-Methylperfluorooctanesulfonamido) cetic acid	N-MeFOSAA	C_8	$C_8F_{17}SO_2N(CH_3)CHCOOH$	2355-31-9	X	
lexafluoropropylene oxide dimer acid	HFPO-DA	C6	$C_6HF_{11}O_3$	13252-13-6		X
.1-chloroeicosafluoro-3-oxaundecane-.-sulfonic acid	11Cl-PF3OUdS	C10	$C_{10}HF_{20}ClSO_4$	763051-92-9		X
)-chlorohexadecafluoro-3-oxanone-1-ulfonic acid	9Cl-PF3ONS	C8	$C_8HF_{16}ClSO_4$	756426-58-1		X
,8-dioxa-3H-perfluorononanoic acid	ADONA	C7	$C_7H_2F_{12}O_4$	919005-14-4		X

Laboratories Providing PFAS Analytical Services

(The list that turns up in the search results from the following links does not constitute an endorsement of those firms on the list, nor is it a statement against any firm not on the list. Additionally, the capacity of the labs to provide services consistent with EGLE's recommendations above has not been verified and these details should be addressed prior to contracting with the laboratories below.)

The **United States Environmental Protection Agency (US EPA)** has a list of laboratories approved under the UCMR3 program using US EPA Method 537 Rev. 1.1 for PFAS in drinking water:

https://www.epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule

The **United States Department of Defense, Environmental Laboratory Accreditation Program (US DoD ELAP)** maintains a list of labs for the determination of PFAS in various environmental media other than drinking water on the Defense Environmental Network Information Exchange (DENIX) server:

https://www.denix.osd.mil/edqw/accreditation/accreditedlabs/

Contact Information

Questions regarding PFAS in general, contact:

- **MDHHS General Information**
  (517) 373-3740
- **EGLE Environmental Assistance Center**
  (800) 662-9278

Questions regarding laboratory information, contact:

- **MDHHS Chemistry & Toxicology Division**
  (517) 335-9490
- **EGLE Drinking Water Analysis Laboratory**
  (517) 335-8184

Vista Analytical Laboratory

Sample Log-In Checklist

Vista Work Order #: 2205053 TAT std

Samples Arrival:	**Date/Time** 05/04/22 0935		**Initials:** KW		**Location:** WR-2 **Shelf/Rack:** N/A		
Delivered By:	(FedEx)	UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	(Ice)		Blue Ice		Techni Ice	Dry Ice	None
Temp °C: 0.9 (uncorrected) / **Temp °C:** 0.9 (corrected)	**Probe used:** Y / (N)				**Thermometer ID:** IR-3		

	YES	NO	NA
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Airbill 1 of 2 Trk # 2727 1484 0267	✓		
Shipping Documentation Present?	✓		
Shipping Container: (Vista) Client (Retain) Return Dispose			
Chain of Custody / Sample Documentation Present?	✓		
Chain of Custody / Sample Documentation Complete?	✓		
Holding Time Acceptable?	✓		

Logged In:	**Date/Time** 05/04/22 1717	**Initials:** MWS	**Location:** R-18, WR-2 **Shelf/Rack:** B-3, F-7	
COC Anomaly/Sample Acceptance Form completed?			✓	✓

Comments:

Vista Analytical Laboratory

Sample Log-In Checklist

Vista Work Order #: 2205053 TAT std

Samples Arrival:	Date/Time: 05/04/22 09:35	Initials: KZ	Location: WR-2 Shelf/Rack: M12

Delivered By:	FedEx	UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	~~Ice~~		Blue Ice		Techni Ice	Dry Ice	None

Temp °C: 4.8 (uncorrected)	Probe used: Y / (N)	Thermometer ID: IR-7
Temp °C: 4.7 (corrected)		

	YES	NO	NA
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Airbill 2 of 2 Trk # 2727 1484 2274	✓		
Shipping Documentation Present?	✓		

Shipping Container	(Vista)	Client	(Retain)	Return	Dispose

Chain of Custody / Sample Documentation Present?	✓		
Chain of Custody / Sample Documentation Complete?	✓		
Holding Time Acceptable?	✓		

Logged In:	Date/Time: 05/04/22 1717	Initials: WWS	Location: R-13, WR-2 Shelf/Rack: B-3, F-7

COC Anomaly/Sample Acceptance Form completed?		✓	✓

Comments:

CoC/Label Reconciliation Report WO# 2205053

LabNumber	CoC Sample ID		SampleAlias	Sample Date/Time		Container	BaseMatrix	Sample Comments
2205053-01	A GW2204271500GSC	☑	DT01-MW01D	27-Apr-22 15:00	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-01	B GW2204271500GSC	☑	DT01-MW01D	27-Apr-22 15:00	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-02	A GW2204271035GSC-FD	☑	DT02-MW01S	27-Apr-22 10:35	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-02	B GW2204271035GSC-FD	☑	DT02-MW01S	27-Apr-22 10:35	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-03	A GW2204271350GSC	☑	DT01-MW01S	27-Apr-22 13:50	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-03	B GW2204271350GSC	☑	DT01-MW01S	27-Apr-22 13:50	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-04	A GW2204271220GSC	☑	DT01-MW02S	27-Apr-22 12:20	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-04	B GW2204271220GSC	☑	DT01-MW02S	27-Apr-22 12:20	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-05	A FB2204271030GSC	☑		27-Apr-22 10:30	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-05	B FB2204271030GSC	☑		27-Apr-22 10:30	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-06	A GW2204271300GSC	☑	DT01-MW02D	27-Apr-22 13:00	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-06	B GW2204271300GSC	☑	DT01-MW02D	27-Apr-22 13:00	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-07	A GW2204271035GSC	☑	DT02-MW01S	27-Apr-22 10:35	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-07	B GW2204271035GSC	☑	DT02-MW01S	27-Apr-22 10:35	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-08	A GW2204271125GSC	☑	DT02-MW01D	27-Apr-22 11:25	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-08	B GW2204271125GSC	☑	DT02-MW01D	27-Apr-22 11:25	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-09	A GW2204270950GSC	☑	DT02-MW02D	27-Apr-22 09:50	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-09	B GW2204270950GSC	☑	DT02-MW02D	27-Apr-22 09:50	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-10	A GW2204270900GSC	☑	DT02-MW02S	27-Apr-22 09:00	☑	HDPE Bottle, 250 mL	Aqueous	
2205053-10	B GW2204270900GSC	☑	DT02-MW02S	27-Apr-22 09:00	☑	HDPE Bottle, 250 mL	Aqueous	

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

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

Comments: (C1) = Cooler 1 of 2
(C2) = Cooler 2 of 2
*KW 05/04/22

Preservation Documented: Na2S2O3 Trizma NH4CH3CO2 (None All) Other

Verifed by/Date: KW 05/04/22