Illinois Environmental | 21-73320

1610150001 – Rock Island
Cordova/3M Company
~~SF/TECH~~ SR/TECH
MED/JR

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19 8

Site Remediation Program Form (DRM-2)
(To be Submitted with all Plans and Reports)

You may complete this form online, save a copy, print, sign and mail it to the address above.

I. Site Identification:

Site Name: Cordova/3M Company
Street Address: 22614 Route 84N P.O. Box:
City: Cordova State: IL Zip Code: 61242 Phone:
Illinois Inventory ID Number: 1610150001 IEMA Incident Number:

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II. Remediation Applicant:

Applicant's Name: Mr./Ms. Ms. Kristin Colberg
Company: 3M Company
Street Address: 3M Center, 224-5-W-17 P.O. Box:
City: Maplewood State: MN Zip Code: 55144 Phone: 612.244.8869
Email Address: kcolberg@mmm.com

I hereby request that the Illinois EPA review and evaluate the attached project documents in accordance with the terms and conditions of the Environmental Protection Act (415 ILCS 5), implementing regulations, and the review and evaluation services agreement.

Remediation Applicant's Signature: Kristin Colberg Date: 06/17/21

III. Contact Person for Remediation Applicant:

Contact's Name: Mr./Ms. same as above
Company:
Street Address: P.O. Box:
City: State: Zip Code: Phone:
Email Address:

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Contact Person for Consultant:

Contact's Name: Mr./Ms. Mr. Dave Cairns
Company: Weston Solutions, Inc.
Street Address: 1400 Weston Way P.O. Box:
City: West Chester State: PA Zip Code: 19380 Phone: 610.701.3676
Email Address: D.Cairns@westonsolutions.com

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IV. Review & Evaluation Licensed Professional Engineer or Geologist ("RELPEG"), if applicable:

RELPEG's Name: Mr./Ms. Mr. Mark Kleiner, PE
Company: Weston Solutions, Inc.
Street Address: 300 Plaza Circle, Suite 202 P.O. Box:
City: Mundelein State: IL Zip Code: 60060 Phone: 224.864.7238
Email Address: Mark.Kleiner@westonsolutions.com

V. Project Documents Being Submitted:

Document Title: 2020 Annual Per- and Polyfluoroalkyl Substances Monitoring R

Date of Preparation of Plan or Report: June 2020

Prepared by: Weston Solutions, Inc.

Prepared For: 3M Company

Type of Document Submitted:

- ☐ Site Investigation Report - Comprehensive
- ☐ Site Investigation Report - Focused
- ☐ Remediation Objectives Report - Tier 1 or 2
- ☐ Remediation Objectives Report - Tier 3
- ☐ Remedial Action Plan
- ☐ Remedial Action Completion Report
- ☐ Sampling Plan
- ☐ Health and Safety Plan
- ☐ Community Relations Plan
- ☐ Risk Assessment
- ☐ Containment Fate & Transport Modeling
- ☑ Other: Annual Monitoring Report

Document Title: _____

Date of Preparation of Plan or Report: _____

Prepared by: _____

Prepared For: _____

Type of Document Submitted:

- ☐ Site Investigation Report - Comprehensive
- ☐ Site Investigation Report - Focused
- ☐ Remediation Objectives Report - Tier 1 or 2
- ☐ Remediation Objectives Report - Tier 3
- ☐ Remedial Action Plan
- ☐ Remedial Action Completion Report
- ☐ Sampling Plan
- ☐ Health and Safety Plan
- ☐ Community Relations Plan
- ☐ Risk Assessment
- ☐ Containment Fate & Transport Modeling
- ☐ Other: _____

Document Title: _____

Date of Preparation of Plan or Report: _____

Prepared by: _____

Prepared For: _____

Type of Document Submitted:

- ☐ Site Investigation Report - Comprehensive
- ☐ Site Investigation Report - Focused
- ☐ Remediation Objectives Report - Tier 1 or 2
- ☐ Remediation Objectives Report - Tier 3
- ☐ Remedial Action Plan
- ☐ Remedial Action Completion Report
- ☐ Sampling Plan
- ☐ Health and Safety Plan
- ☐ Community Relations Plan
- ☐ Risk Assessment
- ☐ Containment Fate & Transport Modeling
- ☐ Other: _____

VI. Professional Engineer's or Geologist's Seal or Stamp:

I attest that all site investigations or remedial activities that are subject of this plan(s) or report(s) were performed under my direction, and this document and all attachments were prepared under my direction or reviewed by me, and to the best of my knowledge and belief, the work described in the plan and report has been designed or completed in accordance with the Illinois Environmental Protection Act (415 ILCS 5), 35 Ill. Adm. Code 740, and generally accepted engineering practices or principles of professional geology, and the information presented is accurate and complete.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 Felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Engineer's or Geologist's Name: Mark Kleiner

Company: Weston Solutions, Inc

Registration Number: 062048401 Phone: 847.436.2763

License Expiration Date: 11/30/21

Signature: _____ Date: 6-15-2021

Professional Engineer's or Geologist's Seal or Stamp:

MARK EVANS KLEINER
062-048401
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

Note: The authority of a Licensed Professional Geologist to certify documents submitted to the Illinois Environmental Protection Agency for review and evaluation pursuant to Title XVII of the Environmental Protection Act is limited to Site Investigation Reports (415 ILCS 58.7(f), as amended by P. A. 92-0735, effective July 25, 2002. A Licensed Professional Geologist cannot certify Remediation Objectives Reports, Remedial Action Plans or Remedial Action Completion Reports.

All information submitted is available to the public except when specifically designated by the Remediation Applicant to be treated confidentially as a trade secret or secret process in accordance with the Illinois Compiled Statutes, Section 7(a) of the Environmental Protection Act, applicable Rules and Regulations of the Illinois Pollution Control Board and applicable Illinois EPA rules and guidelines. The Illinois EPA is authorized to require this information under Sections 415 ILCS 5/58 - 58.12 of the Environmental Protection Act and regulations proumulgated thereunder. Disclosure of this information is required as a condition of participation in the Site Remediation Program. Failure to do so may prevent this form from being processed and could result in your plan(s) or report(s) being rejected. This form has been approved by the Forms Management Center.

Weston Solutions, Inc.
1400 Weston Way
West Chester, PA 19380
610-701-3000
WestonSolutions.com

an employee-owned company

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1610150001 – Rock Island
Cordova/3M Company
~~SE/TECH~~ SR/TECH
MED/JK

July 9, 2021

FILE COPY

Mr. Joshua Rilying, Project Manager
Bureau of Land, Division of Remediation Management
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

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Re: 3M Cordova, IL Facility
161015001 – Rock Island County
22614 IL 84 North

Dear Mr. Rilying,

As noted in my July 8, 2021 email to you, there was an incorrect laboratory package included in Appendix C of the annual report entitled *2020 Annual Per- and Polyfluoroalkyl Substances (PFAS) Monitoring Report for the 3M Cordova, IL Facility, June 2021.* Two hard copies of this report were mailed to you on June 18, 2021, and an electronic version was uploaded to the State of Illinois file sharing site on June 28, 2021. Two revised hard copies of this report are included with this letter, and a revised electronic version of this report was uploaded to the State of Illinois file sharing site on July 8, 2021. I apologize for the error and inconvenience.

Sincerely,

Dave Cairns
Project Manager
Weston Solutions, Inc.

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June 18, 2021

Mr. Joshua Rilying, Project Manager
Bureau of Land, Division of Remediation management
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

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JUL 12 2021
IEPA/BOL

Re: 3M Cordova, IL Facility
161015001 – Rock Island County
22614 IL 84 North

SR/TECH MED/SR

Dear Mr. Rilying:

3M is submitting the annual report entitled *2020 Annual Per- and Polyfluoroalkyl Substances (PFAS) Monitoring Report for the 3M Cordova, IL Facility, June 2021*. This report is part of the agreement with 3M to prepare and submit a report summarizing the agreed upon environmental data collected in each calendar year. The agreement is documented in 3Ms's proposal to establish a Groundwater Management Zone (GMZ) at its Cordova, Illinois facility, as approved by meets the Illinois Environmental Protection Agency (IEPA) on August 11, 2014. As required, we are submitting two copies of the enclosed report.

If you have any questions regarding the attached report, please feel free to call me at 612.244.8869 or by email kcolberg@mmm.com

Sincerely,

Kristin Colberg
Advanced Environmental Engineering Specialist

Enclosure
cc: Caryn Wermager – 3M
David Andrews – Cordova Plant Manager
Dave Cairns - Weston

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WESTON SOLUTIONS, INC.

[redacted]

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WESTON SOLUTIONS

21-73320

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Cordova/3M Company
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med/SR

2020 ANNUAL PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) MONITORING REPORT FOR THE 3M CORDOVA, IL FACILITY

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JUL 12 2021
IEPA/BOL

June 2021

Prepared for:

3M Company

Prepared by:

WESTON SOLUTIONS, INC.
West Chester, Pennsylvania 19380

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AUG 31 2021

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W.O. No. 02181.036.025.0002

TABLE OF CONTENTS

Section		Page
1.	**INTRODUCTION**	**1-1**
1.1	BACKGROUND	1-1
2.	**SITE LOCATION AND DESCRIPTION**	**2-1**
3.	**GROUNDWATER SAMPLING PROGRAM**	**3-1**
3.1	PRODUCTION AND MONITORING WELL SAMPLING	3-1
3.2	RESIDENTIAL WELL SAMPLING	3-2
3.3	GROUNDWATER ELEVATION MEASUREMENTS	3-3
4.	**GROUNDWATER MONITORING AND ANALYTICAL RESULTS**	**4-1**
4.1	GROUNDWATER ELEVATIONS	4-1
4.1.1	Groundwater Hydrographs	4-1
4.1.2	Groundwater Elevation Contour Maps	4-2
4.2	MONITORING AND PRODUCTION WELL SAMPLING RESULTS	4-4
4.2.1	Manufacturing Area Wells	4-6
4.2.2	Former Sludge Incorporation Area (SIA) Monitoring Wells	4-7
4.2.3	On-Site Reference Wells	4-9
4.2.4	Site Production Wells	4-10
4.3	RESIDENTIAL WELL SAMPLE RESULTS	4-12
4.4	SITE NPDES WASTEWATER PERMIT MONITORING	4-14
5.	**FINDINGS**	**5-1**
5.1	GROUNDWATER ELEVATION DATA	5-1
5.2	MONITORING AND PRODUCTION WELL SAMPLING	5-1
5.3	RESIDENTIAL WELL SAMPLING	5-4
5.4	NPDES WASTEWATER PERMIT MONITORING	5-4
5.5	SUMMARY	5-5
6.	**FUTURE COURSE OF ACTION**	**6-1**
7.	**REFERENCES**	**7-1**

APPENDICES

APPENDIX A – SUMMARY OF WELL CONSTRUCTION INFORMATION

APPENDIX B – GROUNDWATER HYDROGRAPHS

APPENDIX C – LABORATORY ANALYTICAL DATA PACKAGES

- June 2020 Laboratory Analytical Data
- November 2020 Laboratory Analytical Data

APPENDIX D – PFAS TREND GRAPHS

- D.1 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – Manufacturing Area Monitoring Wells
- D.2 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – Former Sludge Incorporation Area (SIA) Monitoring Wells
- D.3 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – On-Site Reference Monitoring Wells
- D.4 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – Site Production Wells and Building 1 Coffee Sink (Combined Discharge Monitoring Point)

LIST OF FIGURES

Title		Page
Figure 2-1	Site Location Map	2-3
Figure 2-2	Site Layout, Manufacturing Area	2-4
Figure 2-3	Former Sludge Incorporation Zones and Production Well Locations	2-5
Figure 3-1	PFAS Groundwater Sampling Locations	3-5
Figure 3-2	Monitoring Well and Piezometer Locations	3-6
Figure 4-1	Groundwater Hydrograph – Groundwater Elevation vs. Distance from Mississippi River	4-15
Figure 4-2	Groundwater Elevation Contour Map – 2 June 2020	4-16
Figure 4-3	Groundwater Elevation Contour Map – 12 November 2020	4-17
Figure 4-4	Bedrock Elevation of the Meredosia Channel	4-18
Figure 4-5	Production Well and Meredosia Channel Location Map – Cordova Site	4-19

LIST OF TABLES

Title		Page
Table 3-1	GMZ Groundwater Monitoring Plan for PFAS	3-7
Table 4-1	Depth-to-Groundwater and Groundwater Elevation Data	4-20
Table 4-2	Summary of Groundwater PFAS Analytical Data – Manufacturing Area Monitoring Wells	4-23
Table 4-3	Summary of Groundwater PFAS Analytical Data – Former SIA Monitoring Wells	4-27
Table 4-4	Summary of Groundwater PFAS Analytical Data – On-site Reference Monitoring Wells	4-31
Table 4-5	Summary of Groundwater PFAS Analytical Data – Site Production Wells and Combined Discharge Monitoring Point	4-33
Table 4-6	Summary of Groundwater PFAS Analytical Data, June 2020 Sampling Event – Additional Analytes	4-38
Table 4-7	Mann-Kendall Trend Test Summary	4-40
Table 4-8	Summary of Groundwater PFAS Analytical Data –Residential Wells	4-42
Table 4-9	Summary of Wastewater Discharge PFAS Analytical Data – March 2013 – December 2020 Sampling Events	4-44

1. INTRODUCTION

This 2020 annual monitoring report has been prepared by Weston Solutions, Inc. (WESTON®) for 3M Company (3M), and includes an assessment of per- and polyfluoroalkyl substances (PFAS) found in groundwater and the plant's wastewater discharge at the 3M Cordova, Illinois facility (Site). Since 2006, 3M has been working with the Illinois Environmental Protection Agency (Illinois EPA) Site Remediation Program (SRP) to evaluate the potential presence of PFAS in environmental media associated with former manufacturing operations at the Site.

This annual report provides the PFAS analytical results from groundwater sampling activities and groundwater elevation measurements completed in 2020. The groundwater monitoring program was implemented as described in the Groundwater Sampling Plan that was included in the *Proposal to Establish a Groundwater Management Zone (GMZ) Report* that was prepared by 3M and submitted to Illinois EPA in July 2014 (3M, 2014c). As requested by the Illinois EPA, this annual report also contains information on PFAS monitoring data for the plant's wastewater treatment plant (WWTP) discharge.

1.1 BACKGROUND

In August 2006, WESTON collected groundwater samples for PFAS analyses from the Site production wells in existence at that time. These samples were analyzed for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) and the results indicated that concentrations ranged between 0.2 and 12 nanograms per milliliter (ng/mL), or parts per billion (ppb), in the individual production well samples. Upon receipt of this analytical data, 3M notified Mr. Russ Irwin of the Illinois EPA, with the results by telephone on September 19, 2006, and in a subsequent e-mail on September 25, 2006. The analytical results were also presented by 3M to the United States Environmental Protection Agency (USEPA) Office of Pollution Prevention and Toxics (OPPT) during a meeting on October 13, 2006.

Numerous follow-up PFAS assessment activities were performed from 2008 through 2013 to characterize Site conditions and the presence of PFAS. These activities were conducted

in accordance with Illinois EPA-approved Work Plans and the results reported in numerous documents submitted to Illinois EPA. Activities included groundwater, soils and surface water investigations and assessments. Details of this past work, meetings and documents were presented in the *Environmental Assessment for Perfluorochemicals (PFCs) Summary Report, 3M Cordova, Illinois Facility* (3M, 2014a) that was submitted by 3M to the Illinois EPA in 2014. This document summarized the extensive environmental investigations performed at the Site and proposed a Groundwater Management Zone (GMZ) as an effective and appropriate remedial action for the Site.

In a letter from Illinois EPA to 3M dated June 13, 2014, Illinois EPA approved the *Request to Establish a Groundwater Management Zone (GMZ) Report* (3M, 2014b) received by Illinois EPA on April 25, 2014. This request was approved with the following conditions:

1. Per 35 Illinois Administrative code (IAC), Part 740, Section 740.530, map(s) and /or diagram(s) which show the three-dimensional area of the Groundwater Management Zone (GMZ) must be submitted to the Illinois EPA.

2. A Groundwater Sampling Plan must be submitted that will provide semiannual groundwater sampling data for the entire Groundwater Management Zone (GMZ).

3M addressed these conditions in the *Proposal to Establish a Groundwater Management Zone (GMZ) Report* that was submitted to Illinois EPA in July 2014 (3M, 2014c). This proposal contained information that delineated the three-dimensional area of the GMZ and included the GMZ Groundwater Sampling Plan to provide semiannual groundwater sampling data. In correspondence dated August 11, 2014, the Illinois EPA approved 3M's request to establish a GMZ based on information submitted to the agency.

The *2019 Annual Per- and Polyfluoroalkyl (PFAS) Monitoring Report for the 3M Cordova, IL Facility* was submitted to Illinois EPA on May 27, 2020. Illinois EPA approval of the report was received in a letter to 3M dated June 26, 2020. The results of the 2020 water sampling activities, performed in accordance with the GMZ Groundwater Sampling Plan, are provided in this document. Groundwater sampling and depth-to-groundwater measurements were performed at the Site in June and November 2020. The sampling events

in 2020 represent the 12th and 13th rounds of sampling performed in accordance with the GMZ Groundwater Sampling Plan.

2. SITE LOCATION AND DESCRIPTION

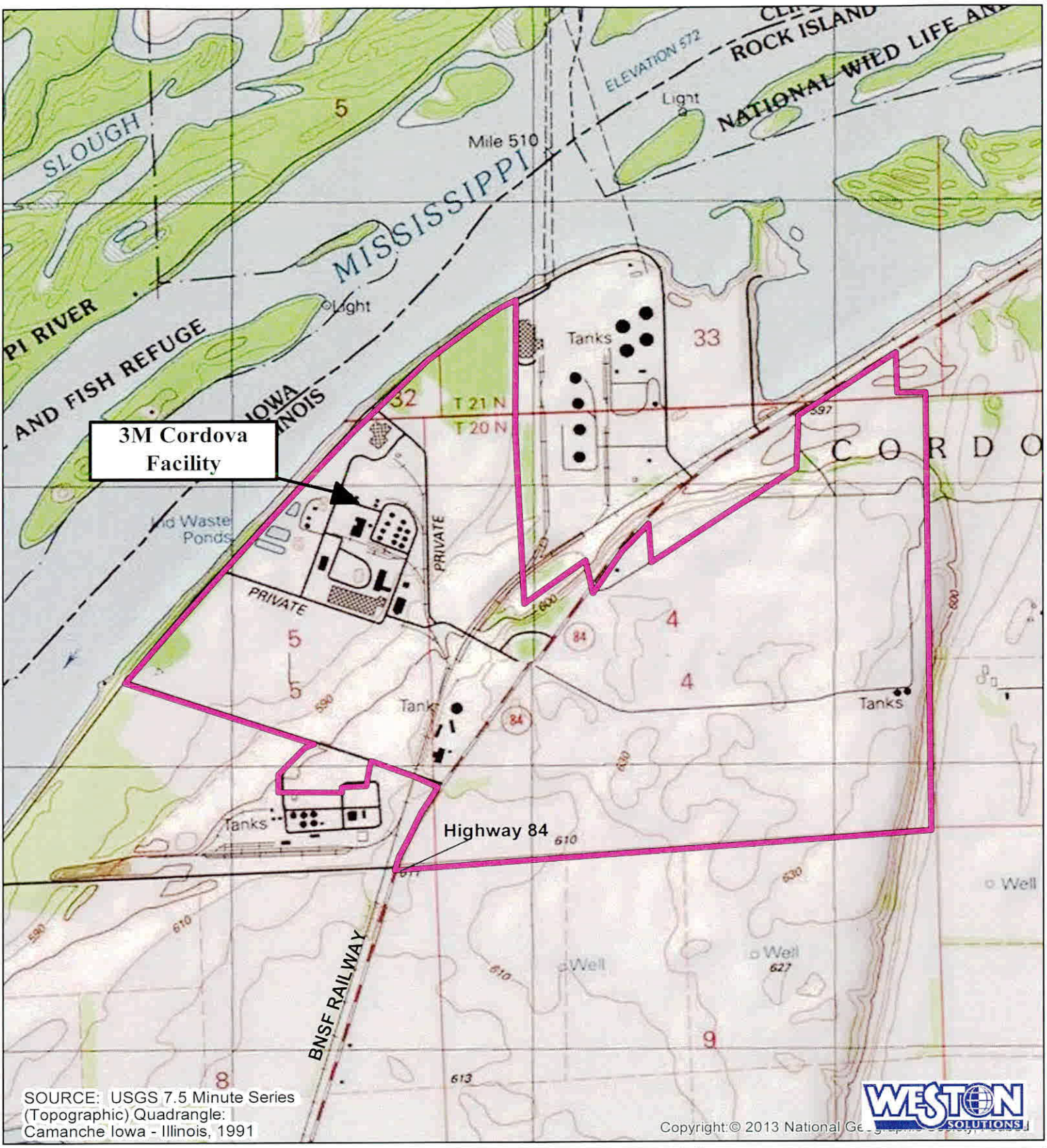
The 3M Cordova facility, located at 22614 Route 84N, Cordova, Illinois, is approximately one mile north of Cordova, Illinois, in northwestern Rock Island County, along the eastern bank of the Mississippi River as shown on Figure 2-1. The manufacturing portion of the site is bordered by the Burlington Northern Santa Fe (BNSF) Railroad and Route 84 to the east, the Mississippi River to the west, and other commercial/industrial properties to the north and south.

The 3M Cordova manufacturing facility, originally constructed in 1970, consists of numerous structures on a 739-acre plot. Manufacturing is conducted on an approximate 100-acre triangular portion of the Site, west of Highway 84 and adjacent to the river. Figure 2-2 depicts the current site layout of the manufacturing portion of the facility. An on-site wastewater treatment plant (WWTP) is located along the western edge of this manufacturing area and is used to treat all process and sanitary wastewater generated at the Cordova plant. Treated wastewater from the WWTP is discharged to the Mississippi River under National Pollutant Discharge Elimination System (NPDES) permit # IL0003140 issued by the Illinois EPA to 3M. As shown on Figure 2-3, the remainder of the property is former agricultural land (now green space), some of which was historically used for land incorporation of sludge generated by the WWTP (from 1975-1999). Land incorporation of WWTP sludge was performed by 3M in accordance with the terms of a Sludge Incorporation Permit issued by the Illinois EPA to 3M. As of January 1, 2000, all sludge produced at the WWTP has been disposed of off-site at permitted industrial waste landfills.

A high capacity production well network supplies the 3M facility with process and non-contact cooling water, and is located on the undeveloped portion of the Site east of Illinois Route 84. It currently consists of seven groundwater production wells (long-time production wells PW-11 and PW-37; plus, newer production wells PW-91, PW-94, PW-112 , PW-113 and PW-124) that range in depths from 117 to 183 feet below ground surface (ft bgs). Production well locations are depicted on Figure 2-3. The well field was designed to meet a plant demand of 10 to 12 million gallons per day (mgd). Individual flow rates for the production wells recorded in June and November 2020 are provided on Figures 4-2 and 4-

3, respectively, in Section 4 of this report. A table summarizing available well construction and other information for the Site production and monitoring wells is included in Appendix A.

Detailed information on the Site environmental setting and operational history has been presented in *Environmental Assessment for Perfluorochemicals (PFCs) Summary Report, 3M Cordova, Illinois Facility* (3M, April 2014a).



Legend

Site Boundary

N W E S

Figure 2-1
Site Location Map
3M Cordova Facility
Cordova, Illinois

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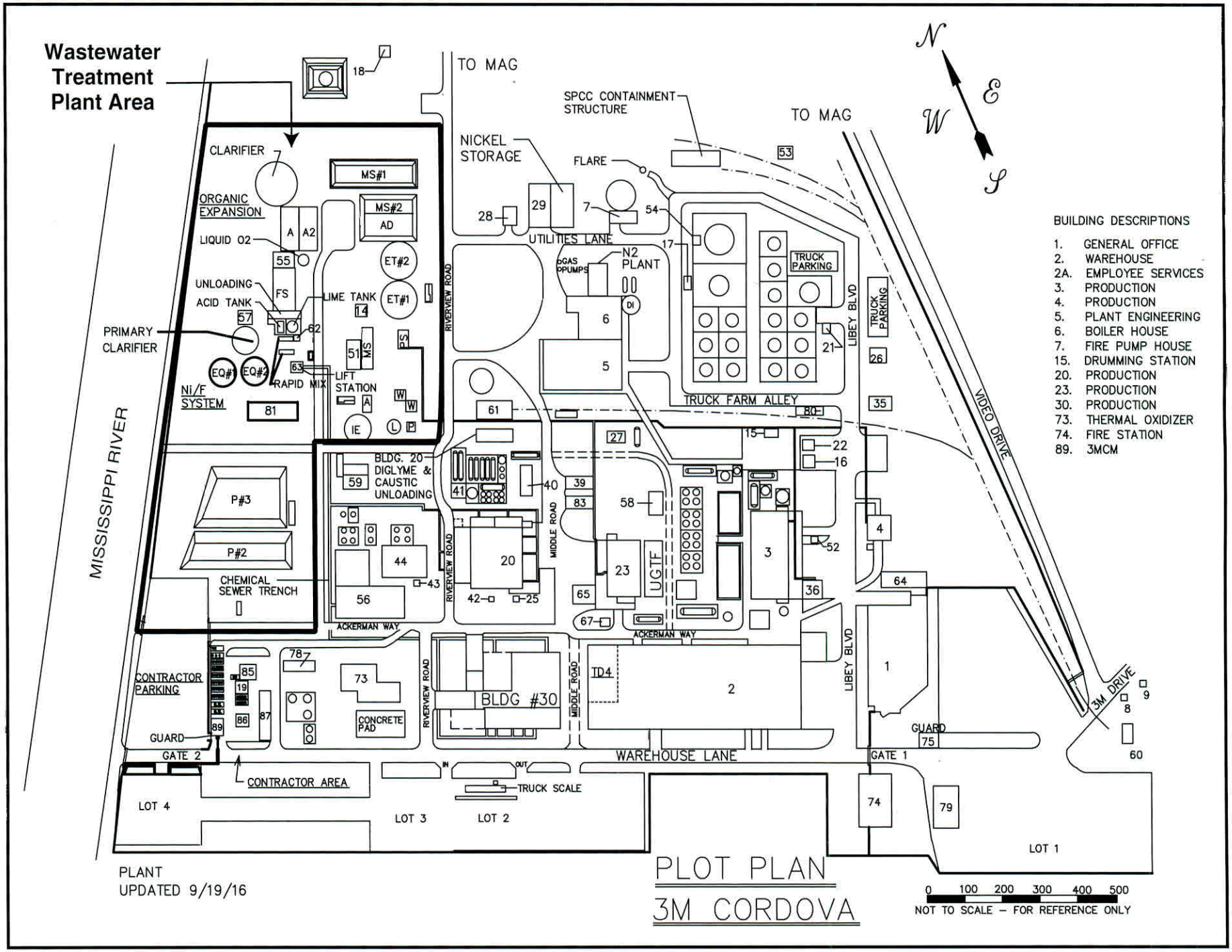

018P-0062

FIGURE 2-2 SITE LAYOUT, MANUFACTURING AREA 3M CORDOVA, ILLINOIS

Legend

- Production Well Location
- Fomer Sludge Incorporation Area Zones
- Site Boundary

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Imagery Source: ESRI, DigitalGlobe, GeoEye Mapping Service.

Figure 2-3
Former Sludge Incorporation Zones
and Production Well Locations
Cordova Site
Cordova, IL

3. GROUNDWATER SAMPLING PROGRAM

In accordance with the GMZ Groundwater Sampling Plan, groundwater samples were collected semiannually from Site production and monitoring wells. In addition, per the Plan, groundwater samples were collected annually from residential wells in the area.

The groundwater samples collected in June 2020 were delivered under chain-of-custody documentation to the 3M Environmental Laboratory in St. Paul, MN for PFAS analyses. During a September 20, 2020 conference call between 3M and Illinois EPA, the Illinois EPA requested that the PFAS analysis for water samples collected adhere to EPA Method 537.1 for analysis of drinking water, and U.S. EPA SW-846 Method 8327 for analysis of samples collected from monitoring wells and other non-potable wells. EPA Method 533 should be used for drinking water sample parameters that are not included in Method 537.1. Illinois EPA requested that this change be implemented in the next sampling event. 3M made this change during the 2nd 2020 semiannual sampling event performed in November 2020. In November 2020, groundwater samples were shipped under chain-of-custody documentation for analysis to Eurofins Test America Laboratories in West Sacramento, California.

3.1 PRODUCTION AND MONITORING WELL SAMPLING

The current groundwater monitoring network at the Site, and within the GMZ, consists of 38 monitoring wells and 6 piezometers. In June 2020, there were six existing production wells (PW-11, PW-24, PW-37, PW-91, PW-112 and PW-113) that operated on a consistent basis. During the sampling event performed in June 2020, all six production wells were operating continuously. In July 2020, production well PW-24 was abandoned and replaced by production well PW-124. During the sampling event performed in November 2020, production wells PW-11, PW-124, PW-37, PW-91, PW-112 and PW-113 were operating continuously. Production well PW-94 was turned on for approximately 30 minutes during the June and November 2020 sampling events so that the well could be purged and a representative groundwater sample could be collected. Production well PW-94 was shut down in July 2019 due to a detection of coliform bacteria, and the well has remained off except for sampling events since this time.

The monitoring and production wells that are included in the GMZ groundwater sampling network for PFAS are presented in Table 3-1 and shown on Figure 3-1. In addition, the locations of residences sampled are shown on Figure 3-1.

In accordance with the GMZ Sampling Plan, groundwater samples collected from monitoring, production and residential wells were analyzed for PFOA, PFOS, perfluorobutanoic acid (PFBA), perfluorobutane sulfonate (PFBS) and perfluorohexane sulfonate (PFHS). Per a request from Illinois EPA in 2020, perfluorononanoic acid (PFNA) was added to the list of target analytes for the Site. In addition, an extended list of PFAS were analyzed by the analytical laboratory during the 1st semiannual sampling event performed in June 2020 to assess the presence of these compounds in groundwater. These PFAS include the following:

- Perfluorohexanoic acid (PFHxA);
- Perfluoroheptanoic acid (PFHpA);
- Perfluorodecanoic acid (PFDA);
- Perfluoroundecanoic acid (PFUnA);
- Perfluorododecanoic acid (PFDoA);
- Perfluorotetradecanoic acid (PFTrA);
- Perfluroundecanoic acid (PFTreA);
- N-Methyl Perfluorooctanesulfonamidoacetic acid (N-MeFOSAA);
- N-Ethyl Perfluoroctanesulfonamidoacetic acid (N-EtFOSAA);
- 4,8-Dioxa-3H-Perfluorononanoic acid (ADONA);
- Hexafluoropropylene oxide dimer acid (HFPO-DA);
- 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS);
- 9-Chlorohexandecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS).

3.2 RESIDENTIAL WELL SAMPLING

As presented in the October 2010 Work Plan Addendum No. 2, seven residential wells within 0.5 mile of the 3M property were identified by 3M and WESTON (Figure 3-1). 3M worked with Illinois EPA staff to prepare and send notification letters seeking permission

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Illinois EPA FOIA Exemption Reference Sheet

Agency ID: 170000141512
Bureau ID: 1610150001
Site Name: 3M Cordova
Site Address1: 22614 Rte 84 N
Site Address2: 22614 Rte 84 N
Site City: Cordova

Media File Type: LAND

State: IL Zip: 61242-9779

This record has been determined to be partially or wholly exempt from public disclosure

Exemption Type:

Redaction

Exempt Doc #: 36 **Document Date:** 7 /12/2021 **Staff:** MED

Document Description: 2020 ANNUAL PER-AND POLYFLUOROALKYL SUBSTANCES (PFAS) MONITORING REPORT PAGE 3-3, FIGURE 3-1, TABLE 3-1, PAGES 4-12, 4-13, 4-14, TABLES 4-7 & 4-8, PAGE 5-4 AND APPENDIX C

Category ID: 31A **Category Description:** SITE REMEDIATION - TECHNICAL **Exempt Type:** Redaction

Permit ID: **Date of Determination:** 8 /31/2021

from residents to collect groundwater samples from their wells. Subsequently, the first round of residential groundwater samples was collected on July 18, 2011.

Per the Illinois EPA-approved February 2012 Update Report, a second sampling of the residential wells was performed in August 2012. Since 2012, 3M has continued to contact the property owners each year to continue annual well sampling which is performed on a voluntary basis. Occasionally, despite numerous attempts by 3M and WESTON to obtain permission to access a property to obtain a water sample, permission is not obtained from the property owner and the well is not sampled. Table 4-8, included in Section 4 of this report, documents each residential well, years sampled and sampling results.

In 2019, an additional residential well to the east of the Site was identified during an updated well search performed at the request of the Illinois EPA. Residential well [redacted] was sampled in 2019 and 2020 in addition to the six other residential well locations shown on Figure 3-1. In November 2020, a water sample could not be collected from residential well [redacted] since this residence was vacant with no electrical service. The groundwater samples from the residential wells were collected from readily accessible outdoor spigots. If a garden hose was attached to a spigot, it was removed before sample collection. The spigot was then opened, and the water was purged for approximately 5 minutes prior to filling the laboratory prepared sample containers.

In addition to requesting permission from residents to collect samples from their supply wells, 3M has consistently provided the analytical results, once finalized, to the individual residents. Illinois EPA staff have also been copied on these written correspondences.

3.3 GROUNDWATER ELEVATION MEASUREMENTS

As specified in the GMZ Groundwater Sampling Plan, depth-to-groundwater measurements were recorded at all accessible monitoring well and piezometer locations during the June and November 2020 sampling events. In addition, flow rates were recorded at the operating production wells. Water level measurements could not be recorded at the pumping wells due to the risk of getting the depth-to-water meter probe stuck to downhole equipment (i.e., pumps, piping, wiring). Figure 3-2 shows the locations of the monitoring wells and

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piezometers where depth-to groundwater measurements were collected in accordance with the GMZ Groundwater Sampling Plan. The groundwater elevation data collected from the Site monitoring well network were used to prepare groundwater elevation contour maps. These data and maps are presented in Section 4.1.

Legend

- Monitoring Wells
- Residential Wells
- Production Wells
- 2 Former Sludge Incorporation Area, Zones
- Site Boundary
- Manufacturing Area Monitoring Wells
- Former Sludge Incorporation Area Monitoring Wells
- On-Site Reference Monitoring Wells
- Production Well Locations
- Residential Well Locations

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Figure 3-1
PFAS Groundwater Sampling Locations
Cordova Site
Cordova, IL

Note:
* PW-24 was abandoned and replaced by PW-124 in July 2020.

Legend

- Monitoring Wells
- Piezometer Locations
- 2 Former Sludge Incorporation Area, Zones
- Site Boundary

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Figure 3-2

Monitoring Well and Piezometer Locations
Cordova Site
Cordova, IL

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Table 3-1
Groundwater Management Zone (GMZ) Monitoring Plan
for Per- and Polyfluoroalkyl Substances (PFAS)
Cordova Site, Cordova, IL

Area	Well ID	Sampling Frequency	Comments
Manufacturing Area	MW-1-81	Semiannually	Northern edge of manufacturing area
	MW-1-88	Semiannually	Western perimeter of manufacturing area
	MW-2-90	Semiannually	Southwestern area of manufacturing area
	MW-3-90	Water Levels Only	
	MW-4-90	Water Levels Only	
	MW-7-90	Semiannually	Central area of manufacturing area
	MW-8-90	Water Levels Only	
	MW-9-90R	Semiannually	Central area of manufacturing area
	MW-1-91	Water Levels Only	
	MW-2-91R	Water Levels Only	
	MW-1-93	Semiannually	North of manufacturing area
	MW-2-93	Water Levels Only	
	MW-3-93	Water Levels Only	
	MW-3-94	Semiannually	South-central area of manufacturing area
	MW-4-94	Semiannually	East-central area of manufacturing area
	MW-5-94	Water Levels Only	
	MW-6-94	Water Levels Only	
	MW-1-98	Water Levels Only	
	MW-2-98	Water Levels Only	
Former Sludge Incorporation Area (SIA)	MW-1-79	Semiannually	Zone 6 of former SIA
	MW-3-79	Semiannually	Zone 5 of former SIA
	MW-4-79	Semiannually	Zone 9 of former SIA
	MW-5-79	Semiannually	Zone 11 of former SIA
	MW-3-81	Semiannually	Zone 2 of former SIA
	MW-5-90	Water Levels Only	
	MW-6-90	Water Levels Only	
	MW-1-94	Water Levels Only	
	MW-2-94	Water Levels Only	
	MW-7-94	Semiannually	Zone 12 of former SIA (south); east of manufacturing area
	MW-8-94	Semiannually	Zone 12 of former SIA (central); east of manufacturing area
	MW-9-94	Semiannually	Zone 12 of former SIA (central); east of manufacturing area
	MW-10-94	Water Levels Only	
	MW-11-N	Water Levels Only	
	MW-12-N	Water Levels Only	
	MW-13-W	Water Levels Only	
	PZ-01-13	Water Levels Only	
	PZ-02-13	Water Levels Only	
	PZ-03-13	Water Levels Only	
	PZ-04-13	Water Levels Only	
	PZ-05-13	Water Levels Only	
	PZ-06-13	Water Levels Only	

Table 3-1 (cont'd)
Groundwater Management Zone (GMZ) Monitoring Plan
for Per- and Polyfluoroalkyl Subtances (PFAS)
Cordova Site, Cordova, IL

Area	Well ID	Sampling Frequency	Comments
Site Production Wells	PW-11	Semiannually	Monitored since August 2006
	PW-13	Abandoned	Well decommissioned in 2014; replaced with PW-113
	PW-24	Abandoned	Well decommissioned in 2020; replaced with PW-124
	PW-124	Semiannually	Well on-line in July 2020, monitored since November 2020
	PW-37	Semiannually	Monitored since August 2006
	PW-91	Semiannually	Monitored since June 2013
	PW-94	Semiannually	Monitored since December 2009
	PW-112	Semiannually	Monitored since November 2013
	PW-113	Semiannually	On-line in October 2014
On-Site Reference Wells	MW-2-81	Semiannually	Southern property boundary; south of Zone 3
	MW-4-81	Semiannually	Southeast (downgradient) of manufacturing area
	MW-5-81	Semiannually	Northeast property boundary; north of Zone 10
Residential Wells	[redacted]	Annually	East/northeast of Site; monitored since July 2011
		Annually	East of Site; monitored since July 2011
		Annually	East of Site; monitored since July 2011
		Annually	East of Site; monitored since July 2011
		Annually	East of Site; monitored since July 2011
		Annually	East of Site; monitored since October 2019
		Annually	East/southeast of Site; monitored since July 2011
		Annually	South of Site; monitored since July 2011

4. GROUNDWATER MONITORING AND ANALYTICAL RESULTS

Under the GMZ program, the semiannual groundwater sampling events were performed in June and November 2020. The annual residential well groundwater sampling event was performed in November 2020. Groundwater elevation data were collected during each groundwater sampling event. A summary of the groundwater elevation data and analytical results for groundwater samples collected in 2020 from residential, production and monitoring wells is provided in the following sections.

4.1 GROUNDWATER ELEVATIONS

Depth-to-groundwater measurements were collected during the June and November 2020 groundwater sampling events from accessible Site monitoring wells and piezometers. The depth-to-groundwater measurements were converted to groundwater elevations to construct contour maps to assess groundwater flow directions in the uppermost water-bearing zone at the Site. The 2020 recorded depth-to-groundwater and calculated groundwater elevations for the wells and piezometers are summarized in Table 4-1 along with previously recorded data extending back to October 2006. A table summarizing available well construction and other information for the Site production and monitoring wells is included in Attachment A.

4.1.1 Groundwater Hydrographs

Hydrographs presenting groundwater elevations and monthly precipitation data over time are provided for select Site monitoring wells in Appendix B. As shown in these hydrographs, and in Table 4-1, significant fluctuations occur in groundwater elevations over time. Fluctuations greater than five feet have been measured in the groundwater elevations at 42 out of 44 wells and piezometers. As shown in the hydrographs in Appendix B, groundwater elevations in November 2020 were lower than April 2020 and close to minimum values recorded over the measuring period (2006-2020). The lower groundwater elevations in November 2020 are likely due to a decrease in precipitation in 2020 compared to the prior two years. Approximately 47.5, 48.9 and 39.1 inches (in.) of annual precipitation were received in the Site area in 2018, 2019 and 2020, respectively. Each of these annual

precipitation totals exceed the average annual precipitation of approximately 35.5 in./yr (https://www.ncdc.noaa.gov).

To aid in visualizing the hydraulic gradient across the Site over time, an additional hydrograph was constructed plotting groundwater elevation with distance from the Mississippi River for dates in 2017 through 2020 when groundwater elevations were measured (see Figure 4-1). The transect used to create the hydrograph is shown on Figure 4-2. As shown on Figure 4-1, the past four years of groundwater elevation data indicates that higher water elevations are present in the Mississippi River and monitoring wells adjacent to the Mississippi River compared to monitoring wells and piezometers closer to the production wells indicating an easterly groundwater flow direction.

Historically, the groundwater elevations in monitoring wells MW-7-90 and MW-4-94 in the central and eastern area of the manufacturing area have been slightly higher than the groundwater elevation in monitoring well MW-6-94 that is closer to the Mississippi River. This is due to the low hydraulic gradient in the groundwater surface beneath the manufacturing area that is susceptible to slight gradient changes during periods of higher recharge after precipitation or snow melt events.

As shown on Figure 4-1, the slope in groundwater elevation across the transect line (shown on Figure 4-2) increases between monitoring well MW-6-90 and piezometer PZ-04-13. This is due to the pumping of nearby production wells PW-112 and PW-113 that are located to the east and south, respectively, of piezometer PZ-04-13. Additional discussion on groundwater flow directions at the Site is provided in the following subsection.

4.1.2 Groundwater Elevation Contour Maps

The groundwater elevation contour maps for the Site were constructed using KT3D (Tonkin and Larson, 2002; Karanovic, Tonkin and Wilson, 2009), a computer software program designed to contour groundwater elevation data while taking into account one or more pumping centers. KT3D uses a log-linear kriging algorithm that accounts for more tightly spaced groundwater elevation contours around pumping centers and is capable of performing particle-tracking to estimate capture zones (assuming two-dimensional

horizontal flow) for pumping wells. KT3D calculates groundwater elevations in the vicinity of pumping centers using a standard analytical method (Thiem analytical method) accounting for the hydraulic gradients in each hydrostratigraphic unit. This approach (i.e. using KT3D) results in a more representative groundwater elevation contour map and capture zones as compared to including measurement of groundwater elevations in pumping wells that could overestimate capture zones.

Figures 4-2 and 4-3 present groundwater elevation contour maps for the Site constructed using KT3D for June and November 2020, respectively. As shown on both Figures 4-2 and 4-3, the direction of groundwater flow is from the Mississippi River to the Site production wells to the east. As discussed previously, the hydraulic gradient is low beneath the manufacturing area of the plant (immediately to the east of the Mississippi River), and gradually increases toward the production wells. The hydraulic gradient calculated from manufacturing area monitoring well MW-4-94 to piezometer PZ-05-13 (near production well PW-113) is 0.0019 (ft/ft) and 0.0016 (ft/ft) for June and November 2020, respectively. The hydraulic gradients calculated for 2020 compare to historical observations.

Despite the distance of the Site production wells from the Mississippi River, groundwater flow across the Site property is controlled by a combination of factors. The first factor that affects groundwater flow across the Site, is that the Site production wells operate continuously at a combined flow of approximately 4,000 to 8,500 gpm that creates a wide depression in the groundwater surface. Another factor for the extensive influence of the production wells is due to the local hydrogeologic setting. The production wells are installed near a bedrock valley that exists close to the eastern boundary of the 3M Cordova property. This bedrock valley is referred to as the Meredosia Channel which was carved out by glacial processes. Figure 4-4 shows the approximate bedrock elevation determined using geophysical techniques within the Meredosia Channel in the Site area (McGinnis and Heigold, 1974).

Figure 4-5 shows the approximate location of the Meredosia Channel relative to the Site production wells. The Site monitoring wells within the plant area are installed in the unconsolidated sediments outside the bedrock valley, to the west. The Site production wells

are closer to the center of the Meredosia Channel as determined by the geophysical data collected. The long-term pumping of the production wells creates a "drain" effect that induces a widespread cone of depression, which funnels groundwater flow toward the production wells. This "drain" effect is enhanced along the sides of the bedrock valley since the thickness of the highly permeable sands and gravels that fill the valley is lower along the sides. The reduction in aquifer thickness outside the bedrock valley results in a reduction in aquifer transmissivity. This, in turn, increases the drawdown at the plant manufacturing area monitoring wells resulting from pumping of the production wells (i.e. drawdown is inversely proportional to transmissivity). Thus, the location of the production wells within the bedrock valley (with a greater aquifer thickness) relative to the plant manufacturing monitoring wells along the edge of the bedrock valley (with a much smaller aquifer thickness) corroborates the view that the production wells have an extensive influence on the local groundwater flow regime.

4.2 MONITORING AND PRODUCTION WELL SAMPLING RESULTS

Tables 4-2 through 4-4 provide a summary of the 2020 PFAS analytical results for groundwater samples collected from monitoring wells located in the manufacturing area, former SIA, and on-site reference areas (wells not within the manufacturing area or former SIA). Table 4-5 provides a summary of the 2020 PFAS analytical results for groundwater samples collected from Site production wells. In addition to the 2020 PFAS analytical results, historical PFAS data are included for comparison purposes. Table 4-6 provides a summary of the additional PFAS that were analyzed by the laboratory for water samples collected in the 1st semiannual sampling event in June 2020. These additional PFAS were analyzed to assess the presence of these compounds in Site groundwater and the data is provided for informational purposes and not discussed in this report. The Laboratory analytical data packages for the 2020 sampling events are provided in Appendix C.

The PFAS analytical data for monitoring and production wells were evaluated to determine whether the data are following an increasing or decreasing trend, or stable over time. The analytical data were evaluated by applying the Mann-Kendall trend test (at an $\alpha = 0.05$ significance level) to PFOS, PFBS, PFOA, PFBA and PFHS concentrations for those Site

monitoring wells where sufficient historical groundwater analytical data are available (i.e., five or more sampling events). The Mann-Kendall trend test is a non-parametric statistical procedure that is used for analyzing trends in data over time (Gilbert, 1987). Nonparametric methods require no assumptions regarding the underlying statistical distribution of the data. The outcome of the procedure depends on the ranking of individual data points and not the overall magnitude of the data points. The Mann-Kendall procedure can be used for data sets that include irregular sampling intervals, data below the detection limit, and trace or missing data. Outcomes of this test consist of the identification of statistically significant increasing trends, no statistically significant trend or statistically significant decreasing trend at the specified significance level. In addition, a "not detected" (ND) qualifier was assigned when $\geq$ 75 percent of the PFAS analytical results are less than the laboratory quantitation limit (LQL) and at least the last 4 results are less than the LQL. These data were not analyzed using the Mann-Kendall trend test since it would not provide a meaningful analysis.

It should be noted that the value of this trend analysis may be somewhat limited in some cases. More specifically, factors to be considered when reviewing outputs include:

- With the exception of some of the production wells, the number of data points for monitoring locations continues to expand, but in some cases the number of data points is relatively low (i.e., $n \leq 10$).
- The time period (t) over which the data has been collected is limited (for some locations, t is approximately 5 years).
- The magnitude and nature of the system being monitored (i.e., relatively large groundwater zone) is such that there may be gradual oscillations in observed results based on seasonal and/or episodic (extreme weather event) variations.

Table 4-7 provides a summary of the results of the Mann-Kendall analysis. A discussion of the groundwater analytical results is provided in the following subsections by Site area.

4.2.1 Manufacturing Area Wells

Table 4-2 is a summary of the analytical results of the PFAS groundwater samples collected from the 8 monitoring wells located in the manufacturing area and included in the GMZ sampling program. Graphs provided in Appendix D.1 show the trends in PFAS concentrations in monitoring wells in the manufacturing area. As shown in Table 4-2, PFBA, PFOA, PFBS, PFHS and PFOS were detected above their respective LQLs in the monitoring wells sampled in the manufacturing area. PFBA is the highest PFAS concentration detected in the groundwater samples collected from monitoring wells within the manufacturing area.

A review of the PFAS analytical data presented in Table 4-2 indicates that the PFAS concentrations in monitoring wells along the northern and western perimeter of the manufacturing area (MW-1-81, MW-1-93, MW-1-88, MW-2-90 and MW-4-94) are lower compared to the PFAS concentrations detected in monitoring wells within the middle portion of the manufacturing area (MW-7-90, MW-9-90R and MW-3-94). A visual inspection of the trend graphs provided in Appendix D.1 indicates fluctuations in PFAS concentrations with either no definitive trend or a decreasing trend in manufacturing area wells. Increases in a few PFAS were observed in manufacturing area wells (e.g., PFBA in wells MW-3-94 and MW-1-93) in 2020 that may be attributable to above normal precipitation in 2018-2020 that mobilized PFAS from the unsaturated zone.

The Mann-Kendall trend test was applied to the PFAS analytical data for monitoring wells MW-1-88, MW-2-90, MW-9-90R, MW-1-93, MW-3-94, MW-1-81, MW-4-94 and MW-7-90. As shown in Table 4-7, the Mann-Kendall trend test results indicate no statistically significant trend identified in the PFAS analytical data for these monitoring wells except the following decreasing trends:

- PFBS in monitoring well MW-1-88;
- PFOS, PFBA and PFHS in monitoring well MW-1-81;
- PFBS, PFBA and PFHS in monitoring well MW-4-94.

The only increasing trend identified by the Mann-Kendall test was PFBA in monitoring well MW-7-90.

4.2.2 Former Sludge Incorporation Area (SIA) Monitoring Wells

Table 4-3 provides a summary of the analytical results of the PFAS groundwater samples collected from the 8 former SIA monitoring wells that are included in the GMZ sampling program. Trend graphs presenting PFAS concentrations over time for the former SIA monitoring wells are provided in Appendix D.2. As shown on Figure 3-1, the former SIA monitoring wells sampled under the GMZ sampling program are distributed across the Site. The SIA monitoring wells are located in the following areas:

- Former SIA east of Highway 84: Monitoring wells MW-1-79, MW-3-79, MW-4-79 and MW-5-79;
- Immediately east of manufacturing area: Monitoring wells MW-7-94, MW-8-94 and MW-9-94;
- South of the manufacturing area: Monitoring well MW-3-81.

As shown in Table 4-3, PFBA, PFOA, PFBS, PFHS, PFOS and PFNA were detected above their respective LQLs in monitoring wells sampled in the former SIA, with the exception of monitoring wells MW-4-79 and MW-5-79. PFBA was the only PFAS detected in monitoring wells MW-4-79 and MW-5-79 in the June 2020 sampling event. PFOA, PFBS, PFHS, PFOS and PFNA were detected in these wells in November 2020 due, in part, to lower detection limits used by the analytical laboratory during this sampling event. Consistent with the PFAS results for the manufacturing area, PFBA is the highest PFAS detected in the groundwater samples collected from monitoring wells within the former SIA. The northernmost monitoring wells (MW-4-79 and MW-5-79) within the former SIA continue to have the lowest PFAS levels. Groundwater from beneath the manufacturing area, flowing east toward the production well network, may partly explain this condition.

The highest total PFAS concentrations in the former SIA were detected at monitoring wells MW-1-79 and MW-3-81. Monitoring well MW-1-79 is located hydraulically downgradient of the manufacturing area under pumping conditions. Groundwater elevation contour maps constructed for groundwater elevations collected in June and November 2020 (Figures 4-2 and 4-3, respectively) show the direction of groundwater flow is from the manufacturing

area eastward toward the Site production wells where it is captured. Well MW-1-79 is directly in line with the manufacturing area to production well field groundwater flow path.

The Mann-Kendall statistical analysis was applied to the PFAS analytical results for the former SIA monitoring wells. As shown in Table 4-7, the following statistical trends were observed:

- Monitoring well MW-1-79: A statistically significant decreasing trend was identified for PFOA, PFBA and PFHS. No statistically significant trend was identified for PFOS and PFBS.

- Monitoring well MW-3-79: A statistically significant decreasing trend was identified for PFBS, PFOA and PFBA. No statistically significant trend was identified for PFOS and PFHS.

- Monitoring well MW-4-79: A statistically significant decreasing trend was identified for PFOS, PFOA, PFBA and PFHS. No statistically significant trend was identified for PFBS.

- Monitoring well MW-5-79: A statistically significant decreasing trend was identified for PFOS and PFBA. No statistically significant trend was identified for PFBS, PFOA and PFHS.

- Monitoring well MW-3-81: A statistically significant increasing trend was identified for PFOS and PFHS. No statistically significant trends were identified for PFBS, PFOA and PFBA.

- Monitoring well MW-7-94: A statistically significant decreasing trend was identified for PFOA, PFBA and PFHS. No statistically significant trends were identified for PFOS and PFBS.

- Monitoring well MW-8-94: A statistically significant decreasing trend was identified for PFOA and PFBA. A statistically significant increasing trend was

identified for PFOS. No statistically significant trends were identified for PFBS and PFHS.

- Monitoring well MW-9-94: A statistically significant increasing trend was identified for PFOS. No statistically significant trends were identified for PFBS, PFOA, PFBA and PFHS.

4.2.3 On-Site Reference Wells

As shown in Figure 3-1, three on-site reference monitoring wells (MW-2-81, MW-4-81 and MW-5-81) are located outside both the plant manufacturing area and former SIAs. The PFAS analytical results for these monitoring wells are included in Table 4-4. Trend graphs presenting PFAS concentrations over time for the on-site reference monitoring wells are provided in Appendix D.3.

The June 2020 PFAS analytical results for monitoring well MW-5-81 were below their respective LQLs for PFOA, PFBS, PFHS, PFOS and PFNA. These PFAS were detected due to lower laboratory reporting limits in the groundwater samples collected in November 2020. PFBA was detected at 0.036 ng/ml in November 2020 with the remaining PFAS at concentrations $\leq$ 0.01 ng/ml. With the exception of PFBA, PFAS concentrations in monitoring well MW-2-81 were comparable to concentrations in well MW-5-81. In 2020, PFBA concentrations were comparable with historical concentrations in well MW-2-81. Measurable PFAS concentrations were detected in monitoring well MW-4-81 in the June and November 2020 sampling events. A visual review of the trend graph provided in Appendix D.3 indicates generally stable to declining PFAS concentrations in well MW-4-81 since October 2015.

The groundwater elevation contour maps constructed for the Site provide a possible explanation for the distribution of PFAS compounds in the on-site reference wells. Monitoring well MW-4-81 is located hydraulically downgradient of the manufacturing area and former SIA Zones 1, 2, 3 and 4. Groundwater elevation contour maps (Figures 4-2 and 4-3) show groundwater flow from the manufacturing area and these former SIAs toward the

Site production wells where it is captured. Monitoring wells MW-5-81 and MW-2-81 are not directly downgradient of either potential PFAS source area.

The Mann-Kendall statistical analysis was applied to the PFAS analytical results for the on-site reference wells. As shown in Table 4-7, the Mann-Kendall trend results indicate either no statistically significant trend or a statistically significant decreasing trend in the PFAS analytical results. A statistically significant decreasing trend was identified in the following on-site reference wells:

- PFBS, PFOA and PFHS in monitoring well MW-4-81;
- PFOS in monitoring well MW-5-81.

An increasing trend was identified for PFBA in monitoring well MW-4-81.

4.2.4 Site Production Wells

The 2020 PFAS groundwater sampling results for the groundwater samples collected from seven Site production wells is summarized in Table 4-5. Previous PFAS analytical data for these production wells, and historical data for abandoned production wells PW-12, PW-13, are also included for comparison purposes. Trend graphs presenting PFAS concentrations over time for the production wells are provided in Appendix D.4. Production wells PW-11, PW-24, PW-37, PW-91, PW-112 and PW-113 were the primary water supply wells for the plant in 2019. Production well PW-94 was shut down in July 2019 and not operated since this date due to a detection of coliform bacteria in a sample collected by the plant from this well; however, it was turned on for approximately 1 hour to purge the well and collect a groundwater sample in June and November 2020. As shown in Table 4-5, October 2019 PFAS concentrations were lower in well PW-94 compared to historical concentrations since October 2014. The lower concentrations are due to the shutdown of this well in July 2019 that altered the local groundwater flow regime. As shown by groundwater flowlines in Figures 4-2 and 4-3, groundwater impacted with PFAS that was being captured by production well PW-94 while this well operated (Figure 4-2), flowed toward production well PW-113 when PW-94 was off (Figure 4-3). Within the capture area, certain shifts in

concentrations are observed for some constituents amongst the production wells. Sitewide, the effective overall capture of impacted groundwater at the Site remains unchanged.

The Mann-Kendall statistical analysis was applied to the PFAS analytical results for the Site production wells that met the criteria described in Section 4.2. As shown in Table 4-7, the following statistical trends were observed:

- Production well PW-11: A statistically significant decreasing trend identified for PFOS, PFOA, PFBA and PFHS. No statistically significant trend was identified for PFBS.
- Production well PW-112: A statistically significant decreasing trend identified for PFOS, PFOA, PFBA and PFHS. PFBS concentrations have been primarily not detected.
- Production well PW-113: A statistically significant decreasing trend identified for PFOA and PFHS. No statistically significant trend identified for PFBS or PFBA. A statistically significant increasing trend was identified for PFOS.
- Production well PW-24: A statistically significant decreasing trend identified for PFOA, PFBA and PFHS. No statistically significant trend was identified for PFOS. PFBS concentrations have been primarily not detected.
- Production well PW-37: A statistically significant decreasing trend identified for PFOA, PFBA and PFHS. No statistically significant trend identified for PFOS and PFBS.
- Production well PW-91: PFAS continue to be primarily not detected. No statistically significant trend was identified for PFBS and PFBA.
- Production well PW-94: A statistically significant increasing trend identified for PFOS. No statistically significant trend identified for PFBS, PFOA, PFBA and PFHS.

Also presented in Table 4-5 are the PFAS analytical results for a water sample collected at a monitoring point located in either Building 1 or Building 10. These sampling locations are representative of the combined flows from the operating production wells at the time of sample collection. An inspection of the historical PFAS results for the combined flows indicates somewhat variable PFAS concentrations. This is to be expected given that the mix of water from various wells changes often based on pumping schedules, site water demand, etc. In addition, changes in production well pumping (e.g., replacements of PW-12 and PW-13 with PW-112 and PW-113, respectively, over the time period 2013-2014) have occurred that undoubtedly affected the water quality from the production well network. As shown in Table 4-5, PFAS concentrations in June 2020 are within the range observed in the historical data.

PFAS concentrations in November 2020 were all below laboratory reporting limits. A Culligan point of use water filtration system was installed at the Building 1 Coffee Sink in July 2020. The November 2020 PFAS analytical data indicates that the filtration system is effective in removing PFAS at this location. An alternate sample location will be selected for future sampling events to collect a representative sample of the combined flow from the production wells.

4.3 RESIDENTIAL WELL SAMPLE RESULTS

In accordance with the GMZ Sampling Plan, groundwater samples were collected from seven residential well locations during the November 2020 annual sampling event. As noted previously, a groundwater sample could not be collected from residential well [redacted] since this residence is no longer occupied and does not have electrical service. The November 2020 analytical results for the residential well sampling are summarized in Table 4-8. Previous analytical results for residential sampling rounds performed in July 2011 through October 2019 are also presented in Table 4-8 for comparison, included residential well [redacted]. Residential well [redacted] was added to the sampling program in October 2019; therefore, only two rounds of analytical results are available for this residential well. 3M has shared all analytical results with residents as they have been finalized. The laboratory analytical data package for the November 2020 sampling event is provided in Appendix C.

In November 2020, lower laboratory reporting limits were used for the six PFAS compounds included in the analysis. An inspection of Table 4-8 indicates that PFBA was detected in the groundwater samples from the residential well locations in November 2020 at concentrations ranging from 0.23 ppb to 1.80 ppb. The 2020 PFBA concentrations in the residential wells were within the historical range for each well except for well [redacted] which was slightly higher in 2020 (0.910 ppb in 2020 compared to 0.507 ppb in October 2017). PFOA, PFBS, PFHS and PFOS were detected in the low parts per trillion (ppt) range in some of the groundwater samples collected from the residential wells. These compounds have not been consistently detected in historical groundwater samples collected from the residential wells and were detected at low levels in 2020 due to the lower detection limits implemented by the analytical laboratory. PFNA was detected at an estimated concentration less than 1 ppt in two residential wells [redacted] and [redacted]. The PFAS concentrations were all below ILEPA statewide health advisories issued in January and April 2021, except for PFOA concentrations in residential wells [redacted] (0.0051 ng/ml) and [redacted] (0.010 ng/ml) that exceeded the health advisory level of 0.002 ng/ml.

The Mann-Kendall statistical analysis was applied to the PFAS analytical results for all residential wells sampled in 2020. As shown in Table 4-7, the Mann-Kendall trend test results indicate primarily either no statistically significant trend or a "ND" trend. A statistically significant decreasing trend in PFBA concentrations was identified for residential well [redacted] No statistically significant trend in PFBA concentrations for residential wells [redacted], [redacted], [redacted] and [redacted], while a statistically significant increasing trend was identified for residential well [redacted]. A statistically significant increasing trend for PFBA is also identified for residential well [redacted]; however, this evaluation was only for PFBA analytical results through October 2019 since this well could not be sampled in 2020. As shown in Table 4-8, the PFBA analytical results for the residential wells are in the low ppb range and have fluctuated over a limited range in concentration.

As shown in Figure 3-1, residential well [redacted] is to the south of the plant manufacturing area and the former SIA. An examination of the groundwater elevation contours on Figures 4-2 and 4-3 indicates that residential well [redacted] is hydraulically cross-gradient from the Site. The groundwater elevation contours and flow lines indicate no component of

groundwater flow from the Site directly toward residential well [redacted]. Along the eastern Site boundary, groundwater elevation contours have consistently shown a steep depression in the groundwater table that likely results in groundwater flow from residential wells [redacted], [redacted] and [redacted] toward the Site production wells (i.e., east-to-west).

In summary, the results observed through monitoring of the residential wells from 2011-2020 have generally been consistent. Most analytes have been "not detected" or in the low ppt range while PFBA has been measured at consistently low and somewhat variable levels.

4.4 SITE NPDES WASTEWATER PERMIT MONITORING

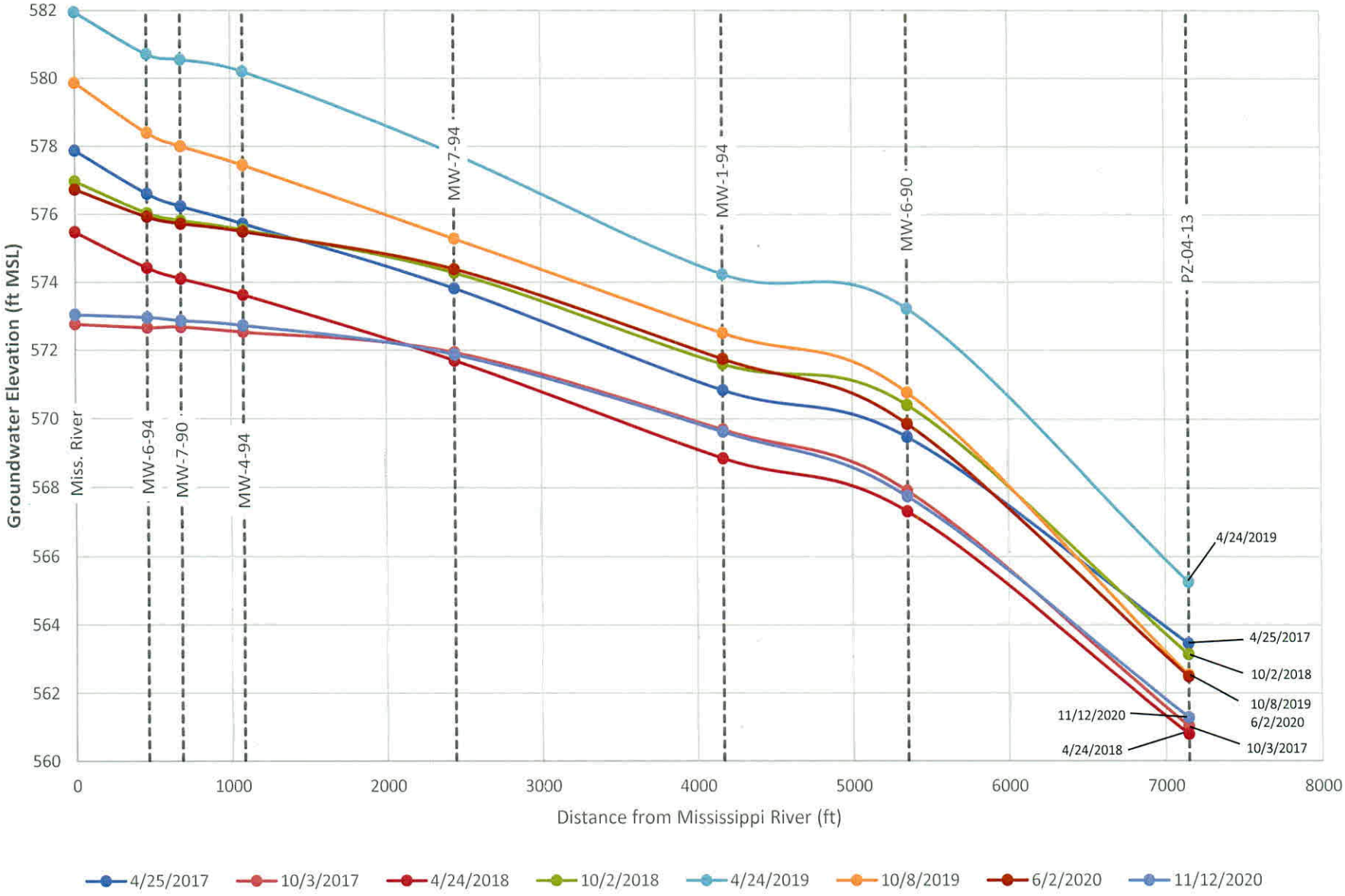
Consistent with the site NPDES permit effective January 1, 2013, quarterly monitoring for PFAS compounds of the wastewater discharge is conducted. Table 4-9 presents a summary of the analytical results.

The following observations are noted relative to the data summarized in Table 4-9:

- The results have been primarily below limits of quantitation for PFUnA, PFDoA, PFTrA and PFOSA.
- In 2020, PFBA concentrations ranged from 22.1 to 47.1 ng/mL (ppb) which are lower than historical values. The other detected constituents were measured at concentrations of 17.3 ng/mL or less.

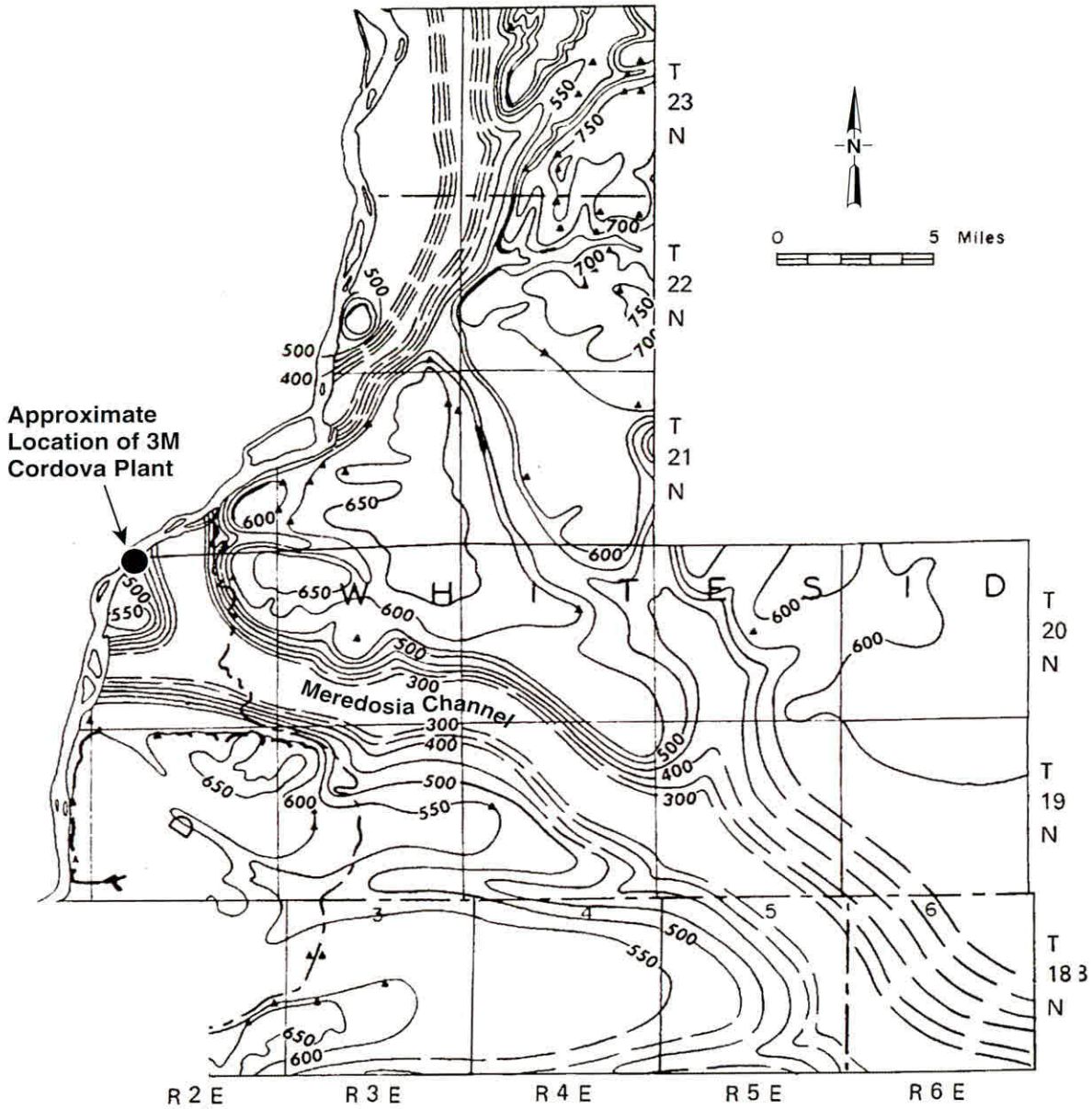
Monitoring will continue for the term of the permit.

Figure 4-1
Groundwater Hydrograph
Groundwater Elevation vs. Distance from Mississippi River
April 2017 - November 2020
Cordova Site, Cordova, IL



Note: Mississippi River water elevation obtained from USGS monitoring station in Camanche, IA.

2020-11-COIL-GW-Elev-DTW-2021-05-04_EDITDistance CHT(4yr)(fig4-1)



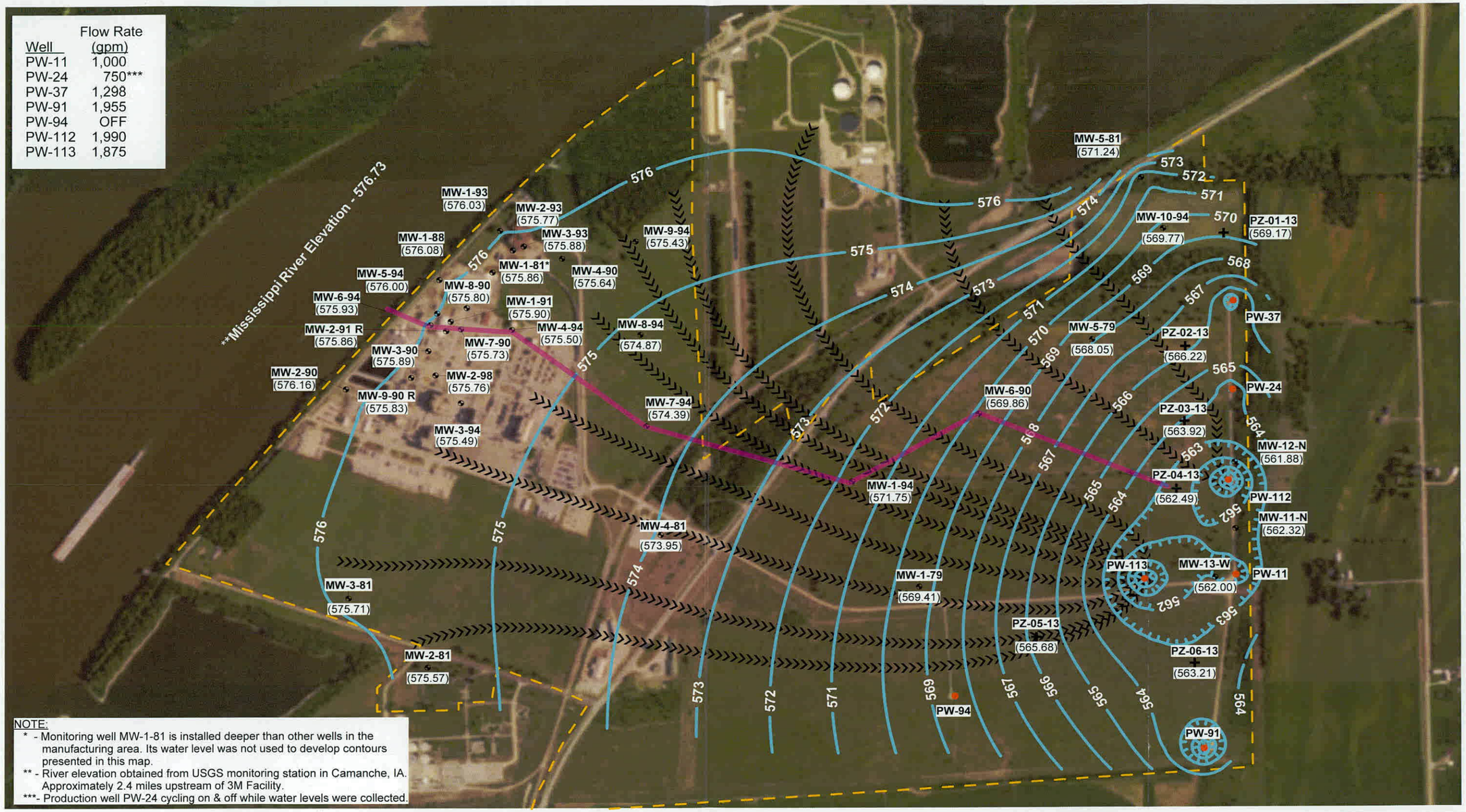
Note: Ground surface elevation in vicinity of Cordova Plant and Production wells is approximately 600 feet above mean sea level (ft msl)

Source: A Seismic Refraction Survey of the Meredosia Channel area of Northwestern Illinois (McGinnis and Heigold, 1974)

—500— Bedrock Elevation (ft msl)

16P-0086

FIGURE 4-4 BEDROCK ELEVATION OF THE MEREDOSIA CHANNEL 3M CORDOVA FACILITY CORDOVA, ILLINOIS



NOTE:
* - Monitoring well MW-1-81 is installed deeper than other wells in the manufacturing area. Its water level was not used to develop contours presented in this map.
** - River elevation obtained from USGS monitoring station in Camanche, IA. Approximately 2.4 miles upstream of 3M Facility.
***- Production well PW-24 cycling on & off while water levels were collected.

Legend

- Production Well Location (PW)
- Monitoring Well Location (MW)
- Piezometer Location (PZ)
- Groundwater Elevation Contour (contour interval 1 ft)
- (572.95) Groundwater Elevation (ft MSL)
- Groundwater Flow Path
- Property Boundary
- Hydrograph Transect Line

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Scale (ft)
0 500 1000 1500

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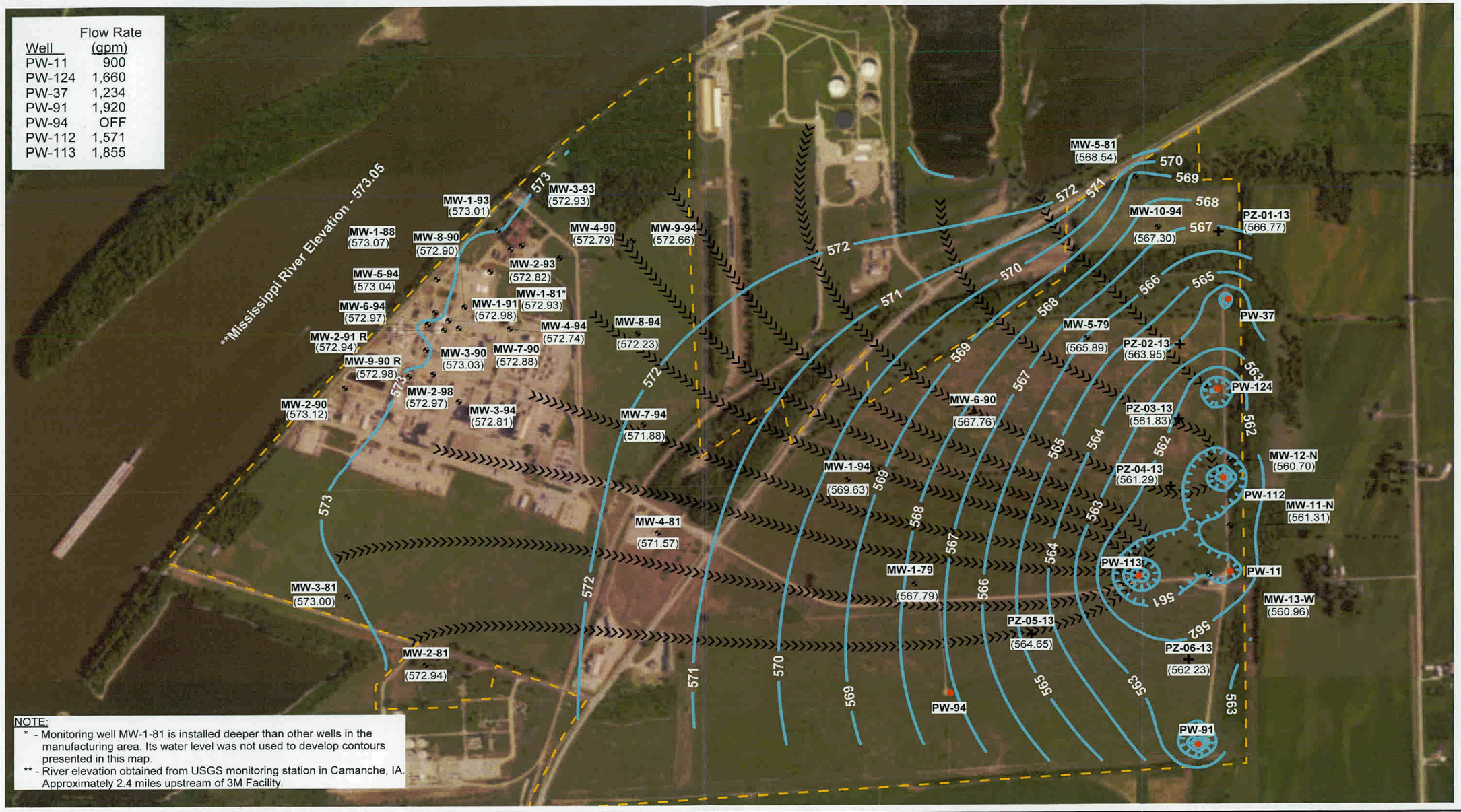
Figure 4-2

Groundwater Elevation Contour Map
2 June 2020
3M Cordova Facility
Cordova, IL

2018-1002-COIL-GW.srf



Legend

- Production Well Location (PW)
- Monitoring Well Location (MW)
- Piezometer Location (PZ)
- Groundwater Elevation Contour (contour interval 1 ft)
- (572.94) Groundwater Elevation (ft MSL)
- Groundwater Flow Path
- Property Boundary

Scale (ft)
0 500 1000 1500

N W E S

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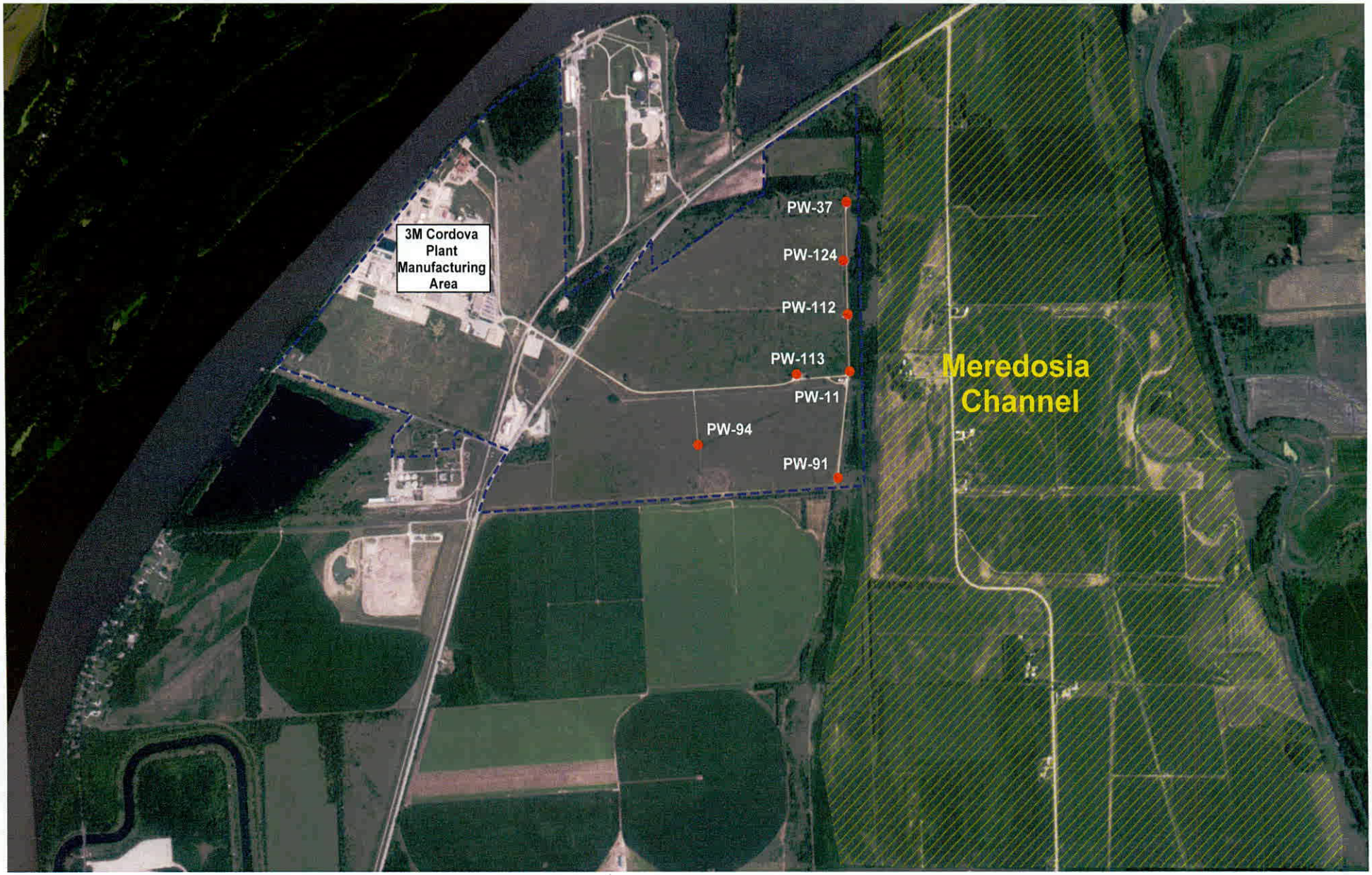
Figure 4-3

Groundwater Elevation Contour Map
12 November 2020
3M Cordova Facility
Cordova, IL



Legend

- Production Well Location (PW)
- Property Boundary
- Approximate Center of Meredosia Channel

Note: Location of Meredosia Channel is based on *A Seismic Refraction Survey of the Meredosia Channel Area of Northwestern Illinois (McGinnis and Heigold, 1974)* and *Buried Bedrock Surface of Illinois (Herzog et al, 1994)*.

N W E S

WESTON SOLUTIONS

0 1000 2000 3000
scale (feet)

Figure 4-5

Production Well and Meredosia Channel Location Map
Cordova Site, Cordova IL

WESTON

Table 4-1 (cont'd)
Depth-to-Groundwater and Groundwater Elevation Data
Cordova Site, Cordova, IL

Well ID	Approximate Total Well Depth (ft btoc)	TOC Elevation (ft MSL)	Jun-14		Oct-14		Apr-15		Oct-15		Apr-16		Oct-16		Apr-17		Oct-17	
			Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)
MW-1-79	77.7	626.71	57.36	569.35	58.02	568.69	60.63	566.08	59.05	567.66	58.17	568.54	56.37	570.34	58.68	568.03	59.30	567.41
MW-3-79	77.4	633.04	61.02	572.02	62.37	570.67	64.35	568.69	63.80	569.24	61.76	571.28	60.02	573.02	62.25	570.79	63.43	569.61
MW-4-79	85.3	626.42	55.09	571.33	57.02	569.40	58.78	567.64	58.28	568.14	56.28	570.14	53.85	572.57	56.96	569.46	58.55	567.87
MW-5-79	81.6	623.91	53.53	570.38	55.96	567.95	56.87	567.04	56.48	567.43	55.03	568.88	51.76	572.15	55.45	568.46	57.71	566.20
MW-1-81	60.5	592.42	15.4	577.02	20.33	572.09	19.38	573.04	20.16	572.26	17.46	574.96	17.59	574.83	15.95	576.47	19.72	572.70
MW-2-81	44.6	601.2	25.18	576.02	27.9	573.30	28.79	572.41	29.08	572.12	26.32	574.88	24.59	576.61	26.11	575.09	28.23	572.97
MW-3-81	36.1	591.25	14.1	577.15	18.15	573.10	18.31	572.94	19.00	572.25	16.00	575.25	14.15	577.10	15.24	576.01	18.48	572.77
MW-4-81	65.7	611.58	37.59	573.99	39.25	572.33	40.92	570.66	40.67	570.91	38.31	573.27	36.85	574.73	38.58	573.00	39.90	571.68
MW-5-81	64.0	601.54	28.39	573.15	31.87	569.67	31.81	569.73	32.27	569.27	30.28	571.26	26.89	574.65	29.50	572.04	33.03	568.51
MW-1-88	32.3	595.23	18.3	576.93	22.15	573.08	22.11	573.12	22.90	572.33	20.45	574.78	18.61	576.62	18.41	576.82	22.50	572.73
MW-2-90	32.6	596.59	19.75	576.84	23.61	572.98	23.41	573.18	24.22	572.37	21.86	574.73	20.03	576.56	19.61	576.98	23.83	572.76
MW-3-90	27.6	591.78	14.79	576.99	18.68	573.1	18.71	573.07	19.50	572.28	16.82	574.96	14.96	576.82	15.31	576.47	19.05	572.73
MW-4-90	30.1	593.61	16.64	576.97	20.62	572.99	20.77	572.84	21.53	572.08	18.59	575.02	16.75	576.86	17.57	576.04	21.04	572.57
MW-5-90	27.4	591.31	14.3	577.01	18.22	573.09	18.36	572.95	19.08	572.23	16.05	575.26	14.22	577.09	15.30	576.01	18.51	572.80
MW-6-90	72.6	627.48	56.11	571.37	58.14	569.34	59.81	567.67	59.31	568.17	57.31	570.17	54.89	572.59	58.00	569.48	59.56	567.92
MW-7-90	31.6	596.29	19.15	577.14	23.21	573.08	23.37	572.92	24.12	572.17	21.40	574.89	19.52	576.77	20.05	576.24	23.60	572.69
MW-8-90	32.5	595.45	18.53	576.92	22.41	573.04	22.47	572.98	23.28	572.17	20.62	574.83	18.71	576.74	19.01	576.44	22.80	572.65
MW-9-90R	27.7	594.68	17.42	577.26	NA	NA	21.66	573.02	22.41	572.27	19.65	575.03	17.70	576.98	18.38	576.30	21.93	572.75
MW-1-91	25.2	591.65	NA	NA	18.58	573.07	18.62	573.03	19.40	572.25	16.76	574.89	14.91	576.74	15.11	576.54	18.95	572.70
MW-2-91R	25.0	592.52	NA	NA	NA	NA	19.52	573.00	20.31	572.21	17.64	574.88	15.80	576.72	16.04	576.48	19.84	572.68
MW-1-93	24.2	593.93	17.01	576.92	20.89	573.04	20.85	573.08	21.65	572.28	19.16	574.77	17.28	576.65	17.20	576.73	21.23	572.70
MW-2-93	23.9	594.21	17.34	576.87	21.21	573	21.25	572.96	22.05	572.16	19.43	574.78	17.55	576.66	17.75	576.46	21.63	572.58
MW-3-93	24.9	594.41	17.46	576.95	21.38	573.03	21.41	573.00	22.20	572.21	19.53	574.88	18.63	575.78	17.85	576.56	21.77	572.64
MW-1-94	72.6	632.68	60.58	572.1	62.05	570.63	63.96	568.72	63.40	569.28	61.35	571.33	59.65	573.03	61.84	570.84	62.99	569.69
MW-2-94	47.6	612.21	38.25	573.96	39.93	572.28	41.60	570.61	41.35	570.86	38.96	573.25	37.51	574.70	39.24	572.97	40.54	571.67
MW-3-94	31.3	595.53	18.51	577.02	22.51	573.02	22.81	572.72	23.95	571.58	20.46	575.07	18.63	576.90	19.89	575.64	22.94	572.59
MW-4-94	32.6	597.95	21.07	576.88	24.99	572.96	25.24	572.71	25.91	572.04	22.98	574.97	21.11	576.84	22.22	575.73	25.41	572.54
MW-5-94	24.6	592.51	15.58	576.93	19.43	573.08	19.43	573.08	20.22	572.29	17.66	574.85	15.81	576.70	15.83	576.68	19.77	572.74
MW-6-94	22.6	590.27	13.5	576.77	17.24	573.03	17.25	573.02	18.04	572.23	15.47	574.80	13.61	576.66	13.66	576.61	17.60	572.67
MW-7-94	32.6	597.98	22.77	575.21	25.4	572.58	26.61	571.37	26.71	571.27	23.94	574.04	22.39	575.59	24.16	573.82	26.04	571.94
MW-8-94	30.1	595.57	19.26	576.31	22.85	572.72	23.50	572.07	23.97	571.60	20.90	574.67	19.15	576.42	20.82	574.75	23.41	572.16
MW-9-94	32.6	597.76	19.65	578.11	24.84	572.92	25.05	572.71	25.80	571.96	22.70	575.06	20.77	576.99	22.04	575.72	25.30	572.46
MW-10-94	45.1	602.15	30.3	571.85	33.61	568.54	33.35	568.80	33.57	568.58	32.04	570.11	28.49	573.66	31.74	570.41	34.81	567.34
MW-1-98	--	595.74	--	--	--	--	22.80	572.94	23.54	572.20	20.70	575.04	18.84	576.90	19.59	576.15	23.05	572.69
MW-2-98	31.6	595.62	18.63	576.99	22.55	573.07	22.65	572.97	23.41	572.21	20.61	575.01	18.75	576.87	19.39	576.23	22.92	572.70
MW-11-N	180.0	628.95	NA	NA	65.37	563.58	67.09	561.86	65.53	563.42	64.78	564.17	61.65	567.30	65.61	563.34	68.03	560.92
MW-12-N	169.5	625.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-13-N	178.8	628.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PZ-01-13	56.3	599.27	27.15	572.12	31.24	568.03	30.75	568.52	30.91	568.36	29.84	569.43	26.27	573.00	29.66	569.61	32.49	566.78
PZ-02-13	87.0	625.44	56.73	568.71	59.12	566.32	59.26	566.18	58.67	566.77	58.13	567.31	54.45	570.99	58.41	567.03	60.81	564.63
PZ-03-13	89.8	626.54	59.55	566.99	61.42	565.12	62.60	563.94	61.27	565.27	60.55	565.99	57.14	569.40	61.40	565.14	63.53	563.01
PZ-04-13	90.7	626.24	60.58	565.66	62.40	563.84	64.63	561.58	62.75	563.49	61.81	564.40	58.45	567.76	62.78	563.46	65.18	561.03
PZ-05-13	93.5	627.05	60.12	566.93	60.92	566.13	64.13	562.92	61.89	565.16	61.66	565.39	59.18	567.87	62.09	564.96	63.21	563.84
PZ-06-13	90.6	629.19	64.27	564.92	64.91	564.28	67.36	561.83	65.83	563.36	65.35	563.84	62.15	567.04	65.41	563.78	67.46	561.73

Notes:
ft MSL = feet above mean sea level
ft btoc = feet below top of casing
MW = Monitoring well
PZ = Piezometers (Installed in May 2013)
NA = Well not accessible
-- = Not available

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Table 4-1
Depth-to-Groundwater and Groundwater Elevation Data
Cordova Site, Cordova, IL

Well ID	Approximate Total Well Depth (ft btoc)	TOC Elevation (ft MSL)	Oct-06		Mar-08		Aug-08		Dec-09		Aug-12		Jun-13		Nov-13	
			Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)
MW-1-79	77.7	626.71	59.65	567.06	58.79	567.92	54.31	572.40	56.87	569.84	58.52	568.19	55.16	571.55	58.65	568.06
MW-3-79	77.4	633.04	64.60	568.44	63.81	569.23	59.60	573.44	62.07	570.97	63.30	569.74	59.32	573.72	63.51	569.53
MW-4-79	85.3	626.42	59.72	566.70	58.85	567.57	54.96	571.46	57.07	569.35	57.77	568.65	54.01	572.41	58.40	568.02
MW-5-79	81.6	623.91	59.30	564.61	58.05	565.86	55.08	568.83	56.27	567.64	56.58	567.33	53.25	570.66	57.18	566.73
MW-1-81	60.5	592.42	20.62	571.80	20.24	572.18	19.29	573.13	19.52	572.90	20.45	571.97	14.76	577.66	20.00	572.42
MW-2-81	44.6	601.2	29.60	571.60	29.80	571.40	26.42	574.78	27.85	573.35	29.02	572.18	24.65	576.55	28.91	572.29
MW-3-81	36.1	591.25	19.45	571.80	18.70	572.55	17.69	573.56	18.22	573.03	19.14	572.11	14.31	576.94	18.90	572.35
MW-4-81	65.7	611.58	41.27	570.31	40.55	571.03	36.79	574.79	39.10	572.48	40.32	571.26	36.23	575.35	40.43	571.15
MW-5-81	64.0	601.54	--	--	33.76	567.78	31.67	569.87	32.37	569.17	32.79	568.75	28.34	573.20	--	--
MW-1-88	32.3	595.23	23.30	571.93	22.92	572.31	22.36	572.87	22.43	572.80	23.17	572.06	17.07	578.16	22.66	572.57
MW-2-90	32.6	596.59	24.59	572.00	24.21	572.38	23.84	572.75	23.81	572.78	24.50	572.09	18.40	578.19	23.99	572.60
MW-3-90	27.6	591.78	19.90	571.88	19.54	572.24	18.64	573.14	18.88	572.90	19.71	572.07	14.15	577.63	19.33	572.45
MW-4-90	30.1	593.61	22.01	571.60	21.60	572.01	20.37	573.24	20.80	572.81	21.72	571.89	16.41	577.20	21.40	572.21
MW-5-90	27.4	591.31	19.50	571.81	19.05	572.26	17.73	573.58	18.19	573.12	19.22	572.09	14.37	576.94	18.95	572.36
MW-6-90	72.6	627.48	60.77	566.71	59.85	567.63	56.02	571.46	58.15	569.33	58.81	568.67	55.03	572.45	59.43	568.05
MW-7-90	31.6	596.29	24.55	571.74	24.17	572.12	23.16	573.13	23.47	572.82	24.37	571.92	18.89	577.40	23.92	572.37
MW-8-90	32.5	595.45	23.68	571.77	23.23	572.22	22.40	573.05	22.60	572.85	23.48	571.97	17.87	577.58	23.08	572.37
MW-9-90R	27.7	594.68	22.85	571.83	22.42	572.26	21.46	573.22	21.78	572.90	22.68	572.00	17.27	577.41	22.25	572.43
MW-1-91	25.2	591.65	19.80	571.85	19.42	572.23	18.60	573.05	18.81	572.84	19.65	572.00	13.93	577.72	19.20	572.45
MW-2-91R	25.0	592.52	20.71	571.81	20.30	572.22	19.48	573.04	19.72	572.80	20.55	571.97	14.88	577.64	20.10	572.42
MW-1-93	24.2	593.93	22.10	571.83	21.76	572.17	21.07	572.86	21.16	572.77	21.95	571.98	15.92	578.01	21.49	572.44
MW-2-93	23.9	594.21	22.45	571.76	22.11	572.10	21.27	572.94	21.45	572.76	22.31	571.90	16.54	577.67	21.85	572.36
MW-3-93	24.9	594.41	22.65	571.76	DRY		21.39	573.02	21.61	572.80	22.50	571.91	16.77	577.64	22.05	572.36
MW-1-94	72.6	632.68	64.19	568.49	63.35	569.33	59.20	573.48	61.75	570.93	62.88	569.80	58.94	573.74	63.12	569.56
MW-2-94	47.6	612.21	41.95	570.26	41.23	570.98	37.48	574.73	39.72	572.49	41.20	571.01	36.91	575.30	--	--
MW-3-94	31.3	595.53	23.95	571.58	23.53	572.00	21.93	573.60	22.61	572.92	23.60	571.93	18.65	576.88	23.32	572.21
MW-4-94	32.6	597.95	26.40	571.55	26.05	571.90	24.51	573.44	25.13	572.82	26.08	571.87	20.98	576.97	25.75	572.20
MW-5-94	24.6	592.51	20.62	571.89	20.23	572.28	19.55	572.96	19.68	572.83	20.48	572.03	14.61	577.90	20.00	572.51
MW-6-94	22.6	590.27	18.45	571.82	18.30	571.97	17.34	572.93	17.44	572.83	18.30	571.97	12.46	577.81	17.80	572.47
MW-7-94	32.6	597.98	27.35	570.63	26.70	571.28	23.64	574.34	25.44	572.54	26.52	571.46	22.11	575.87	26.54	571.44
MW-8-94	30.1	595.57	23.55	572.02	24.07	571.50	21.79	573.78	22.95	572.62	23.96	571.61	19.23	576.34	23.89	571.68
MW-9-94	32.6	597.76	--	--	25.92	571.84	23.38	574.38	24.98	572.78	25.95	571.81	20.86	576.90	25.69	572.07
MW-10-94	45.1	602.15	36.67	565.48	35.56	566.59	33.20	568.95	34.03	568.12	34.24	567.91	30.50	571.65	34.49	567.66
MW-1-98	--	595.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-2-98	31.6	595.62	23.81	571.81	23.41	572.21	22.37	573.25	22.73	572.89	23.61	572.01	18.27	577.35	23.25	572.37
MW-11-N	180.0	628.95	67.17	561.78	66.25	562.70	62.99	565.96	63.75	565.20	NA	NA	62.12	566.83	NA	NA
MW-12-N	169.5	625.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-13-N	178.8	628.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PZ-01-13	56.3	599.27	--	--	--	--	--	--	--	--	--	--	28.50	570.77	31.97	567.30
PZ-02-13	87.0	625.44	--	--	--	--	--	--	--	--	--	--	56.78	568.66	59.87	565.57
PZ-03-13	89.8	626.54	--	--	--	--	--	--	--	--	--	--	58.64	567.90	62.45	564.09
PZ-04-13	90.7	626.24	--	--	--	--	--	--	--	--	--	--	58.79	567.45	63.57	562.67
PZ-05-13	93.5	627.05	--	--	--	--	--	--	--	--	--	--	58.51	568.54	61.57	565.48
PZ-06-13	90.6	629.19	--	--	--	--	--	--	--	--	--	--	63.02	566.17	65.84	563.35

Notes:

ft MSL = feet above mean sea level
ft btoc = feet below top of casing
MW = Monitoring well
PZ = Piezometers (Installed in May 2013)
NA = Well not accessible
-- = Not available

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Table 4-1 (cont'd)
Depth-to-Groundwater and Groundwater Elevation Data
Cordova Site, Cordova, IL

Well ID	Approximate Total Well Depth (ft btoc)	TOC Elevation (ft MSL)	Apr-18		Oct-18		Apr-19		Oct-19		Jun-20		Nov-20		Groundwater Elevation Data				
			Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Depth to Groundwater (ft btoc)	Groundwater Elevation (ft MSL)	Minimum	Maximum	Average	Range	Standard Deviation
MW-1-79	77.7	626.71	60.28	566.43	57.85	568.86	55.84	570.87	56.53	570.18	57.30	569.41	58.92	567.79	566.08	572.40	568.79	6.32	1.64
MW-3-79	77.4	633.04	64.25	568.79	61.46	571.58	58.85	574.19	60.60	572.44	61.32	571.72	63.45	569.59	568.44	574.19	570.89	5.75	1.76
MW-4-79	85.3	626.42	59.15	567.27	56.06	570.36	53.21	573.21	55.67	570.75	56.61	569.81	58.70	567.72	566.70	573.21	569.52	6.51	1.90
MW-5-79	81.6	623.91	57.90	566.01	54.70	569.21	51.76	572.15	54.58	569.33	55.86	568.05	58.02	565.89	564.61	572.15	568.13	7.54	2.04
MW-1-81	60.5	592.42	18.19	574.23	16.45	575.97	11.70	580.72	14.21	578.21	16.56	575.86	19.49	572.93	571.80	580.72	574.45	8.92	2.49
MW-2-81	44.6	601.2	28.25	572.95	25.87	575.33	22.31	578.89	24.55	576.65	25.63	575.57	28.26	572.94	571.40	578.89	574.18	7.49	2.04
MW-3-81	36.1	591.25	17.85	573.40	15.50	575.75	10.92	580.33	13.55	577.70	15.54	575.71	18.25	573.00	571.80	580.33	574.51	8.53	2.35
MW-4-81	65.7	611.58	40.62	570.96	37.98	573.60	35.20	576.38	36.98	574.60	37.63	573.95	40.01	571.57	570.31	576.38	572.76	6.07	1.77
MW-5-81	64.0	601.54	32.39	569.15	29.16	572.38	25.31	576.23	27.60	573.94	30.30	571.24	33.00	568.54	567.78	576.23	570.98	8.45	2.40
MW-1-88	32.3	595.23	20.63	574.60	18.99	576.24	14.39	580.84	16.16	579.07	19.15	576.08	22.16	573.07	571.93	580.84	574.71	8.91	2.60
MW-2-90	32.6	596.59	21.78	574.81	20.35	576.24	15.67	580.92	17.77	578.82	20.43	576.16	23.47	573.12	572.00	580.92	574.73	8.92	2.59
MW-3-90	27.6	591.78	17.43	574.35	15.75	576.03	11.08	580.70	13.50	578.28	15.89	575.89	18.75	573.03	571.88	580.70	574.62	8.82	2.48
MW-4-90	30.1	593.61	19.80	573.81	17.89	575.72	13.13	580.48	15.84	577.77	17.97	575.64	20.82	572.79	571.60	580.48	574.41	8.88	2.45
MW-5-90	27.4	591.31	17.49	573.82	15.54	575.77	11.00	580.31	13.60	577.71	15.59	575.72	18.30	573.01	571.81	580.31	574.52	8.50	2.34
MW-6-90	72.6	627.48	60.16	567.32	57.08	570.40	54.25	573.23	56.71	570.77	57.62	569.86	59.72	567.76	566.71	573.23	569.54	6.52	1.90
MW-7-90	31.6	596.29	22.18	574.11	20.47	575.82	15.74	580.55	18.29	578.00	20.56	575.73	23.41	572.88	571.74	580.55	574.50	8.81	2.46
MW-8-90	32.5	595.45	21.21	574.24	19.53	575.92	14.82	580.63	17.30	578.15	19.65	575.80	22.55	572.90	571.77	580.63	574.53	8.86	2.48
MW-9-90R	27.7	594.68	20.42	574.26	18.76	575.92	14.05	580.63	16.55	578.13	18.85	575.83	21.70	572.98	571.83	580.63	574.90	8.80	2.54
MW-1-91	25.2	591.65	17.30	574.35	15.64	576.01	10.94	580.71	13.33	578.32	15.75	575.90	18.67	572.98	571.85	580.71	574.48	8.86	2.51
MW-2-91R	25.0	592.52	18.22	574.30	16.57	575.95	11.85	580.67	14.27	578.25	16.66	575.86	19.58	572.94	571.81	580.67	574.74	8.86	2.60
MW-1-93	24.2	593.93	19.48	574.45	17.75	576.18	13.11	580.82	15.43	578.50	17.90	576.03	20.92	573.01	571.83	580.82	574.63	8.99	2.57
MW-2-93	23.9	594.21	20.03	574.18	18.29	575.92	13.58	580.63	16.03	578.18	18.44	575.77	21.39	572.82	571.76	580.63	574.50	8.87	2.51
MW-3-93	24.9	594.41	20.18	574.23	18.46	575.95	13.70	580.71	16.20	578.21	18.53	575.88	21.48	572.93	571.76	580.71	574.62	8.95	2.49
MW-1-94	72.6	632.68	63.82	568.86	61.08	571.60	58.44	574.24	60.17	572.51	60.93	571.75	63.05	569.63	568.49	574.24	570.93	5.75	1.76
MW-2-94	47.6	612.21	41.27	570.94	38.63	573.58	35.87	576.34	37.64	574.57	38.30	573.91	40.68	571.53	570.26	576.34	572.80	6.08	1.79
MW-3-94	31.3	595.53	21.91	573.62	19.97	575.56	15.35	580.18	18.14	577.39	20.04	575.49	22.72	572.81	571.58	580.18	574.32	8.60	2.37
MW-4-94	32.6	597.95	24.32	573.63	22.40	575.55	17.75	580.20	20.50	577.45	22.45	575.50	25.21	572.74	571.55	580.20	574.31	8.65	2.37
MW-5-94	24.6	592.51	18.01	574.50	16.40	576.11	11.74	580.77	14.05	578.46	16.51	576.00	19.47	573.04	571.89	580.77	574.65	8.88	2.53
MW-6-94	22.6	590.27	15.84	574.43	14.23	576.04	9.56	580.71	11.88	578.39	14.34	575.93	17.30	572.97	571.82	580.71	574.57	8.89	2.53
MW-7-94	32.6	597.98	26.28	571.70	23.70	574.28	20.20	577.78	22.69	575.29	23.59	574.39	26.10	571.88	570.63	577.78	573.27	7.15	1.96
MW-8-94	30.1	595.57	22.49	573.08	20.63	574.94	16.34	579.23	19.33	576.24	20.70	574.87	23.34	572.23	571.50	579.23	573.85	7.73	2.16
MW-9-94	32.6	597.76	24.28	573.48	22.20	575.56	17.40	580.36	20.38	577.38	22.33	575.43	25.10	572.66	571.81	580.36	574.53	8.55	2.46
MW-10-94	45.1	602.15	34.46	567.69	31.25	570.90	27.65	574.50	30.16	571.99	32.38	569.77	34.85	567.30	565.48	574.50	569.42	9.02	2.34
MW-1-98	--	595.74	21.62	574.12	19.91	575.83	15.19	580.55	17.77	577.97	20.00	575.74	22.80	572.94	572.20	580.55	575.26	8.35	2.48
MW-2-98	31.6	595.62	21.46	574.16	19.75	575.87	15.05	580.57	17.59	578.03	19.86	575.76	22.65	572.97	571.81	580.57	574.54	8.76	2.44
MW-11-N	180.0	628.95	68.11	560.84	66.22	562.73	64.11	564.48	66.53	562.06	66.27	562.32	67.28	561.31	560.84	567.30	563.38	6.46	1.95
MW-12-N	169.5	625.95	--	--	--	--	60.91	565.04	63.68	562.27	64.06	561.89	65.25	560.70	560.70	565.04	562.47	4.34	1.84
MW-13-N	178.8	628.24	--	--	--	--	64.77	563.47	67.08	561.16	66.24	562.00	67.28	560.96	560.70	563.47	561.90	2.78	1.14
PZ-01-13	56.3	599.27	32.11	567.16	29.25	570.02	25.75	573.52	28.20	571.07	30.10	569.17	32.50	566.77	566.77	573.52	569.48	6.75	2.15
PZ-02-13	87.0	625.44	60.84	564.60	57.95	567.49	55.49	569.95	58.21	567.23	59.22	566.22	61.49	563.95	563.95	570.99	566.98	7.04	1.92
PZ-03-13	89.8	626.54	63.75	562.79	61.02	565.52	59.04	567.50	62.08	564.46	62.62	563.92	64.71	561.83	561.83	569.40	565.18	7.57	2.02
PZ-04-13	90.7	626.24	65.42	560.79	63.10	563.14	60.98	565.26	63.70	562.54	63.75	562.49	64.95	561.29	560.79	567.76	563.55	6.97	2.12
PZ-05-13	93.5	627.05	64.00	563.05	61.81	565.24	59.86	567.19	60.75	566.30	61.37	565.68	62.40	564.65	562.92	568.54	565.58	5.62	1.58
PZ-06-13	90.6	629.19	67.98	561.21	66.25	562.94	64.24	564.95	65.88	563.31	65.98	563.21	66.96	562.23	561.21	567.04	563.63	5.83	1.58

Notes:
ft MSL = feet above mean sea level
ft btoc = feet below top of casing
MW = Monitoring well
PZ = Piezometers (Installed in May 2013)
NA = Well not accessible
-- = Not available

IEPA - DIVISION OF RECORDS MANAGEMENT
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AUG 31 2021

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Table 4-2
Summary of Groundwater PFAS Analytical Data
Manufacturing Area Monitoring Wells
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Manufacturing Area Monitoring Wells							
MW-1-88	Mar 2008	17.5	0.519	NR	0.630	0.142	--
	Dec 2009	158	5.85	124	6.04	41.8	--
	Jun 2013	16.3	1.29	23.4	3.38	3.43	--
	Oct 2014	41.2	1.56	28.5	3.23	9.16	--
	Apr 2015	4.21	0.122	1.51	0.161	0.72	--
	Oct 2015	27.2	1.11	26.6	1.81	3.52	--
	Apr 2016	6.83	0.459	1.34	0.735	1.88	--
	Oct 2016	25.4	2.77	7.91	4.70	2.25	--
	Apr 2017	4.25	0.112	0.098	0.112	1.28	--
	Oct 2017	15.7	0.199	1.640	0.469	0.868	--
	Apr 2018	3.64	<0.0240	<0.0250	<0.0250	0.452	--
	Oct 2018	16.2	0.416	1.63	0.700	2.70	--
	Apr 2019	23.1	0.945	0.54	0.931	1.24	--
	Oct 2019	74.3	2.25	2.66	3.74	13.6	--
	Jun 2020	24.2	0.711	1.46	1.22	3.60	0.191
	Nov 2020	39.0	0.940	2.80	2.10	2.60	0.13 J
MW-2-90	Mar 2008	53.1	2.36	0.937	2.29	4.46	--
	Dec 2009	56.9	4.50	7.54	6.50	5.91	--
	Jun 2013	3.79	0.077	0.088	0.077	4.55	--
	Oct 2014	13.9	0.772	0.519	0.782	3.84	--
	Apr 2015	20.6	0.306	0.455	0.300	4.51	--
	Oct 2015	46.5	1.38	1.41	1.34	8.31	--
	Apr 2016	7.77	0.154	0.183	0.146	9.37	--
	Oct 2016	8.11	0.103	0.206	0.155	9.27	--
	Apr 2017	7.10	0.154	0.164	0.190	12.1	--
	Oct 2017	16.7	0.746	0.603	0.861	5.29	--
	Apr 2018	4.28	0.097	0.104	0.103	1.53	--
	Oct 2018	12.2	0.292	0.379	0.401	7.09	--
	Apr 2019	5.66	0.148	0.177	0.151	7.18	--
	Oct 2019	20.7	1.85	0.545	2.00	6.47	--
	Jun 2020	28.7	0.584	0.657	0.672	6.12	0.035
	Nov 2020	24.0	0.880	0.590	1.30	5.60	<0.500

Table 4-2 (cont'd)
Summary of Groundwater PFAS Analytical Data
Manufacturing Area Monitoring Wells
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Manufacturing Area Monitoring Wells [cont'd]							
MW-9-90R	Mar 2008	103	1.70	2.87	2.47	27.2	--
	Dec 2009	372	6.09	76.1	4.82	107	--
	Jun 2013	99.8	1.86	1.84	2.43	40.2	--
	Jun 2014	1050	12.3	4.22	3.74	75.3	--
	Oct 2014	NA	NA	NA	NA	NA	--
	Apr 2015	213	2.11	2.43	2.02	34.5	--
	Oct 2015	192	1.82	2.32	2.01	30.5	--
	Apr 2016	112	1.19	1.02	1.53	31.6	--
	Oct 2016	116	2.43	1.76	2.86	64.8	--
	Apr 2017	35.0	0.480	1.39	0.724	16.8	--
	Oct 2017	261	0.787	5.42	1.06	23.2	--
	Apr 2018	101	0.475	4.01	0.765	14.2	--
	Oct 2018	114	0.931	2.05	0.775	15.4	--
	Apr 2019	122	1.02	3.86	1.39	45.2	--
	Oct 2019	277	10.2	38.8	4.17	133	--
	Jun 2020	213	1.69	3.13	2.05	42.5	0.590
	Nov 2020	510	1.40	5.50	2.00	50.0	0.230 J
MW-1-93	Mar 2008	22.0	0.709	0.470	3.78	4.52	--
	Dec 2009	10.7	0.497	0.217	1.60	5.75	--
	Jun 2013	8.05	0.269	0.117	0.420	3.03	--
	Oct 2014	22.5	0.18	0.259	0.841	3.31	--
	Apr 2015	10.5	0.15	0.127	0.804	1.84	--
	Oct 2015	17.4	0.208	0.202	1.15	4.41	--
	Apr 2016	27.9	0.323	0.370	0.753	1.82	--
	Oct 2016	8.40	0.148	0.091	0.479	2.99	--
	Apr 2017	2.74	0.044	0.047	0.052	0.377	--
	Oct 2017	9.68	0.174	0.266	1.14	2.16	--
	Apr 2018	4.08	0.052	0.094	0.270	0.937	--
	Oct 2018	2.61	0.026	0.059	0.060	0.340	--
	Apr 2019	26.2	0.536	0.494	0.988	9.71	--
	Oct 2019	11.4	0.223	0.136	0.936	7.20	--
	Jun 2020	4.60	0.052	0.059	0.137	0.923	<0.0250
	Nov 2020	7.80	<0.500	0.250 J	0.910	2.80	<0.500

Table 4-2 (cont'd)
Summary of Groundwater PFAS Analytical Data
Manufacturing Area Monitoring Wells
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Manufacturing Area Monitoring Wells [cont'd]							
MW-3-94	Mar 2008	734	7.61	120	11.4	51.8	--
	Dec 2009	290	6.66	238	8.97	76.2	--
	Jun 2013	217	3.19	17.4	3.21	52.7	--
	Jun 2014	213	2.42	20.8	1.97	41.7	--
	Oct 2014	239	5.00	38.9	3.75	107	--
	Apr 2015	350	3.45	52.3	1.52	57.1	--
	Oct 2015	658	5.75	64.5	5.45	38.4	--
	Apr 2016	403	5.12	33.1	3.59	29.2	--
	Oct 2016	342	9.53	43.7	6.21	41.9	--
	Apr 2017	174	4.80	15.4	1.49	20.5	--
	Oct 2017	148	3.19	46.1	2.73	36.8	--
	Apr 2018	104	0.899	38.3	0.765	10.2	--
	Oct 2018	381	2.24	33.2	3.25	24.4	--
	Apr 2019	191	1.50	20.5	0.912	25.9	--
	Oct 2019	415	8.57	169	5.04	318	--
	Jun 2020	970	5.57	353	5.58	80.8	2.37
	Nov 2020	1100	2.30	160	3.00	110	0.270 J
MW-1-81	Jun 2013	1.44	0.108	0.078	0.071	0.247	--
	Oct 2014	0.615	<0.0240	0.066	0.041	0.061	--
	Apr 2015	0.250	<0.0240	0.029	<0.0500	0.058	--
	Oct 2015	0.138	<0.0240	<0.0250	<0.0236	0.070	--
	Apr 2016	<0.0250	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2016	<0.100	<0.0240	<0.0250	<0.0250	0.040	--
	Apr 2017	0.064	<0.0240	0.046	<0.0250	<0.0232	--
	Oct 2017	0.131	<0.0240	0.033	<0.0250	0.037	--
	Apr 2018	0.082	<0.0240	<0.0250	<0.0250	0.026	--
	Oct 2018	0.156	<0.0240	0.079	<0.0250	0.056	--
	Apr 2019	0.118	<0.0480	0.058	<0.0250	0.025	--
	Oct 2019	0.607	<0.0240	0.218	<0.0250	<0.0464	--
	Jun 2020	<0.0250	<0.0240	<0.0250	<0.0250	<0.0232	<0.0250
	Nov 2020	0.089	0.002	0.028	0.003	0.014	0.00034 J
	Nov 2020[1]	0.091	0.002	0.026	0.003	0.014	0.00035 J

Table 4-2 (cont'd)
Summary of Groundwater PFAS Analytical Data
Manufacturing Area Monitoring Wells
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Manufacturing Area Monitoring Wells [cont'd]							
MW-4-94	Jun 2013	88.3	2.29	14.0	5.06	17.7	--
	Oct 2014	51.0	1.83	9.48	3.41	16.8	--
	Apr 2015	46.4	1.46	6.52	3.41	19.1	--
	Oct 2015	40.0	1.11	2.81	3.32	12.2	--
	Apr 2016	25.3	1.50	4.15	3.58	10.4	--
	Oct 2016	24.9	1.03	1.48	2.83	2.57	--
	Apr 2017	21.4	2.40	2.41	5.79	15.7	--
	Oct 2017	24.1	0.661	1.72	1.25	9.23	--
	Apr 2018	29.8	1.24	2.19	2.29	12.7	--
	Oct 2018	25.3	1.37	2.40	2.64	12.3	--
	Apr 2019	18.6	1.39	1.35	3.04	13.5	--
	Oct 2019	26.2	0.817	1.06	1.58	12.7	--
	Jun 2020	42.0	1.59	1.53	2.01	19.4	0.484
	Nov 2020	28.0	0.900	1.50	1.30	15.0	0.160 J
MW-7-90	Jun 2013	13.7	0.946	0.738	2.85	65.6	--
	Jun 2014	26.1	1.35	0.886	3.17	68.8	--
	Oct 2014	55.9	1.90	3.56	6.69	73.4	--
	Apr 2015	30.2	1.07	1.06	4.00	32.5	--
	Oct 2015	36.3	1.43	2.10	4.19	28.8	--
	Apr 2016	26.9	1.08	0.512	3.26	29.9	--
	Oct 2016	37.2	1.72	0.800	5.11	48.7	--
	Apr 2017	29.2	1.19	0.649	3.81	34.1	--
	Oct 2017	43.1	1.08	1.86	3.90	32.1	--
	Apr 2018	39.1	0.841	1.01	2.63	19.6	--
	Oct 2018	34.5	0.741	1.22	2.63	26.0	--
	Apr 2019	38.2	1.53	1.06	3.93	39.9	--
	Oct 2019	76.5	2.26	2.52	6.60	76.6	--
	Jun 2020	47.3	1.67	1.44	5.10	49.9	0.158
	Nov 2020	42.0	0.970	1.90	3.90	27.0	0.09 JI

NR - Not reported due to quality control failure.
NA - Not available. Not sampled due to construction activities in area.
Concentrations reported are the average of primary and duplicate sample analytical results
[1] = Field Duplicate.
[a] = PFNA added to analyte list in 2020.
J = Result is less than the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL) and the concentration is an approximate value.
I = Value is Estimated Maximum Possible Concentration (EMPC).

Table 4-3
Summary of Groundwater PFAS Analytical Data
Former Sludge Incorporation Area (SIA) Monitoring Wells
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Former Sludge Incorporation Area (SIA) Monitoring Wells							
MW-1-79	Mar 2008	135	6.60	2.50	9.72	22.2	--
	Dec 2009	240	21.0	2.57	14.3	24.4	--
	Jun 2013	152	14.0	2.89	17.1	29.6	--
	Jun 2014	174	9.52	6.80	11.4	33.0	--
	Oct 2014	184	6.24	41.8	9.50	45.9	--
	Apr 2015	166	5.34	33.7	9.16	43.4	--
	Oct 2015	157	4.85	35.3	7.45	37.3	--
	Apr 2016	94.7	2.68	20.9	4.28	32.3	--
	Oct 2016	93.9	1.93	14.0	4.02	33.5	--
	Apr 2017	84.4	1.91	9.49	3.62	33.9	--
	Oct 2017	91.7	2.73	7.55	3.99	37.8	--
	Apr 2018	90.3	2.50	7.85	4.01	40.1	--
	Oct 2018	94.6	2.46	9.12	4.56	37.9	--
	Apr 2019	60.1	1.63	5.68	3.13	28.6	--
	Oct 2019	63.2	1.64	5.89	3.42	27.5	--
	Jun 2020	96.1	2.57	10.7	3.57	37.4	1.48
	Nov 2020	110	2.20	13.0	3.30	40.0	1.00
MW-3-79	Mar 2008	32.0	2.17	0.756	3.95	3.22	--
	Dec 2009	81.1	4.10	19.8	7.55	16.9	--
	Jun 2013	54.4	2.87	12.9	5.93	13.9	--
	Oct 2014	31.1	1.46	0.574	1.67	31.0	--
	Apr 2015	21.0	0.901	0.368	1.34	13.9	--
	Oct 2015	20.6	0.815	0.480	1.12	12.5	--
	Apr 2016	10.9	0.388	0.172	0.698	8.34	--
	Oct 2016	12.8	0.379	0.100	0.754	11.8	--
	Apr 2017	10.8	0.296	0.166	0.593	8.09	--
	Oct 2017	13.9	0.362	0.141	0.735	10.3	--
	Apr 2018	14.6	0.402	0.185	0.832	10.2	--
	Oct 2018	13.4	0.326	0.184	0.960	13.3	--
	Apr 2019	5.39	0.165	0.100	0.435	5.23	--
	Oct 2019	22.8	0.622	0.357	1.76	32.5	--
	Jun 2020	15.8	0.479	0.307	1.21	21.3	0.495
	Nov 2020	16.0	0.590	0.330 J	1.60	24.0	0.600

Table 4-3 (cont'd)
Summary of Groundwater PFAS Analytical Data
Former Sludge Incorporation Area (SIA) Monitoring Wells
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Former Sludge Incorporation Area (SIA) Monitoring Wells [cont'd]							
MW-4-79	Mar 2008	1.22	0.032	0.025	0.034	0.079	--
	Dec 2009	8.35	0.123	0.053	0.046	0.174	--
	Jun 2013	3.16	0.154	0.086	0.275	0.121	--
	Jun 2014	5.26	0.219	0.097	0.314	0.151	--
	Oct 2014	5.69	0.127	0.089	0.203	0.111	--
	Apr 2015	4.57	0.051	0.071	0.057	0.081	--
	Oct 2015	5.52	0.061	0.105	0.080	0.169	--
	Apr 2016	2.87	0.061	0.090	0.062	0.145	--
	Oct 2016	1.49	<0.024	<0.0250	<0.0250	0.055	--
	Apr 2017	0.639	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2017	0.691	<0.0240	<0.0250	<0.0250	<0.0232	--
	Apr 2018	0.571	<0.0240	<0.0250	<0.0250	0.034	--
	Oct 2018	0.383	<0.0240	<0.0500	<0.0250	0.034	--
	Apr 2019	0.510	<0.0480	<0.0250	<0.0250	0.028	--
	Oct 2019	0.832	<0.0240	<0.0250	<0.0250	<0.0464	--
	Jun 2020	0.661	<0.0240	<0.0250	<0.0250	<0.0232	<0.0250
	Nov 2020	0.960	0.018	0.100	0.010	0.054	0.002
MW-5-79	Mar 2008	0.400	<0.0298	<0.0249	<0.0244	< 0.0250	--
	Dec 2009	<2.50	0.087	0.027	<0.0250	0.055	--
	Jun 2013	0.528	0.026	<0.0250	<0.0250	0.045	--
	Jun 2014	0.571	<0.0240	<0.0250	<0.0250	0.035	--
	Oct 2014	0.190	<0.0240	<0.0250	<0.0250	0.054	--
	Apr 2015	0.153	<0.0240	<0.0250	<0.0500	0.025	--
	Oct 2015	0.255	<0.0240	<0.0250	<0.0236	0.044	--
	Apr 2016	0.085	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2016	<0.100	<0.0240	<0.0250	<0.0250	<0.0232	--
	Apr 2017	<0.0500	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2017	0.156	<0.0240	<0.0250	<0.0250	<0.0232	--
	Apr 2018	0.111	<0.0240	<0.0250	<0.0250	0.027	--
	Oct 2018	<0.100	0.035	<0.0500	<0.0250	0.033	--
	Apr 2019	0.147	<0.0480	<0.0250	<0.0250	0.095	--
	Oct 2019	0.134	<0.0240	<0.0250	<0.0250	<0.0232	--
	Jun 2020	0.095	<0.0240	<0.0250	<0.0250	<0.0232	<0.0250
	Nov 2020	0.120	0.005	0.010	0.002	0.010	0.00046 J

Table 4-3 (cont'd)
Summary of Groundwater PFAS Analytical Data
Former Sludge Incorporation Area (SIA) Monitoring Wells
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Former Sludge Incorporation Area (SIA) Monitoring Wells [cont'd]							
MW-3-81	Mar 2008	41.3	3.56	0.189	4.32	5.94	--
	Dec 2009	48.7	5.19	0.357	5.40	7.54	--
	Jun 2013	40.0	3.98	0.356	6.95	25.5	--
	Jun 2014	60.3	5.84	0.371	8.67	31.5	--
	Oct 2014	61.0	5.97	0.635	10.7	31.7	--
	Apr 2015	65.0	7.22	0.424	14.4	51.3	--
	Oct 2015	68.2	7.85	0.410	13.8	41.8	--
	Apr 2016	48.5	5.75	0.305	11.1	38.2	--
	Oct 2016	52.2	7.26	0.33	12.9	51.3	--
	Apr 2017	50.4	6.56	0.342	12.0	40.8	--
	Oct 2017	49.4	6.62	0.335	13.2	42.1	--
	Apr 2018	47.5	6.63	0.290	12.9	42.4	--
	Oct 2018	48.7	6.79	0.431	13.8	40.4	--
	Apr 2019	47.0	6.42	0.403	14.0	49.7	--
	Oct 2019	50.8	5.86	0.467	14.2	51.6	--
	Jun 2020	50.1	6.65	0.357	15.2	62.8	1.75
	Nov 2020	35.0	4.70	0.300 J	11.0	53.0	0.890
MW-7-94	Mar 2008	53.7	2.45	0.821	4.98	11.0	--
	Dec 2009	63.4	7.23	1.90	7.68	20.8	--
	Jun 2013	28.3	2.04	0.311	4.45	5.44	--
	Jun 2014	84.2	2.46	25.2	3.07	22.1	--
	Oct 2014	85.7	1.50	20.0	2.88	17.3	--
	Apr 2015	40.5	0.719	0.718	2.39	11.7	--
	Oct 2015	67.9	1.21	6.07	3.21	19.3	--
	Apr 2016	35.3	1.03	4.16	2.44	13.2	--
	Oct 2016	36.4	1.04	2.52	2.82	18.8	--
	Apr 2017	35.0	1.03	2.23	3.30	18.3	--
	Oct 2017	35.7	0.910	1.98	3.25	18.7	--
	Apr 2018	28.1	0.967	2.86	3.22	8.43	--
	Oct 2018	27.5	0.902	2.10	2.40	10.5	--
	Apr 2019	33.5	1.03	0.903	2.86	44.0	--
	Oct 2019	28.6	0.861	1.32	3.14	39.4	--
	Jun 2020	18.9	0.518	0.705	1.93	21.0	0.949
	Nov 2020	21.0	0.400 J	0.780	1.60	13.0	0.120 J

Table 4-3 (cont'd)
Summary of Groundwater PFAS Analytical Data
Former Sludge Incorporation Area (SIA) Monitoring Wells
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Former Sludge Incorporation Area (SIA) Monitoring Wells [cont'd]							
MW-8-94	Mar 2008	98.4	4.00	1.05	NR	1.34	--
	Dec 2009	67.6	12.2	1.04	15.3	1.27	--
	Jun 2013	39.3	3.23	0.480	3.15	7.30	--
	Oct 2014	14.1	0.647	0.162	1.08	7.81	--
	Apr 2015	19.5	0.402	0.178	0.847	3.72	--
	Oct 2015	21.0	0.408	0.175	0.919	3.34	--
	Apr 2016	23.4	0.634	0.207	1.41	15.2	--
	Oct 2016	27.3	0.806	0.205	1.93	15.5	--
	Apr 2017	28.1	0.734	0.269	2.54	18.0	--
	Oct 2017	30.2	1.16	0.269	3.38	23.4	--
	Apr 2018	17.7	0.324	0.263	0.850	6.33	--
	Oct 2018	17.3	0.745	0.269	1.99	28.3	--
	Apr 2019	8.33	0.291	0.205	0.621	8.23	--
	Oct 2019	30.6	0.894	0.389	2.66	41.1	--
	Jun 2020	15.8	0.455	0.190	1.21	37.4	1.22
	Nov 2020	15.0	0.400 J	0.230 J	1.20	17.0	0.300 J
MW-9-94	Mar 2008	14.8	0.099	0.199	0.763	0.088	--
	Dec 2009	63.5	4.80	0.894	6.91	1.93	--
	Jun 2013	46.8	1.88	5.41	2.99	13.1	--
	Oct 2014	46.4	1.62	0.398	5.32	11.4	--
	Apr 2015	18.9	0.786	0.151	2.53	7.39	--
	Oct 2015	17.2	0.767	0.138	2.32	6.20	--
	Apr 2016	11.2	0.371	0.099	1.28	6.49	--
	Oct 2016	22.2	0.368	0.155	1.51	11.0	--
	Apr 2017	18.1	0.353	0.148	1.74	13.1	--
	Oct 2017	30.2	0.613	0.250	2.56	12.6	--
	Apr 2018	17.4	0.473	0.158	1.49	7.98	--
	Oct 2018	12.3	0.244	0.158	0.920	9.23	--
	Apr 2019	19.6	0.508	0.245	1.76	22.8	--
	Oct 2019	29.7	0.720	0.252	2.62	14.7	--
	Jun 2020	28.7	0.673	0.233	2.64	16.0	0.734
	Nov 2020	35.0	0.690	0.360 J	2.60	6.30	0.200 J

NR - Not reported due to quality control failure.
Concentrations reported are the average of primary and duplicate sample analytical results
[a] = PFNA added to analyte list in 2020.
J = Result is less than the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL) and the concentration is an approximate value.

Table 4-4
Summary of Groundwater PFAS Analytical Data
On-Site Reference Monitoring Wells
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
On-Site Reference Monitoring Wells							
MW-2-81	Mar 2008	2.34	<0.0298	0.260	<0.0293	< 0.0250	---
	Dec 2009	6.04	0.034	0.870	<0.0250	0.054	---
	Jun 2013	3.92	<0.0240	0.163	<0.0250	0.061	---
	Oct 2014	2.60	<0.0240	0.077	<0.0250	0.103	---
	Apr 2015	1.34	<0.0240	0.036	<0.0500	0.061	---
	Oct 2015	1.66	<0.0240	<0.0250	<0.0236	0.114	---
	Apr 2016	1.57	<0.0240	0.037	<0.0250	0.057	---
	Oct 2016	1.67	<0.0240	<0.0250	<0.0250	0.100	---
	Apr 2017	1.43	<0.0240	<0.0250	<0.0250	0.087	---
	Oct 2017	1.44	<0.0240	0.098	<0.0250	0.067	---
	Apr 2018	1.38	<0.0240	0.089	<0.0250	0.068	---
	Oct 2018	4.74	<0.0240	0.064	<0.0250	0.057	---
	Apr 2019	2.94	<0.0480	0.105	<0.0250	0.066	---
	Oct 2019	3.17	<0.0240	0.067	<0.0250	0.074	---
	Jun 2020	2.11	<0.0240	0.045	<0.0250	<0.0232	<0.0250
	Nov 2020	2.20	0.009	0.078	0.006	0.068	0.002
MW-4-81	Mar 2008	145	12.1	0.829	11.6	13.7	---
	Dec 2009	155	6.26	7.73	6.99	21.5	---
	Jun 2013	140	5.80	5.88	7.49	22.5	---
	Oct 2014	191	6.05	13.5	9.86	39.3	---
	Apr 2015	254	5.63	15.6	9.96	40.5	---
	Oct 2015	326	6.69	18.7	9.89	37.5	---
	Apr 2016	165	4.44	10.5	6.99	29.6	---
	Oct 2016	171	4.82	12.0	7.67	33.0	---
	Apr 2017	211	4.21	9.83	7.80	32.1	---
	Oct 2017	219	3.41	9.66	6.65	25.4	---
	Apr 2018	253	2.94	7.16	5.92	25.3	---
	Oct 2018	216	2.64	7.48	5.80	24.2	---
	Apr 2019	192	2.85	7.50	5.86	26.4	---
	Oct 2019	207	2.85	6.85	6.09	24.9	---
	Jun 2020	227	2.62	4.86	4.58	18.4	0.618
	Nov 2020	200	2.20	4.90	4.50	19.0	0.230 J

Table 4-4 (cont'd)
Summary of Groundwater PFAS Analytical Data
On-Site Reference Monitoring Wells
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
On-Site Reference Monitoring Wells [cont'd]							
MW-5-81	Mar 2008	0.135	<0.0298	<0.0249	<0.0244	<0.0250	---
	Dec 2009	0.089	<0.0303	<0.0255	<0.0250	<0.0253	---
	Jun 2013	0.074	<0.0240	<0.0250	<0.0250	<0.0232	---
	Oct 2014	<0.0250	<0.0240	<0.0250	<0.0250	<0.0232	---
	Apr 2015	<0.100	<0.0240	<0.0250	<0.0500	0.035	---
	Oct 2015	0.108	<0.0240	<0.0250	<0.0236	0.069	---
	Apr 2016	0.044	<0.0240	<0.0250	<0.0250	<0.0232	---
	Oct 2016	<0.100	<0.0240	<0.0250	<0.0250	<0.0232	---
	Apr 2017	<0.0500	<0.0240	<0.0250	<0.0250	<0.0232	---
	Oct 2017	<0.500	<0.0240	<0.0250	<0.0250	<0.0232	---
	Apr 2018	0.163	<0.0240	<0.0250	<0.0250	<0.0232	---
	Oct 2018	0.181	<0.0240	<0.0500	<0.0250	<0.0232	---
	Apr 2019	<0.100	<0.0480	<0.0250	<0.0250	<0.0232	---
	Oct 2019	0.057	<0.0240	<0.0250	<0.0250	<0.0232	---
	Jun 2020	<0.0250	<0.0240	<0.0250	<0.0250	<0.0232	<0.0250
	Nov 2020	0.036	0.004	0.005	0.0014 J	0.011	0.00045 J

Concentrations reported are the average of primary and duplicate sample analytical results

[a] = PFNA added to analyte list in 2020.

J = Result is less than the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL) and the concentration is an approximate value.

Table 4-5
Summary of Groundwater PFAS Analytical Data
Site Production Wells and Combined Discharge Monitoring Point
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
PW-11	Aug 2006	---	0.200	---	---	0.400	---
	Mar 2008	2.22	0.066	<0.0249	0.094	0.266	---
	Dec 2009	2.09	0.118	<0.0255	0.111	0.278	---
	Jun 2013	1.52	0.183	<0.0250	0.190	2.42	---
	Nov 2013	2.00	0.139	<0.0250	0.144	1.87	---
	Dec 2013	2.26	0.146	0.029	0.159	1.66	---
	Mar 2014	1.87	0.090	<0.0500	0.098	1.01	---
	Jun 2014	2.13	0.144	0.039	0.140	1.56	---
	Oct 2014	2.51	0.199	<0.0250	0.213	2.65	---
	Apr 2015	0.357	<0.0240	<0.0250	<0.0500	<0.0232	---
	Oct 2015	1.53	<0.0240	<0.0250	<0.0236	0.025	---
	Apr 2016	0.766	<0.0240	<0.0250	<0.0250	0.085	---
	Oct 2016	0.772	<0.0240	<0.0250	<0.0250	0.038	---
	Apr 2017	0.791	<0.0240	<0.0250	<0.0250	<0.0232	---
	Oct 2017	0.963	<0.0240	<0.0250	<0.0250	0.026	---
	Apr 2018	1.06	<0.0240	<0.0250	<0.0250	<0.0232	---
	Oct 2018	0.805	<0.0240	<0.0500	<0.0250	0.056	---
	Apr 2019	0.716	<0.0480	<0.0250	<0.0250	<0.0232	---
	Oct 2019	1.24	<0.0240	<0.0250	<0.0250	<0.0232	---
	Jun 2020	0.842	<0.0240	<0.0250	<0.0250	<0.0232	<0.0250
	Nov 2020	0.990	<0.017	0.0058 J	0.0048 J	<0.017	<0.017
PW-12 [1]	Aug 2006	---	0.700	---	---	2.90	---
	Mar 2008	3.89	0.500	<0.0249	0.530	2.91	---
	Dec 2009	4.41	1.38	0.039	1.23	11.3	---
PW-112 [1]	Nov 2013	6.43	1.19	0.051	1.33	25.8	---
	Dec 2013	6.51	1.21	0.066	1.29	28.9	---
	Mar 2014	5.30	0.960	<0.0500	1.06	25.3	---
	Jun 2014	3.92	0.778	0.041	0.785	12.8	---
	Oct 2014	4.49	0.725	0.042	0.810	13.9	---
	Apr 2015	1.83	0.215	<0.0250	0.256	6.29	---
	Oct 2015	1.52	0.191	<0.0250	0.280	3.95	---
	Apr 2016	1.39	0.225	<0.0250	0.330	6.97	---
	Oct 2016	1.47	0.201	<0.0250	0.317	7.82	---
	Apr 2017	1.69	0.261	<0.0250	0.434	14.4	---
	Oct 2017	1.28	0.199	<0.100	0.324	6.33	---
	Apr 2018	0.805	0.092	<0.0250	0.153	2.07	---
	Oct 2018	0.926	0.110	<0.0500	0.210	4.37	---
	Apr 2019	1.24	0.210	<0.0250	0.321	9.91	---
	Oct 2019	2.29	0.384	<0.0250	0.689	21.2	---
	Jun 2020	1.43	0.166	<0.0250	0.226	7.88	0.319
	Nov 2020	1.20 J	<0.500	<0.500	0.300 J	6.00	0.230 J

Table 4-5 (cont'd)
Summary of Groundwater PFAS Analytical Data
Site Production Wells and Combined Discharge Monitoring Point
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Site Production Wells [cont'd]							
PW-13[2]	Aug 2006	---	4.60	---	---	11.8	---
	Mar 2008	60.9	4.16	1.82	4.84	11.4	---
	Dec 2009	57.4	7.93	1.63	6.46	14.8	---
	Jun 2013	39.7	5.58	1.80	6.61	44.6	---
	Nov 2013	64.7	8.36	3.71	10.4	42.9	---
	Dec 2013	61.8	7.29	3.06	8.73	45.1	---
PW-113[2]	Oct 2014	118	4.05	14.8	7.64	27.8	---
	Apr 2015	35.4	2.99	1.67	4.58	35.8	---
	Oct 2015	34.5	2.39	2.35	3.57	26.1	---
	Apr 2016	22.6	1.86	1.87	2.66	23.6	---
	Oct 2016	27.0	2.08	2.42	2.89	32.2	---
	Apr 2017	28.3	2.21	3.03	3.05	35.8	---
	Oct 2017	30.6	1.81	4.49	2.65	36.4	---
	Apr 2018	28.4	1.39	4.42	2.06	29.1	---
	Oct 2018	29.1	1.25	5.25	2.02	25.2	---
	Apr 2019	26.4	1.33	3.92	2.13	29.5	---
	Oct 2019	38.8	1.98	3.63	3.58	55.2	---
	Jun 2020	30.1	1.83	2.09	2.86	69.9	3.57
	Nov 2020	26.0	1.40	2.30	2.60	44.0	1.40
PW-24[3]	Aug 2006	---	0.400	---	---	1.70	---
	Mar 2008	2.61	0.455	<0.0249	0.445	3.49	---
	Dec 2009	1.45	0.347	<0.0255	0.408	0.727	---
	Jun 2013	1.29	0.242	<0.0250	0.291	5.93	---
	Nov 2013	1.26	0.333	<0.0250	0.420	5.50	---
	Dec 2013	1.56	0.290	0.030	0.386	3.45	---
	Jun 2014	0.368	0.059	<0.0250	0.064	0.526	---
	Oct 2014	0.630	0.177	<0.0250	0.249	1.73	---
	Apr 2015 thru Oct 2019	NS	NS	NS	NS	NS	---
	Apr 2019	0.532	0.156	<0.0250	0.308	2.14	---
	Oct 2019	1.12	0.238	<0.0250	0.381	3.40	---
	Jun 2020	0.722	0.098	<0.0250	0.187	2.27	0.033
PW-124[3]	Nov 2020	0.570	0.054	0.0094 J	0.110	1.50	0.024

Table 4-5 (cont'd)
Summary of Groundwater PFAS Analytical Data
Site Production Wells and Combined Discharge Monitoring Point
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Site Production Wells [cont'd]							
PW-37	Aug 2006	---	0.600	---	---	0.200	---
	Mar 2008	1.39	0.449	<0.0249	0.283	0.383	---
	Dec 2009	1.39	0.342	<0.0255	0.401	0.698	---
	Jun 2013	0.521	0.223	<0.0250	0.293	1.46	---
	Nov 2013	0.949	0.243	<0.0250	0.350	2.31	---
	Dec 2013	1.05	0.264	0.031	0.361	2.42	---
	Mar 2014	0.749	0.193	<0.0500	0.209	1.62	---
	Jun 2014	0.418	0.066	<0.0250	0.072	0.506	---
	Oct 2014	0.62	0.177	<0.0250	0.258	1.73	---
	Apr 2015	1.78	0.219	<0.0250	0.262	6.40	---
	Oct 2015	NS	NS	NS	NS	NS	---
	Apr 2016	0.977	0.188	<0.0250	0.418	1.88	---
	Oct 2016	0.422	0.062	<0.0250	0.133	0.822	---
	Apr 2017	0.489	0.139	<0.0250	0.266	1.55	---
	Oct 2017	0.561	0.115	<0.100	0.221	1.63	---
	Apr 2018	0.788	0.087	<0.0250	0.146	1.88	---
	Oct 2018	0.452	0.115	0.067	0.216	1.57	---
	Apr 2019	0.420	0.079	<0.0250	0.128	0.949	---
	Oct 2019	1.07	0.224	<0.0250	0.350	3.02	---
	Jun 2020	0.551	0.044	<0.0250	0.092	2.10	0.059
	Nov 2020	0.088	0.012	0.005	0.010	0.072	0.001 J
PW-91	Jun 2013	1.73	<0.0240	<0.0250	<0.0250	<0.0232	---
	Nov 2013	2.07	<0.0240	<0.0250	<0.0500	<0.0464	---
	Dec 2013	2.26	<0.0240	<0.0250	<0.0500	<0.0464	---
	Mar 2014	1.89	<0.0240	<0.0500	<0.0250	<0.0232	---
	Jun 2014	1.90	<0.0240	<0.0250	<0.0250	<0.0232	---
	Oct 2014	2.09	<0.0240	<0.0250	<0.0250	<0.0232	---
	Apr 2015	1.89	<0.0240	<0.0250	<0.0500	<0.0232	---
	Oct 2015	2.22	<0.0240	<0.0250	<0.0236	<0.0232	---
	Apr 2016	1.41	<0.0240	<0.0250	<0.0250	<0.0232	---
	Oct 2016	1.53	<0.0240	<0.0250	<0.0250	<0.0232	---
	Apr 2017	1.54	<0.0240	<0.0250	<0.0250	<0.0232	---
	Oct 2017	1.59	<0.0240	<0.0250	<0.0250	<0.0232	---
	Apr 2018	1.47	<0.0240	<0.0250	<0.0250	<0.0232	---
	Oct 2018	1.57	<0.0240	0.058	<0.0250	<0.0232	---
	Apr 2019	1.37	<0.0480	<0.0250	<0.0250	<0.0232	---
	Oct 2019	2.09	<0.0240	<0.0250	<0.0250	<0.0232	---
	Jun 2020	1.67	<0.0240	<0.0250	<0.0250	<0.0232	<0.0250
	Nov 2020	1.60	<0.019	0.012 J	<0.019	<0.019	<0.019

Table 4-5 (cont'd)
Summary of Groundwater PFAS Analytical Data
Site Production Wells and Combined Discharge Monitoring Point
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Site Production Wells [cont'd]							
PW-94[4]	Dec 2009	5.11	<0.0303	0.060	<0.0250	<0.0253	---
	Jun 2013	4.76	<0.0240	0.069	<0.0250	<0.0232	---
	Nov 2013	4.86	<0.0240	0.057	<0.0500	<0.0464	---
	Dec 2013	5.39	<0.0240	0.073	<0.0500	<0.0464	---
	Mar 2014	6.07	<0.0240	0.070	<0.0250	<0.0232	---
	Jun 2014	6.53	0.068	0.098	0.086	0.238	---
	Oct 2014	17.0	2.48	0.470	4.38	13.5	---
	Apr 2015	28.4	3.06	0.798	6.36	30.3	---
	Oct 2015	22.7	1.59	1.54	2.39	12.6	---
	Apr 2016	32.0	2.33	3.24	4.16	30.2	---
	Oct 2016	31.2	2.73	1.46	4.80	37.7	---
	Apr 2017	26.2	2.47	0.848	4.55	33.8	---
	Oct 2017	25.5	2.03	0.740	3.79	29.9	---
	Apr 2018	17.3	1.50	0.251	2.96	27.5	---
	Oct 2018	19.3	1.68	0.299	3.65	34.8	---
	Apr 2019	13.2	1.05	0.188	2.46	27.6	---
	Oct 2019	8.48	0.118	0.104	0.206	1.22	---
	Jun 2020	6.32	<0.0240	0.085	<0.0250	0.104	<0.0250
	Nov 2020	5.80	<0.180	0.110 J	<0.180	0.190	<0.180

Table 4-5 (cont'd)
Summary of Groundwater PFAS Analytical Data
Site Production Wells and Combined Discharge Monitoring Point
March 2008-November 2020 Sampling Events
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	Date Sampled	PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[a]
Combined Discharge Monitoring Point							
Building 10[5]	Nov 2013	6.46	1.39	0.051	1.40	46.3	---
	Dec 2013	6.46	1.58	0.064	1.47	60.8	---
	Mar 2014	3.91	0.684	<0.0500	0.706	25.2	---
Building 1[5, 6]	Jun 2014	2.71	0.320	0.033	0.312	4.81	---
	Oct 2014	4.13	0.541	0.067	0.781	6.66	---
	Apr 2015	13.5	1.19	0.621	1.99	15.2	---
	Oct 2015	13.4	0.886	0.801	1.30	9.81	---
	Apr 2016	6.14	0.445	0.474	0.787	6.35	---
	Oct 2016	9.94	0.770	0.626	1.24	13.1	---
	Apr 2017	9.33	0.771	0.693	1.22	14.9	---
	Oct 2017	8.90	0.563	1.05	0.873	11.6	---
	Apr 2018	7.36	0.379	0.953	0.597	7.60	---
	Oct 2018	8.66	0.385	1.32	0.674	8.18	---
	Apr 2019	6.73	0.365	0.905	0.618	9.60	---
	Oct 2019	10.2	0.598	0.825	1.03	18.2	---
	Jun 2020	5.40	0.316	0.331	0.501	12.3	0.567
	Nov 2020	<1.30	<0.500	<0.500	<0.500	<0.500	<0.500

[1] Production well PW-12 was permanently shut down in January 2013, replaced with PW-112 that went on-line in August 2013.
[2] Production well PW-13 was shut down in 2014 and replaced with PW-113 that went on-line in October 2014.
[3] Production well PW-24 was shut down in July 2020 and replaced with PW-124.
[4] Former "Agricultural Well" #22580.
[5] Building 1 and Building 10 include a monitoring point representative of the combined flows from operating production wells.
[6] Point-of-use carbon filtration system installed at Building 1 Coffee Sink in July 2020.
NS - Not sampled, pump not operable.
Concentrations reported are the average of primary and duplicate sample analytical results
[a] = PFNA added to analyte list in 2020.
J = Result is less than the Reporting Limit (RL) but greater than or equal to the Method Detection Limit (MDL) and the concentration is an approximate value.

Table 4-6
Summary of Groundwater PFAS Analytical Data
June 2020 Sampling Event - Additional Analytes
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)						
	PFHxA	PFDA	11Cl-PF3OUdS	9Cl-PF3ONS	ADONA	HFPO-DA	N-EtFOSAA
Manufacturing Area Monitoring Wells							
MW-1-88	0.179	0.065	<0.0236	<0.0234	<0.0472	0.190	<0.0250
MW-2-90	0.186	<0.0250	<0.0236	<0.0234	<0.0472	1.79	<0.0250
MW-9-90 R	0.935	0.462	<0.0236	<0.0234	<0.0472	3.19	0.0464
MW-1-93	<0.0500	<0.0250	<0.0236	<0.0234	<0.0472	0.144	<0.0250
MW-3-94	17.0	1.60	<0.0236	<0.0234	<0.0472	8.69	<0.0250
MW-1-81	<0.0500	<0.0250	<0.0236	<0.0234	<0.0472	<0.0250	<0.0250
MW-4-94	0.597	0.447	<0.0236	<0.0234	<0.0472	0.479	<0.0250
MW-7-90	0.695	0.104	<0.0236	<0.0234	<0.0472	0.670	0.318
Former Sludge Incorporation Area (SIA) Monitoring Wells							
MW-1-79	1.76	0.892	<0.0236	<0.0234	<0.0472	2.05	0.055
MW-3-79	0.480	0.447	<0.0236	<0.0234	<0.0472	0.256	<0.0250
MW-4-79	<0.0500	<0.0250	<0.0236	<0.0234	<0.0472	<0.0250	<0.0250
MW-5-79	<0.0500	<0.0250	<0.0236	<0.0234	<0.0472	<0.0250	<0.0250
MW-3-81	1.89	0.675	<0.0236	<0.0234	<0.0472	0.258	<0.0250
MW-7-94	0.418	1.92	<0.0236	<0.0234	<0.0472	0.399	<0.0250
MW-8-94	0.476	1.47	<0.0236	<0.0234	<0.0472	0.371	<0.0250
MW-9-94	0.824	0.286	<0.0236	<0.0234	<0.0472	0.698	<0.0250
On-Site Reference Monitoring Wells							
MW-2-81	<0.0500	<0.0250	<0.0236	<0.0234	<0.0472	<0.0250	<0.0250
MW-4-81	1.55	0.225	<0.0236	<0.0234	<0.0472	2.63	0.194
MW-5-81	<0.0500	<0.0250	<0.0236	<0.0234	<0.0472	<0.0250	<0.0250
	Site Production Wells						
PW-11	<0.0500	<0.0250	<0.0236	<0.0234	<0.0472	<0.0250	<0.0250
PW-112	<0.0500	0.513	NR	<0.0234	<0.0472	<0.0250	<0.0250
PW-113	0.757	2.39	<0.0236	<0.0234	<0.0472	0.346	0.040
PW-24	<0.0500	0.068	<0.0236	<0.0234	<0.0472	<0.0250	<0.0250
PW-37	<0.0500	0.088	<0.0236	<0.0234	<0.0472	<0.0250	<0.0250
PW-91	<0.0500	<0.0250	<0.0236	<0.0234	<0.0472	<0.0250	<0.0250
PW-94[1]	<0.0500	<0.0250	<0.0236	<0.0234	<0.0472	0.0821	<0.0250
	Combined Discharge Monitoring Point						
Building 1[2]	0.110	0.478	<0.0236	<0.0234	<0.0472	0.081	<0.0250

[1] Former "Agricultural Well" #22580.
[2] Monitoring point representative of the combined flows from operating production wells.
NR - Not reported due to quality control failure.
Concentrations reported are the average of primary and duplicate sample analytical results

Table 4-6 (cont'd)
Summary of Groundwater PFAS Analytical Data
June 2020 Sampling Event - Additional Analytes
Cordova Site, Cordova, IL

Well ID	Average Sample Concentration (ng/ml, ppb)					
	N-MeFOSAA	PFDoA	PFHpA	PFTrA	PFUnA	PFTreA
Manufacturing Area Monitoring Wells (cont'd)						
MW-1-88	<0.0250	<0.0250	0.075	NR	<0.0250	<0.0500
MW-2-90	<0.0250	<0.0250	0.190	NR	<0.0250	<0.0500
MW-9-90 R	<0.0250	<0.0250	0.572	NR	<0.0250	<0.0500
MW-1-93	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
MW-3-94	<0.0250	<0.0250	2.98	NR	0.121	<0.0500
MW-1-81	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
MW-4-94	<0.0250	<0.0250	0.315	NR	<0.0250	<0.0500
MW-7-90	<0.0250	<0.0250	0.346	NR	<0.0250	<0.0500
Former Sludge Incorporation Area (SIA) Monitoring Wells (cont'd)						
MW-1-79	<0.0250	<0.0250	0.767	NR	<0.0250	<0.0500
MW-3-79	<0.0250	<0.0250	0.246	NR	<0.0250	<0.0500
MW-4-79	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
MW-5-79	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
MW-3-81	<0.0250	<0.0250	1.24	NR	<0.0250	<0.0500
MW-7-94	<0.0250	<0.0250	0.250	NR	0.050	<0.0500
MW-8-94	<0.0250	<0.0250	0.388	NR	<0.0250	<0.0500
MW-9-94	<0.0250	<0.0250	0.455	NR	<0.0250	<0.0500
On-Site Reference Monitoring Wells (cont'd)						
MW-2-81	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
MW-4-81	<0.0250	<0.0250	1.10	NR	<0.0250	<0.0500
MW-5-81	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
	Site Production Wells (cont'd)					
PW-11	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
PW-112	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
PW-113	<0.0250	<0.0250	0.478	NR	<0.0250	<0.0500
PW-24	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
PW-37	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
PW-91	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
PW-94[1]	<0.0250	<0.0250	<0.0250	NR	<0.0250	<0.0500
	Combined Discharge Monitoring Point (cont'd)					
Building 1[2]	<0.0250	<0.0250	0.061	NR	<0.0250	<0.0500

[1] Former "Agricultural Well" #22580.
[2] Building 1 include a monitoring point representative of the combined flows from operating production wells.
NR - Not reported due to quality control failure.
Concentrations reported are the average of primary and duplicate sample analytical results

Table 4-7
Mann-Kendall Trend Test Summary
PFOS, PFBS, PFOA, PFBA and PFHS
Groundwater Analytical Data
Cordova Site, Cordova IL

Well ID	Trend Analysis Data Range	PFOS		PFBS		PFOA		PFBA		PFHS	
		Number of Data Points	Trend	Number of Data Points	Trend	Number of Data Points	Trend	Number of Data Points	Trend	Number of Data Points	Trend
Manufacturing Area Monitoring Wells											
MW-1-88	03/2008 - 11/2020	16	NS	15	Decreasing	16	NS	16	NS	16	NS
MW-2-90	03/2008 - 11/2020	16	NS	16	NS	16	NS	16	NS	16	NS
MW-9-90R	03/2008 - 11/2020	16	NS	16	NS	16	NS	16	NS	16	NS[2]
MW-1-93	03/2008 - 11/2020	16	NS	16	NS	16	NS[2]	16	NS	16	NS
MW-3-94	03/2008 - 11/2020	17	NS[2]	17	NS	17	NS	17	NS	17	NS[2]
MW-1-81	06/2013 - 11/2020	14	Decreasing[1]	14	NS	14	NS[4]	14	Decreasing[1]	14	Decreasing[4]
MW-4-94	06/2013 - 11/2020	14	NS	14	Decreasing	14	NS	14	Decreasing	14	Decreasing
MW-7-90	06/2013 - 11/2020	15	NS	15	NS	15	NS	15	Increasing	15	NS
Former Sludge Incorporation Area (SIA) Monitoring Wells											
MW-1-79	03/2008 - 11/2020	17	NS	17	NS	17	Decreasing	17	Decreasing	17	Decreasing
MW-3-79	03/2008 - 11/2020	16	NS	16	Decreasing	16	Decreasing	16	Decreasing	16	NS[2]
MW-4-79	03/2008 - 11/2020	17	Decreasing	17	NS	17	Decreasing	17	Decreasing	17	Decreasing
MW-5-79	03/2008 - 11/2020	17	Decreasing[1]	17	NS[4]	17	NS	17	Decreasing	17	NS[4]
MW-3-81	03/2008 - 11/2020	17	Increasing	17	NS	17	NS[3]	17	NS	17	Increasing
MW-7-94	03/2008 - 11/2020	17	NS	17	NS	17	Decreasing	17	Decreasing	17	Decreasing[1]
MW-8-94	03/2008 - 11/2020	16	Increasing	16	NS	16	Decreasing[1]	16	Decreasing[1]	15	NS
MW-9-94	03/2008 - 11/2020	16	Increasing	16	NS	16	NS	16	NS	16	NS
On-Site Reference Monitoring Wells											
MW-2-81	03/2008 - 11/2020	16	NS	16	NS	16	NS[4]	16	NS	16	NS[4]
MW-4-81	03/2008 - 11/2020	16	NS	16	Decreasing[1]	16	Decreasing	16	Increasing	16	Decreasing
MW-5-81	03/2008 - 11/2020	16	Decreasing[4]	16	NS[4]	16	NS[4]	16	NS	16	NS[4]
Site Production Wells											
PW-11	08/2006 - 11/2020	21	Decreasing	20	NS[4]	21	Decreasing	20	Decreasing	20	Decreasing
PW-112	11/2013 - 11/2020	17	Decreasing	17	ND[2]	17	Decreasing	17	Decreasing	17	Decreasing
PW-113 [5]	10/2014 - 11/2020	13	Increasing[1]	13	NS	13	Decreasing	13	NS	13	Decreasing
PW-24	08/2006 - 11/2020	11	NS	10	ND	11	Decreasing	10	Decreasing	10	Decreasing[1]
PW-37	08/2006 - 11/2020	20	NS[3]	19	NS	20	Decreasing	19	Decreasing[1]	19	Decreasing[1]
PW-91	06/2013 - 11/2020	18	ND	18	NS	18	ND	18	NS[2]	18	ND
PW-94 [6]	12/2009 - 11/2020	19	Increasing	19	NS[3]	19	NS	19	NS[3]	19	NS[3]

Table 4-7 (cont'd)
Mann-Kendall Trend Test Summary
PFOS, PFBS, PFOA, PFBA and PFHS
Groundwater Analytical Data
Cordova Site, Cordova IL

Well ID	Trend Analysis Data Range	PFOS		PFBS		PFOA		PFBA		PFHS	
		Number of Data Points	Trend	Number of Data Points	Trend	Number of Data Points	Trend	Number of Data Points	Trend	Number of Data Points	Trend
Residential Wells											
[redacted]	07/2011 - 11/2020	8	NS	8	NS[4]	8	NS[4]	8	NS	8	NS[4]
[redacted]	07/2011 - 11/2020	10	NS[4]	10	NS[4]	10	NS[4]	10	NS	10	NS[4]
[redacted]	07/2011 - 10/2019	9	ND	9	ND	9	ND	9	Increasing	9	ND
[redacted]	07/2011 - 11/2020	9	NS[4]	9	NS[4]	9	NS[4]	9	Increasing	9	NS[4]
[redacted]	07/2011 - 11/2020	9	NS[4]	9	NS[4]	9	NS[4]	9	NS	9	NS[4]
[redacted]	07/2011 - 11/2020	8	ND	8	NS[4]	8	ND	8	Decreasing	8	NS[4]
[redacted]	07/2011 - 11/2020	10	ND	10	NS	10	ND	10	NS	10	ND

Notes:
Results are for the Mann-Kendall test for trend at a significance level of 0.05.
NS - No statistically significant trend identified.
ND - ≥ 75% of results are less than Laboratory Quantitation Limit (LQL) and at least the last four results are also less than the LQL.
[1] - Previous trend was not statistically significant.
[2] - Previous trend was decreasing.
[3] - Previous trend was increasing.
[4] - Previous trend was not detected.
[5] - Production well PW-13 was shut down in 2014 and replaced with PW-113 that went on-line in October 2014.
[6] - Former "Agricultural Well" #22580. Production well PW-94 was shut down in July 2019 due to the detection of coliform bacteria in a water sample collected from this well.
Field duplicate samples were omitted for statistical analysis.

Table 4-8
Summary of Groundwater PFAS Analytical Data - Residential Wells
July 2011 - November 2020 Sampling Events
Cordova Site, Cordova, IL

WELL ID	Date Sampled	Average Sample Concentration (ng/ml, ppb)					
		PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[b]
[redacted]	Jul 2011	0.224	<0.0250	<0.0250	<0.0250	<0.0250	--
	Aug 2012	0.451	<0.0240	<0.0250	<0.0250	<0.0232	--
	Feb 2013	--	--	--	--	--	--
	Oct 2014	0.208	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2015	0.290	<0.0240	<0.0250	<0.0236	0.0279	--
	Oct 2016	0.181	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2017	0.507	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2019	0.411	<0.0240	<0.0250	<0.0250	<0.0232	--
	Nov 2020	0.910	0.0051	0.010	0.0072	0.0020	0.00046 J
[redacted]	Jul 2011	0.182	<0.0250	<0.0250	<0.0250	<0.0250	--
	Aug 2012	0.105	<0.0240	<0.0250	<0.0250	<0.0232	--
	Feb 2013	0.157	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2014	0.367	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2015	1.38	<0.0240	<0.0250	<0.0236	0.031	--
	Oct 2016	0.390	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2017	0.430	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2018	0.388	<0.0240	<0.0500	<0.0250	<0.0232	--
	Oct 2019	0.257	<0.0240	<0.0250	<0.0250	<0.0232	--
	Nov 2020	0.230	0.010	0.010	0.016	0.0034	0.00027 J
[redacted]	Jul 2011	0.452	<0.0250	<0.0250	<0.0250	0.041	--
	Aug 2012	0.739	<0.0240	<0.0250	<0.0250	<0.0232	--
	Feb 2013	1.01	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2014	1.03	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2015	1.52	<0.0240	<0.0250	<0.0236	<0.0232	--
	Oct 2016	1.02	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2017	1.24	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2018	1.69	<0.0240	<0.0500	<0.0250	<0.0232	--
	Oct 2019	1.54	<0.0240	<0.0250	<0.0250	<0.0232	--
	Nov 2020	--	--	--	--	--	--
[redacted]	Jul 2011	0.078 [a]	<0.0250	<0.0250	<0.0250	<0.0250	--
	Aug 2012	--	--	--	--	--	--
	Feb 2013	0.070	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2014	0.973	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2015	0.164	<0.0240	<0.0250	<0.0236	0.0260	--
	Oct 2016	0.707	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2017	0.661	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2018	0.918	<0.0240	<0.0500	<0.0250	<0.0232	--
	Oct 2019	2.03	<0.0240	<0.0250	<0.0250	<0.0232	--
	Nov 2020	1.80	0.0020	0.0140	0.0017	0.0026	<0.0017

Table 4-8 (cont'd)
Summary of Groundwater PFAS Analytical Data - Residential Wells
July 2011 - November 2020 Sampling Events
Cordova Site, Cordova, IL

WELL ID	Date Sampled	Average Sample Concentration (ng/ml, ppb)					
		PFBA	PFOA	PFBS	PFHS	PFOS	PFNA[b]
[redacted]	Jul 2011	0.067 [a]	<0.0250	<0.0250	<0.0250	<0.0250	--
	Aug 2012	--	--	--	--	--	--
	Feb 2013	0.63	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2014	1.70	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2015	0.916	<0.0240	<0.0250	<0.0236	<0.0232	--
	Oct 2016	2.56	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2017	2.77	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2018	0.949	<0.0240	<0.0500	<0.0250	<0.0232	--
	Oct 2019	0.835	<0.0240	<0.0250	<0.0250	<0.0232	--
	Nov 2020	0.610	0.00078 J	0.0030	0.00072 J	0.0011 J	<0.0017
[redacted]	Jul 2011	3.41	<0.0250	<0.0250	<0.0250	<0.0250	--
	Aug 2012	--	--	--	--	--	--
	Feb 2013	--	--	--	--	--	--
	Oct 2014	2.73	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2015	4.42	<0.0240	<0.0250	<0.0236	<0.0232	--
	Oct 2016	2.64	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2017	2.26	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2018	1.93	<0.0240	<0.0500	<0.0250	<0.0232	--
	Oct 2019	2.54	<0.0240	<0.0250	<0.0250	<0.0232	--
	Nov 2020	1.50	<0.017	0.011 J	<0.0170	0.0082 J	<0.0170
	Nov 2020 - FD	1.50	<0.018	0.012 J	<0.0180	0.0080 J	<0.0180
[redacted]	Jul 2011	1.73	<0.0250	0.0583	<0.0250	<0.0250	--
	Aug 2012	2.16	<0.0240	0.0294	<0.0250	<0.0232	--
	Feb 2013	2.27	<0.0240	0.0364	<0.0250	<0.0232	--
	Oct 2014	3.04	<0.0240	0.0348	<0.0250	<0.0232	--
	Oct 2015	2.73	<0.0240	<0.0250	<0.0236	<0.0232	--
	Oct 2016	2.74	<0.0240	<0.0250	<0.0250	<0.0232	--
	Oct 2017	2.15	<0.0240	0.0313	<0.0250	<0.0232	--
	Oct 2018	2.06	<0.0240	<0.0500	<0.0250	<0.0232	--
	Oct 2019	2.10	<0.0240	<0.0250	<0.0250	<0.0232	--
	Nov 2020	1.70	<0.017	0.030	<0.0170	<0.0170	<0.017
[redacted]	Oct 2019	2.43	<0.0240	<0.0250	<0.0250	<0.0232	--
	Nov 2020	1.70	<0.0170	0.014 J	<0.0170	0.011 J	<0.017

Notes:
ng/ml - nanogram per milliliter.
ppb - parts per billion.
-- - Sample could not be collected.
[a] - The relative percent difference (RPD) did not meet method acceptance criteria of ≤20%.
[b] - PFNA added to analyte list in 2020.
J - Result is less than the Reporting limit (RL) but greater than or equal to the Method Detection Limit (MDL) and the concentration is an approximate value.
FD - Field duplicate.
Concentrations reported are the average of primary and duplicate sample analytical results for July 2011 through October 2019 data.

Table 4-9
Summary of Wastewater Discharge PFAS Analytical Data
March 2013 - December 2020 Sampling Events
Cordova Site, Cordova, IL

Date	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnA	PFDoA	PFTrA	PFBS	PFHS	PFOS	PFOSA
Mar 5 2013	857	9.19	0.937	0.639	1.09	0.624	0.145	<0.0250	<0.0250	<0.0250	4.91	1.42	7.52	<0.0250
Jun 5 2013	302	7.01	NR	NR	NR	NR	NR	NR	NR	NR	1.90	NR	7.82	NR
Sep 3 2013	326	8.98	1.07	0.677	1.12	1.10	0.319	<0.0250	<0.0250	<0.0250	1.45	1.35	14.0	<0.0250
Nov 15 2013	859	NA	NA	NA	0.844	NA	NA	NA	NA	NA	2.57	1.17	12.9	NA
Dec 3 2013	330	252	3.29	0.594	1.53	1.34	0.435	<0.0250	<0.0250	<0.0250	6.10	1.63	16.7	<0.0250
Mar 5 2014	385	8.76	0.853	0.491	1.42	1.05	0.250	<0.0250	<0.0250	<0.0250	11.0	1.75	12.3	<0.0250
Jun 16 2014	472	94.6	2.73	1.19	2.59	0.701	0.338	<0.0250	<0.0500	<0.100	3.99	0.643	6.16	<0.0250
Sep 2 2014	409	21.0	1.16	0.544	1.05	0.461	0.180	<0.0250	<0.0500	<0.100	2.52	1.07	5.94	<0.0250
Dec 3 2014	350	16.1	1.31	0.758	3.55	1.74	0.355	<0.0250	<0.0250	<0.100	4.92	3.60	17.0	<0.0250
Mar 3 2015	81.9	7.46	0.894	0.453	1.62	1.13	0.368	<0.0250	<0.0250	NR	2.01	2.51	15.9	<0.0250
Jun 2 2015	217	6.99	1.35	0.435	1.47	0.790	0.267	<0.0250	<0.0250	<0.0500	2.07	1.81	12.9	<0.0250
Sep 1 2015	796	11.8	0.568	0.284	1.27	0.728	0.211	<0.0250	<0.0250	<0.0500	2.10	1.63	14.3	<0.0250
Dec 1 2015	604	22.0	2.22	0.470	1.20	0.656	0.212	<0.0250	<0.0250	<0.0500	3.07	1.59	10.7	<0.0250
Mar 1 2016	104	5.72	0.827	0.438	0.807	0.534	0.213	<0.0250	<0.0250	<0.100	1.67	1.27	9.21	<0.0250
Jun 7 2016	138	5.25	0.377	0.234	0.805	0.453	0.104	<0.0250	<0.0250	<0.0500	5.78	1.31	8.20	<0.0250
Sep 6 2016	79.8	4.30	0.338	0.189	0.678	0.465	0.191	<0.0500	<0.100	<0.0500	12.9	0.963	8.62	<0.0250
Dec 6 2016	234	5.01	0.408	0.190	0.615	0.539	0.163	<0.0250	<0.0250	<0.0250	39.6	1.00	9.16	<0.0250
Mar 7 2017	304	17.4	1.41	0.248	0.771	0.836	0.266	<0.0250	<0.0250	<0.0250	8.06	1.15	13.3	<0.0250
Jun 13 2017	412	7.29	0.784	0.393	0.871	0.915	0.314	<0.0250	<0.0250	<0.0250	18.1	1.14	13.5	<0.0250
Sep 12 2017	567	23.5	1.21	0.219	0.667	0.624	0.229	<0.0250	<0.0250	<0.0250	21.8	1.05	11.0	<0.0250
Dec 5 2017	91.7	4.70	2.01	0.310	0.612	0.614	0.255	<0.0500	<0.0250	<0.0500	8.79	1.21	10.1	<0.0250
Mar 6 2018	1450	12.5	1.04	0.609	0.944	0.818	0.277	<0.0250	<0.0250	<0.0250	7.16	1.26	14.0	<0.0250
Jun 5 2018	2390	19.7	1.86	0.971	0.862	0.612	0.342	<0.0250	<0.0250	<0.0250	18.4	1.47	12.8	<0.0250
Sep 11 2018	1170	15.0	1.59	1.44	0.953	0.557	0.307	<0.0250	<0.0250	<0.0250	32.0	1.48	14.2	<0.0250
Dec 4 2018	84.9	3.43	0.387	0.273	0.450	0.378	0.192	<0.0250	<0.0250	<0.0250	15.7	0.740	7.82	<0.0250
Mar 5 2019	1340	10.9	1.83	2.60	2.06	0.497	0.209	<0.0250	<0.0250	0.0328	14.8	1.68	11.2	<0.0250
Jun 5 2019	608	12.1	2.21	1.20	0.942	0.496	0.322	<0.0250	<0.0250	<0.0500	82.2	1.00	10.7	<0.0250
Sep 11 2019	205	10.1	6.08	0.781	0.918	1.10	0.650	0.0306	0.0374	<0.0500	19.1	1.50	21.2	0.0383
Dec 5 2019	30.1	3.92	0.398	0.190	0.755	1.19	0.667	<0.0250	<0.0250	<0.0250	3.76	1.27	19.2	<0.0250
Mar 3 2020	22.1	3.09	0.259	0.178	0.583	0.946	0.540	<0.0250	<0.0250	<0.0250	2.79	0.984	17.3	<0.0250
Jun 2 2020	23.9	2.56	0.300	0.185	0.427	0.697	0.501	<0.0250	<0.0250	<0.0250	2.34	0.644	14.2	<0.0250
Sep 1 2020	47.1	2.44	0.257	0.142	0.435	0.488	0.389	<0.0250	<0.0250	<0.0250	1.60	0.653	11.1	<0.0250
Dec 9 2020	33.3	1.55	0.150	0.087	0.249	0.304	0.238	<0.0250	<0.0250	<0.0250	0.852	0.440	7.70	<0.0250
arithmetic mean	*464*	*19.9*	*1.29*	*0.562*	*1.07*	*0.754*	*0.305*	*<0.0250*	*<0.0500*	*<0.100*	*11.09*	*1.32*	*12.1*	*<0.0250*
geometric mean	*250*	*9.3*	*0.92*	*0.417*	*0.92*	*0.697*	*0.279*	*<0.0250*	*<0.0500*	*<0.100*	*5.86*	*1.22*	*11.5*	*<0.0250*
median	*326*	*8.87*	*1.04*	*0.438*	*0.895*	*0.656*	*0.267*	*<0.0250*	*<0.0500*	*<0.100*	*4.92*	*1.27*	*12.3*	*<0.0250*
maximum	*2390*	*252*	*6.08*	*2.6*	*3.55*	*1.74*	*0.667*	*<0.0250*	*<0.0500*	*0.0328*	*82.2*	*3.60*	*21.2*	*<0.0250*
minimum	*22.1*	*1.55*	*0.15*	*0.0867*	*0.249*	*0.304*	*0.104*	*<0.0250*	*<0.0500*	*<0.100*	*0.852*	*0.44*	*5.94*	*<0.0250*

All results in ng/mL (ppb)
NR - Not Reportable
NA - Not Analyzed

5. FINDINGS

The GMZ Groundwater Sampling Plan was developed to collect hydrogeologic and PFAS analytical data that could be used to assess long-term groundwater conditions in the area of the 3M Cordova Site. Groundwater sampling events were performed at the Site in June and November 2020 that represent the 12th and 13th sampling rounds performed in accordance with the GMZ Groundwater Sampling Plan. The results of these sampling events are provided in this document.

The following sections contain a summary of the findings of the groundwater elevation data, and the monitoring well, production well and residential well PFAS results for groundwater samples collected in 2020 at the Site.

5.1 GROUNDWATER ELEVATION DATA

Groundwater elevation data were recorded in accessible Site monitoring wells and piezometers during the June and November 2020 sampling events. These groundwater elevation data were used to construct groundwater elevation contour maps to assess groundwater flow directions at the Site. Previous hydrogeologic investigations performed at the Site have shown that the direction of groundwater flow is predominately away from the Mississippi River to the east toward the Site production wells. This groundwater flow direction was confirmed by the groundwater elevation measurements recorded at the Site in June and November 2020. As such, effective capture of impacted groundwater at the Site continues to be maintained. The hydraulic gradient between the manufacturing area and Site production wells was calculated to be 0.0019 (ft/ft) and 0.0016 (ft/ft) in June and November 2020, respectively. These hydraulic gradients are comparable to historical data for the Site. Because of the relatively flat hydraulic gradient beneath the manufacturing area, the direction of groundwater flow in this area may be susceptible to temporary gradient changes during periods of higher recharge from rainfall or snow melt events.

5.2 MONITORING AND PRODUCTION WELL SAMPLING

In accordance with the GMZ Sampling Plan, groundwater samples were collected in June and November 2020 at 19 monitoring wells and 7 production wells. The groundwater

samples collected in June 2020 were analyzed by the 3M Environmental Laboratory in St. Paul, MN. Per an Illinois EPA request, the November 2020 groundwater samples were analyzed by a subcontracted laboratory (Eurofins Test America Laboratories) to perform the requested methods and achieve lower detection limits.

The following are some key findings of the monitoring well sampling results:

- PFBA concentrations were generally higher than other PFAS in each monitoring well sampled.

- The highest total PFAS concentrations detected in the manufacturing area were in the groundwater sample collected from monitoring well MW-3-94. Historically, the highest total PFAS concentrations in the manufacturing area have been detected in monitoring well MW-3-94 or nearby monitoring well MW-9-90R.

- The June and November 2020 PFAS concentrations in monitoring wells located along the northern and western perimeter of the manufacturing area (MW-2-90, MW-1-88, MW-1-93, MW-4-94 and MW-1-81) are generally lower compared to monitoring wells within the middle of the manufacturing area (MW-9-90R, MW-3-94 and MW-7-90). This distribution is consistent with historical PFAS analytical data.

- Mann-Kendall statistical analyses results primarily indicate either no statistically significant or a statistically significant decreasing trend in PFAS concentrations in groundwater samples collected from manufacturing and former SIA monitoring wells.

- The highest total PFAS concentrations detected in the former SIA were at monitoring well MW-1-79, which is consistent with historical PFAS analytical data. The measured PFAS concentrations in groundwater generally correlates with suspected PFAS source areas. Specifically, monitoring wells (e.g., MW-1-79 and MW-4-81) located hydraulically downgradient of the manufacturing area and former SIAs generally have higher PFAS concentrations than monitoring wells located along the upgradient perimeter of the manufacturing and former SIAs.

The following are some key findings of the production well sampling results:

- PFAS concentrations are lower in the samples collected from production wells PW-11, PW-24, PW-37, PW-91, PW-94, PW-112 and PW-124 compared to the PFAS results for production well PW-113. The higher PFAS concentrations in production well PW-113 is not unexpected given that this well is located essentially on the centerline of groundwater being drawn from the Site's manufacturing area (and significant portions of the former SIAs) into the cone of depression created by the production well field.

- The Mann-Kendall statistical analyses primarily indicate either no statistically significant or a statistically significant decreasing trend for the PFAS concentrations in the production wells. However, a statistically significant increasing trend was identified for the PFOS at production wells PW-94 and PW-113. The long-term increase in PFAS concentrations observed in production well PW-94 may relate to downtime and reconstruction activities in 2013 and 2014 for nearby production wells PW-12 and PW-13. It is also likely due to the continued pumping of this well since it was reactivated as a production well in 2011, and the pumping of nearby production well PW-91 (located to the east of production well PW-94). Production well PW-94 was shutdown in July 2019 due to a detection of coliform bacteria. The well was turned on temporarily so that a groundwater sample could be collected in October 2019. PFAS concentrations in October 2019 were lower compared to recent PFAS analytical data. This decrease is attributed to the period that this well was turned off that altered the local groundwater flow regime with groundwater being capture by nearby production well PW-113 instead of well PW-94. The increasing PFOS trend in well PW-113 may be attributable to the shutdown of well PW-94.

5.3 RESIDENTIAL WELL SAMPLING

Groundwater samples were collected in November 2020 at seven residential wells within a 0.5 mile radius of the Site. In 2020, a water sample could not be collected from residential wel[redacted] to the east of the Site since the residence was vacant with no electrical service. The following are some key findings of the 2020 residential well sampling results:

- PFBA was detected in each of the residential wells sampled in 2020 with concentrations ranging from 0.23 ppb to 1.80 ppb. These PFBA concentrations are within the historical range for each residential well except for well [redacted] which was slightly higher in 2020 (0.910 ppb in 2020 compared to 0.507 ppb in October 2017).

- PFOA, PFBS, PFHS and PFOS were detected in some of the groundwater samples collected from the residential supply wells in the November 2020 sampling event. These compounds have not been consistently detected in historical groundwater samples collected from the residential wells and were detected in November 2020 due to lower detection limits implemented by the analytical laboratory.

- The Mann-Kendall trend test results that include 2020 analytical data indicate a statistically significant decreasing trend in PFBA for residential well [redacted]. No statistically significant trend in PFBA concentrations for residential wells [redacted], [redacted], [redacted] and [redacted], while a statistically significant increasing trend was identified for residential wel[redacted]. The PFBA analytical results for these wells are in the low ppb range and have fluctuated over a limited range in concentration.

5.4 NPDES WASTEWATER PERMIT MONITORING

The following observations are provided for the NPDES permit monitoring:

- Analytical results have been below limits of quantitation for PFUnA, PFDoA, PFTrA and PFOSA.

- In 2020, PFBA concentrations ranged from 22.1 to 47 ng/mL (ppb), which are lower compared to historical values.

Monitoring will continue to be performed in accordance with the permit in 2021.

5.5 SUMMARY

The additional environmental assessment data collected in 2020, and presented in this report, are consistent with the extensive datasets generated previously for the Site. More specifically, the following observations continue to be valid:

- PFAS concentrations in site monitoring and production wells are generally stable to decreasing and this water is not used for drinking water purposes. Furthermore, this water is contained or "captured" by an existing network of production wells that supply process water for ongoing operations at the Site.

- Site hydrogeologic conditions are generally stable (i.e., flow direction and capture of on-site groundwater).

Accordingly, based on the extensive characterization of Site conditions that has been, and continues to be conducted, and the fact that no exposure pathways of concern have been identified, the establishment of a GMZ as approved by Illinois EPA, is confirmed as an effective and appropriate remedial action.

6. FUTURE COURSE OF ACTION

The PFAS analytical data resulting from the monitoring of Site groundwater will continue to be used to evaluate PFAS concentration variations, ranges and trends for residential, monitoring and production wells. Ongoing communication will continue with Illinois EPA staff as appropriate and/or requested.

In accordance with the Illinois EPA-approved GMZ Groundwater Sampling Plan, the following activities will be performed in the approximate time frames noted. Please note that the time frames noted may be impacted by possible delays associated with COVID-19 issues. 3M will notify IEPA of any significant changes in the schedule.

Groundwater Monitoring

- Semiannual groundwater sampling will be performed in spring/early summer and fall 2021.
- As requested by the Illinois EPA, 3M had planned on performing additional residential well sampling south of the Site in spring 2020. 3M is currently working to finalize this Work Plan and determine the number of wells that will require sampling. It is anticipated that the Private Well Sampling will be completed third quarter 2021.
- Groundwater elevation data will be collected during each sampling round to evaluate the direction of groundwater flow across the Site.

Future Submittals to Illinois EPA:

- An annual groundwater monitoring report will be submitted to Illinois EPA in the second quarter of 2022 presenting a summary of the PFAS groundwater analytical data collected at the Site in 2021.

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APPENDIX A
SUMMARY OF WELL CONSTRUCTION INFORMATION

WESTON

Summary of Well Information
3M Cordova Site, Cordova, IL

Well ID	Northing (UTM NAD83 Zone 15 Meter)	Easting (UTM NAD83 Zone 15 Meter)	Well Completion Date	Casing Material (SS/CS/PVC)	Screen Material	Approximate Total Well Depth (ft btoc)	TOC Elevation (ft MSL)	Approximate Depth to Top of Screen (ft bgs)	Approximate Depth to Bottom of Screen (ft bgs)	Well Diameter (in.)
MW-1-79	4625463.4	726471.3	May-79	CS	SS	77.7	626.71	72	75	5
MW-3-79	4625743.1	726306.4	May-79	CS	SS	77.4	633.04	72	75	5
MW-4-79	4625922.2	726619.6	May-79	CS	SS	85.3	626.42	87	90	5
MW-5-79	4626118.1	726896.2	May-79	CS	SS	81.6	623.91	77	80	5
MW-1-81	4626297.9	725415.1	Nov-81	CS	SS	60.5	592.42	54	57	5
MW-2-81	4625250.8	725255.7	Nov-81	CS	SS	44.6	601.2	42	45	5
MW-3-81	4625434.6	725061.1	Nov-81	CS	SS	36.1	591.25	35	38	5
MW-4-81	4625601.9	725833.6	Nov-81	CS	SS	65.7	611.58	66	69	5
MW-5-81	4626546.0	727017.2	Nov-81	CS	SS	64.0	601.54	62	65	5
MW-1-88	4626278.1	725283.7	Dec-88	SS	SS	32.3	595.23	20	30	2
MW-2-90	4625989.4	725053.9	Jan-90	SS	SS	32.6	596.59	19.5	29.5	2
MW-3-90	4626090.0	725256.4	Jan-90	SS	SS	27.6	591.78	15	25	2
MW-4-90	4626334.1	725587.3	Jan-90	SS	SS	30.1	593.61	17	27	2
MW-5-90	4625434.6	725061.1	Feb-90	SS	SS	27.4	591.31	14.5	24.5	2
MW-6-90	4625922.2	726618.5	Feb-90	SS	SS	72.6	627.48	54.5	70.5	2
MW-7-90	4626147.9	725337.2	Feb-90	SS	SS	31.6	596.29	20.5	30.5	2
MW-8-90	4626204.0	725351.4	Feb-90	SS	SS	32.5	595.45	20	30	2
MW-9-90R	4626019.8	725214.1	Oct-91	SS	SS	27.7	594.68	17	27	2
MW-1-91	4626168.1	725311.6	Aug-91	SS	SS	25.2	591.65	13	23	2
MW-2-91R	4626142.9	725300.4	Feb-93	SS	SS	25.0	592.52	11.5	24	2
MW-1-93	4626407.6	725433.7	Aug-93	PVC	PVC	24.2	593.93	12.5	22.5	2
MW-2-93	4626355.7	725465.2	Aug-93	PVC	PVC	23.9	594.21	11.8	21.8	2
MW-3-93	4626366.3	725492.2	Aug-93	PVC	PVC	24.9	594.41	12	22	2
MW-1-94	4625742.9	726305.4	Jan-94	SS	SS	72.6	632.68	54.5	71	2
MW-2-94	4625601.3	725836.6	Jan-94	SS	SS	47.6	612.21	34.5	44.5	2
MW-3-94	4625952.5	725337.1	Jan-94	SS	SS	31.3	595.53	18.5	28.5	2
MW-4-94	4626146.0	725463.2	Jan-94	SS	SS	32.6	597.95	19	29	2
MW-5-94	4626189.4	725278.6	Jan-94	SS	SS	24.6	592.51	10	19	2
MW-6-94	4626158.7	725261.4	Jan-94	SS	SS	22.6	590.27	10	20	2
MW-7-94	4625890.8	725797.7	Jun-94	SS	SS	32.6	597.98	20	30	2
MW-8-94	4626132.7	725782.8	Jun-94	SS	SS	30.1	595.57	17.5	28	2
MW-9-94	4626379.2	725770.7	Jun-94	SS	SS	32.6	597.76	19.5	30.5	2
MW-10-94	4626411.2	727071.9	Jun-94	SS	SS	45.1	602.15	27	43	2

WESTON

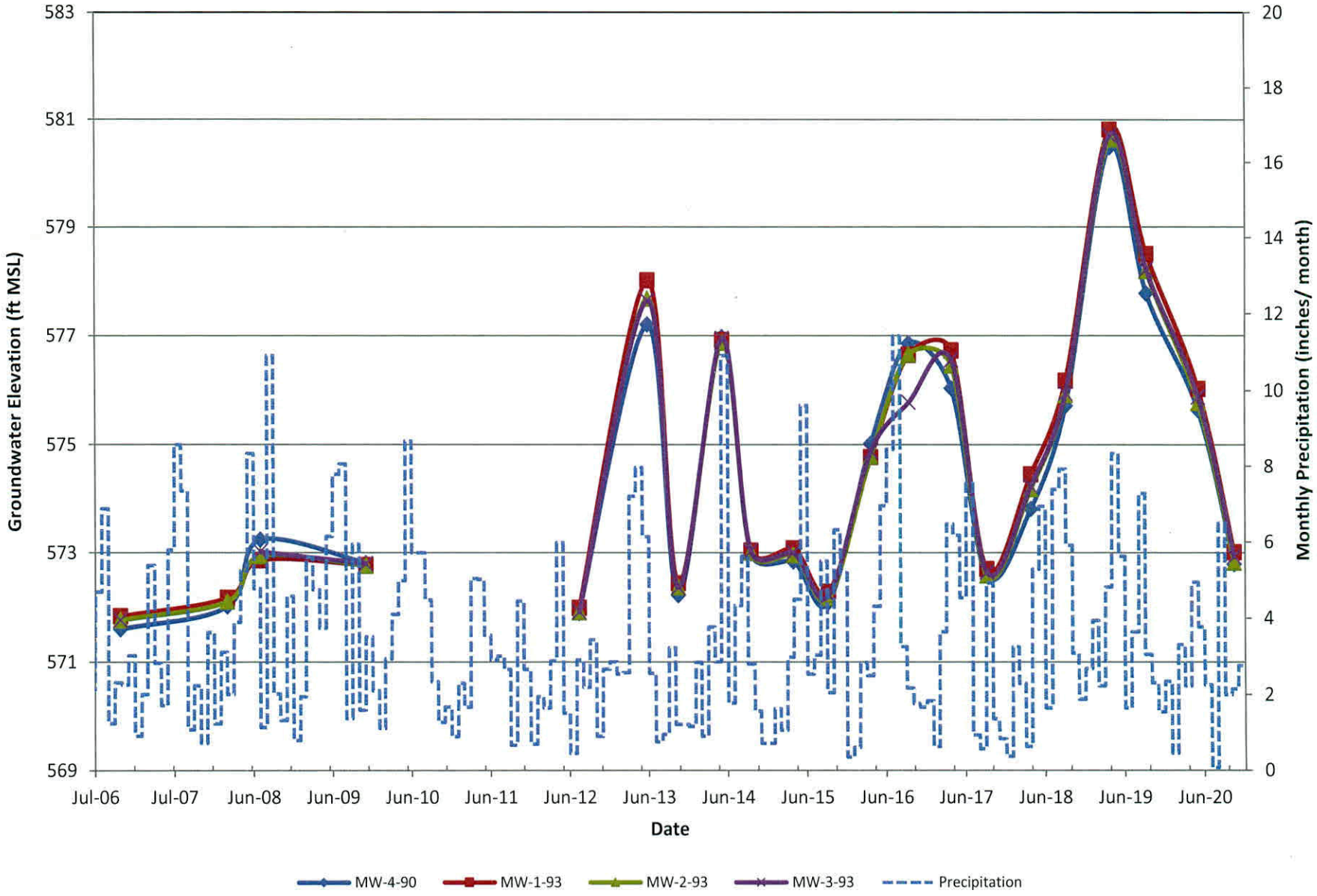
Summary of Well Information (cont'd)
3M Cordova Site, Cordova, IL

Well ID	Northing (UTM NAD83 Zone 15 Meter)	Easting (UTM NAD83 Zone 15 Meter)	Well Completion Date	Casing Material (SS/CS/PVC)	Screen Material	Approximate Total Well Depth (ft btoc)	TOC Elevation (ft MSL)	Approximate Depth to Top of Screen (ft bgs)	Approximate Depth to Bottom of Screen (ft bgs)	Well Diameter (in.)
MW-1-98	4626027.0	725275.0	Mar-98	--	--	--	595.74	14	28	2
MW-2-98	4626026.3	725265.0	Mar-98	--	--	31.6	595.62	14	29	2
PZ-01-13	4626398.2	727220.9	Apr-13	PVC	PVC	56.3	599.27	47	57	2
PZ-02-13	4626099.2	727125.9	May-13	PVC	PVC	87.0	625.44	76	86	2
PZ-03-13	4625901.2	727123.9	May-13	PVC	PVC	89.8	626.54	80	90	2
PZ-04-13	4625722.2	727103.9	May-13	PVC	PVC	90.7	626.24	80	90	2
PZ-05-13	4625329.2	726758.9	May-13	PVC	PVC	93.5	627.05	83.5	93.5	2
PZ-06-13	4625259.2	727147.9	May-13	PVC	PVC	90.6	629.19	80	90	2
MW-11-N	4625402.0	727253.0	--	--	--	170.7	628.59	--	--	4
MW-12-N (T-12N)	4625792.8	727246.6	--	--	--	169.5	625.95	--	--	4
MW-13-W (T-13W)	4625486.7	727198.7	--	--	--	178.9	628.24	--	--	4
PW-11	4625494.2	727249.5	Apr-69	CS	SS	179.0	--	149	179	20
PW-12	4625736.1	727244.5	Mar-69	CS	SS	168.0	--	138	168	20
PW-13	4625474.5	726996.5	Feb-69	CS	SS	177.0	--	147	177	20
PW-24	4625984.9	727241.8	Jan-74	CS	SS	170.0	--	136	167	20
PW-37	4626219.4	727244.1	Dec-86	CS	SS	175.0	--	145	175	20,16
PW-91	4625032.6	727171.3	May-12	CS	SS	183.0	--	130	183	24
PW-94	4625172.8	726559.7	Apr-92	CS	SS	117.0	--	97	117	14,12
PW-112	4625744.5	727231.6	Oct-12	CS	SS	178.0	--	128	178	24
PW-113	4625483.3	727025.1	2014	--	--	--	--	--	--	--
PW-124	4625981.0	727218.4	Jul-05	--	--	--	--	--	--	--

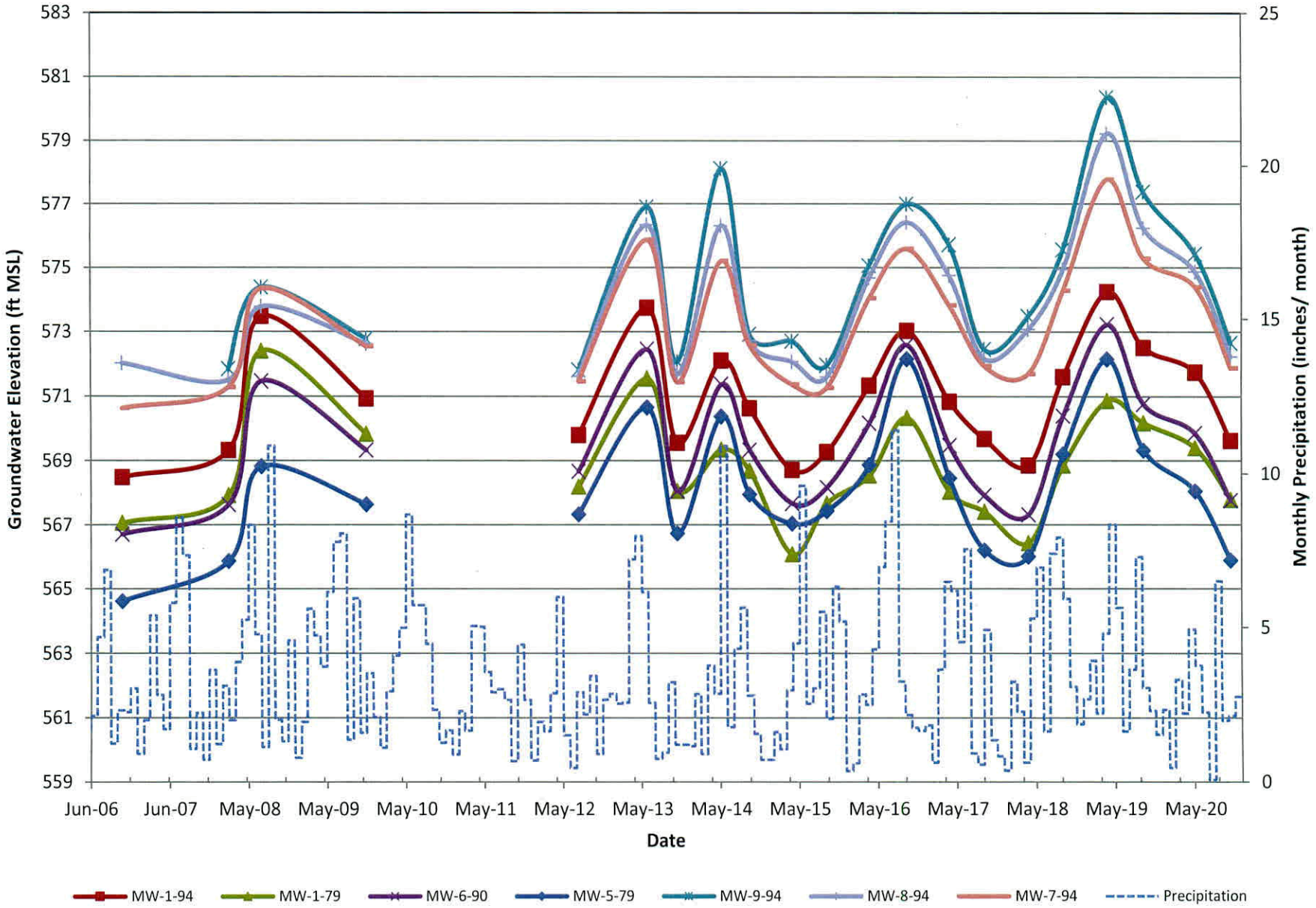
-- = information not available
CS = Carbon Steel
SS = Stainless Steel
PVC = Polyvinyl Chloride
ft btoc = feet below top of casing
ft MSL = feet above mean sea level
ft bgs = feet below ground surface

APPENDIX B
GROUNDWATER HYDROGRAPHS

Groundwater Hydrograph
Manufacturing Area Monitoring Wells MW-4-90, MW-1-93, MW-2-93 and MW-3-93
October 2006 - November 2020
Cordova Site, Cordova, IL

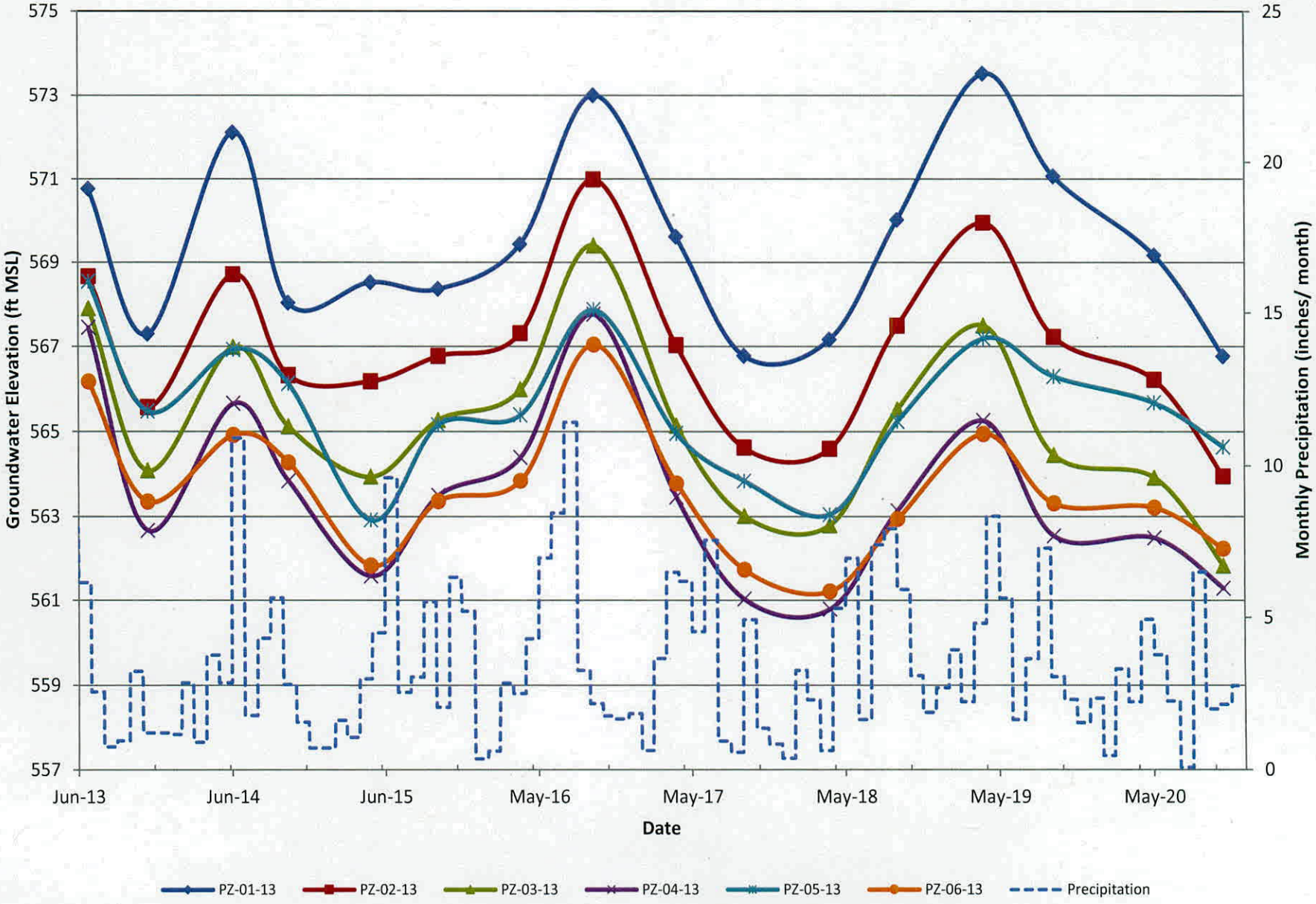


Groundwater Hydrograph
Monitoring Wells MW-1-94, MW-1-79, MW-6-90, MW-5-79, MW-7-94, MW-8-94 and MW-9-94
October 2006 - November 2020
Cordova Site, Cordova, IL



2020-11-COIL-GW-Elev-DTW-2021-05-04_EDITMid-Site CHT(A01)

Groundwater Hydrograph
Piezometers PZ-01-13,PZ-02-13,PZ03-13,PZ-04-13,PZ-05-13 and PZ-06-13
June 2013 - November 2020
Cordova Site, Cordova, IL



2020-11-COIL-GW-Elev-DTW-2021-05-04_EDITPZ-CHT(A01)

APPENDIX C
LABORATORY ANALYTICAL DATA PACKAGES

- June 2020 Laboratory Analytical Data
- November 2020 Laboratory Analytical Data

- **June 2020 Laboratory Analytical Data**

Final Report

Fluorochemical Characterization of Groundwater Samples
3M Cordova

June 2020 Sampling

Laboratory Request Number: ISO20-16-01

Report Date – Date of Last Signature

Testing Laboratory

3M EHS Laboratory
Building 260-5N-17
Maplewood, MN 55144-1000

Requester

Kristin Colberg
3M Building 224-05-W-17
Saint Paul, MN 55144-1000

ilac-MRA

ACCREDITED
Testing Cert. # 2052.01

The testing reported herein meet the requirements of ISO/IEC 17025:2017 "General Requirements for the Competence of Testing and Calibration Laboratories", in accordance with A2LA Certificate # 2052.01. Additionally, the laboratory's quality system has been audited and was determined to be in conformance with the EPA GLPs (40 CFR 792) by an independent A2LA assessment.

3M EHS Laboratory
3M EHS Laboratory Manager: Brian T. Mader, Ph.D.
3M Principal Analytical Investigator: Susan Wolf
Report Author: Christian Toonstra, Ph.D.

Analytical Report ISO20-16-01

Fluorochemical Characterization of Groundwater Samples
3M Cordova
June 2020 Sampling

Report Date: Date of Last Signature

1 Introduction/Summary

The 3M Environmental, Health and Safety (EHS) Laboratory prepared and analyzed groundwater samples collected by Weston Solutions personnel at the 3M Cordova facility. Samples were collected June 1-3, 2020. Samples were returned to the 3M EHS Laboratory on June 4, 2020, on ice for the analysis of Perfluorobutanoic acid (PFBA), Perfluorohexanoic acid (PFHxA), Perfluoroheptanoic acid (PFHpA), Perfluorooctanoic acid (PFOA), Perfluorononanoic acid (PFNA), Perfluorodecanoic acid (PFDA), Perfluoroundecanoic acid (PFUnA), Perfluorododecanoic acid (PFDoA), Perfluorotridecanoic acid (PFTrA), Perfluorotetradecanoic acid (PFTreA), Perfluorobutanesulfonic acid (PFBS), Perfluorohexanesulfonic acid (PFHxS), Perfluorooctanesulfonic acid (PFOS), N-Methyl Perfluorooctanesulfonamidoacetic acid (N-MeFOSAA), N-Ethyl Perfluorooctanesulfonamidoacetic acid (N-EtFOSAA), 4, 8-Dioxa-3H-Perfluorononanoic acid (ADONA), Hexafluoropropylene oxide dimer acid (HFPO-DA), 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS), and 9-Chlorohexandecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) under laboratory project number ISO20-16-01. The results in this report apply to the samples as received from Weston Solutions.

The 3M EHS Laboratory prepared sample containers for twenty-seven sampling locations. Each empty container was marked with a "fill to here" line that corresponded to a final volume of 100 mL. Containers reserved for field matrix spikes were fortified with an appropriate matrix spike solution containing the target analytes prior to being sent to the field for sample collection. Select sample bottles were fortified with internal standards and surrogate recovery standards prior to being sent to the field for sample collection.

Samples were prepared and analyzed for PFBA, PFHxA, PFHpA, PFOA, PFNA, PFDA, PFUnA, PFDoA, PFTrA, PFTreA, PFBS, PFHxS, PFOS, N-MeFOSAA, N-EtFOSAA, ADONA, HFPO-DA, 11Cl-PF3OUdS, and 9Cl-PF3ONS using method ETS-8-044.4 "Method of Analysis for the Determination of Perfluorinated Compounds in Water by LC/MS/MS; Direct Injection Analysis". Internal standards were used to aid in the data quality objectives for the analysis of select samples, where applicable.

Table 1 summarizes the sample results using the analytical method identified above. All results for quality control samples prepared and analyzed with the samples will be reported and discussed elsewhere in this report.

ilac-MRA ACCREDITED Testing Cert. # 2052.01

The testing reported herein meet the requirements of ISO/IEC 17025:2017 "General Requirements for the Competence of Testing and Calibration Laboratories", in accordance with A2LA Certificate # 2052.01. Additionally, the laboratory's quality system has been audited and was determined to be in conformance with the EPA GLPs (40 CFR 792) by an independent A2LA assessment.

Table 1. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-001	COIL-GW-MW-1-79-0-200602	96.2	1.81	0.758	2.46	1.41	0.876	<0.0250
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB-200602	96.0	1.70	0.776	2.68	1.54	0.908	<0.0250
	Average	**96.1**	**1.76**	**0.767**	**2.57**	**1.48**	**0.892**	**<0.0250**
	%RPD Sample/Sample Dup	**0.21**	**6.3**	**2.3**	**8.6**	**8.8**	**3.6**	**NA**
ISO20-16-01-002	COIL-GW-MW-3-79-0-200601	15.7	0.502	0.242	0.510	0.478	0.436	<0.0250
ISO20-16-01-002-DUP	COIL-GW-MW-3-79-DB-200601	15.9	0.458	0.250	0.448	0.512	0.458	<0.0250
	Average	**15.8**	**0.480**	**0.246**	**0.479**	**0.495**	**0.447**	**<0.0250**
	%RPD Sample/Sample Dup	**1.3**	**9.2**	**3.3**	**13**	**6.9**	**4.9**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32% See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) (3)
ISO20-16-01-001	COIL-GW-MW-1-79-0-200602	<0.0250	NR (2)	10.7	3.58	37.4	<0.0500	<0.0472
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB-200602	<0.0250	NR (2)	10.7	3.56	37.4	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**10.7**	**3.57**	**37.4**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**0.0**	**0.56**	**0.0**	**NA**	**NA**
ISO20-16-01-002	COIL-GW-MW-3-79-0-200601	<0.0250	NR (2)	0.312	1.17	21.4	<0.0500	<0.0472
ISO20-16-01-002-DUP	COIL-GW-MW-3-79-DB-200601	<0.0250	NR (2)	0.302	1.24	21.2	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**0.307**	**1.21**	**21.3**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**3.3**	**5.8**	**0.94**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results **are not reportable** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary [1]

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) [3]	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-001	COIL-GW-MW-1-79-0-200602	<0.0250	0.0548	2.06	<0.0236	<0.0234
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB-200602	<0.0250	0.0544	2.04	<0.0236	<0.0234
	Average	**<0.0250**	**0.0546**	**2.05**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**0.73**	**0.98**	**NA**	**NA**
ISO20-16-01-002	COIL-GW-MW-3-79-0-200601	<0.0250	<0.0250	0.248	<0.0236	<0.0234
ISO20-16-01-002-DUP	COIL-GW-MW-3-79-DB-200601	<0.0250	<0.0250	0.264	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**0.256**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**6.3**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-003	COIL-GW-MW-4-79-0-200601	0.672	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
ISO20-16-01-003-DUP	COIL-GW-MW-4-79-DB-200601	0.650	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
	Average	**0.661**	**<0.0500**	**<0.0250**	**<0.0240**	**<0.0250**	**<0.0250**	**<0.0250**
	%RPD Sample/Sample Dup	**3.3**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-004	COIL-GW-MW-5-79-0-200601	0.0964	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
ISO20-16-01-004-DUP	COIL-GW-MW-5-79-DB-200601	0.0942	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
	Average	**0.0953**	**<0.0500**	**<0.0250**	**<0.0240**	**<0.0250**	**<0.0250**	**<0.0250**
	%RPD Sample/Sample Dup	**2.3**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) (3)
ISO20-16-01-003	COIL-GW-MW-4-79-0-200601	<0.0250	NR (2)	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
ISO20-16-01-003-DUP	COIL-GW-MW-4-79-DB-200601	<0.0250	NR (2)	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**<0.0250**	**<0.0250**	**<0.0232**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-004	COIL-GW-MW-5-79-0-200601	<0.0250	NR (2)	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
ISO20-16-01-004-DUP	COIL-GW-MW-5-79-DB-200601	<0.0250	NR (2)	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**<0.0250**	**<0.0250**	**<0.0232**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary [1]

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) [3]	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-003	COIL-GW-MW-4-79-0-200601	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
ISO20-16-01-003-DUP	COIL-GW-MW-4-79-DB-200601	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**<0.0250**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-004	COIL-GW-MW-5-79-0-200601	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
ISO20-16-01-004-DUP	COIL-GW-MW-5-79-DB-200601	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**<0.0250**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-005	COIL-GW-MW-1-81-0-200602	<0.0250	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
ISO20-16-01-005-DUP	COIL-GW-MW-1-81-DB-200602	<0.0250	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
	Average	**<0.0250**	**<0.0500**	**<0.0250**	**<0.0240**	**<0.0250**	**<0.0250**	**<0.0250**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-006	COIL-GW-MW-3-81-0-200602	50.6	1.85	1.25	6.70	1.69	0.652	<0.0250
ISO20-16-01-006-DUP	COIL-GW-MW-3-81-DB-200602	49.6	1.93	1.22	6.60	1.81	0.698	<0.0250
	Average	**50.1**	**1.89**	**1.24**	**6.65**	**1.75**	**0.675**	**<0.0250**
	%RPD Sample/Sample Dup	**2.0**	**4.2**	**2.4**	**1.5**	**6.9**	**6.8**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) (3)
ISO20-16-01-005	COIL-GW-MW-1-81-0-200602	<0.0250	NR (2)	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
ISO20-16-01-005-DUP	COIL-GW-MW-1-81-DB-200602	<0.0250	NR (2)	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**<0.0250**	**<0.0250**	**<0.0232**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-006	COIL-GW-MW-3-81-0-200602	<0.0250	NR (2)	0.360	14.7	63.8	<0.0500	<0.0472
ISO20-16-01-006-DUP	COIL-GW-MW-3-81-DB-200602	<0.0250	NR (2)	0.354	15.6	61.8	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**0.357**	**15.2**	**62.8**	**<0.0500**	**<0.0472 (5)**
	%RPD Sample/Sample Dup	**NA**	**NA**	**1.7**	**5.9**	**3.2**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) (3)	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-005	COIL-GW-MW-1-81-0-200602	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
ISO20-16-01-005-DUP	COIL-GW-MW-1-81-DB-200602	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**<0.0250**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-006	COIL-GW-MW-3-81-0-200602	<0.0250	<0.0250	0.266	<0.0236	<0.0234
ISO20-16-01-006-DUP	COIL-GW-MW-3-81-DB-200602	<0.0250	<0.0250	0.250	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**0.258**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**6.2**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32% See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-007	COIL-GW-MW-1-88-0-200602	24.0	0.184	0.0788	0.708	0.184	0.0638	<0.0250
ISO20-16-01-007-DUP	COIL-GW-MW-1-88-DB-200602	24.4	0.174	0.0712	0.714	0.197	0.0670	<0.0250
	Average	**24.2**	**0.179**	**0.0750**	**0.711**	**0.191**	**0.0654**	**<0.0250**
	%RPD Sample/Sample Dup	**1.7**	**5.6**	**10**	**0.84**	**6.8**	**4.9**	**NA**
ISO20-16-01-008	COIL-GW-MW-2-90-0-200602	29.4	0.195	0.197	0.582	0.0350	<0.0250	<0.0250
ISO20-16-01-008-DUP	COIL-GW-MW-2-90-DB-200602	28.0	0.177	0.183	0.586	0.0352	<0.0250	<0.0250
	Average	**28.7**	**0.186**	**0.190**	**0.584**	**0.0351**	**<0.0250**	**<0.0250**
	%RPD Sample/Sample Dup	**4.9**	**9.7**	**7.4**	**0.68**	**0.57**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary [1]

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) [3]
ISO20-16-01-007	COIL-GW-MW-1-88-0-200602	<0.0250	NR [2]	1.45	1.22	3.56	<0.0500	<0.0472
ISO20-16-01-007-DUP	COIL-GW-MW-1-88-DB-200602	<0.0250	NR [2]	1.46	1.22	3.64	<0.0500	<0.0472
	Average	**<0.0250**	**NR [2]**	**1.46**	**1.22**	**3.60**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**0.69**	**0.0**	**2.2**	**NA**	**NA**
ISO20-16-01-008	COIL-GW-MW-2-90-0-200602	<0.0250	NR [2]	0.688	0.688	6.14	<0.0500	<0.0472
ISO20-16-01-008-DUP	COIL-GW-MW-2-90-DB-200602	<0.0250	NR [2]	0.626	0.656	6.10	<0.0500	<0.0472
	Average	**<0.0250**	**NR [2]**	**0.657**	**0.672**	**6.12**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**9.4**	**4.8**	**0.65**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary [1]

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) [3]	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-007	COIL-GW-MW-1-88-0-200602	<0.0250	<0.0250	0.198	<0.0236	<0.0234
ISO20-16-01-007-DUP	COIL-GW-MW-1-88-DB-200602	<0.0250	<0.0250	0.181	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**0.190**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**9.0**	**NA**	**NA**
ISO20-16-01-008	COIL-GW-MW-2-90-0-200602	<0.0250	<0.0250	1.82	<0.0236	<0.0234
ISO20-16-01-008-DUP	COIL-GW-MW-2-90-DB-200602	<0.0250	<0.0250	1.75	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**1.79**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**3.9**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-009	COIL-GW-MW-7-90-0-200602	46.0	0.672	0.362	1.62	0.151	0.102	<0.0250
ISO20-16-01-009-DUP	COIL-GW-MW-7-90-DB-200602	48.6	0.718	0.330	1.72	0.165	0.105	<0.0250
	Average	**47.3**	**0.695**	**0.346**	**1.67**	**0.158**	**0.104**	**<0.0250**
	%RPD Sample/Sample Dup	**5.5**	**6.6**	**9.2**	**6.0**	**8.9**	**2.9**	**NA**
ISO20-16-01-010	COIL-GW-MW-9-90R-0-200602	213	1.01	0.616	1.71	0.648	0.524	<0.0250
ISO20-16-01-010-DUP	COIL-GW-MW-9-90R-DB-200602	212	0.860	0.528	1.67	0.536	0.400	<0.0250
	Average	**213 (3)**	**0.935**	**0.572**	**1.69**	**0.59**	**0.462**	**<0.0250**
	%RPD Sample/Sample Dup	**0.47**	**16**	**15**	**2.4**	**19**	**27 (4)**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary [1]

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) [3]
ISO20-16-01-009	COIL-GW-MW-7-90-0-200602	<0.0250	NR [2]	1.36	4.76	50.0	<0.0500	<0.0472
ISO20-16-01-009-DUP	COIL-GW-MW-7-90-DB-200602	<0.0250	NR [2]	1.51	5.44	49.8	<0.0500	<0.0472
	Average	**<0.0250**	**NR [2]**	**1.44**	**5.10**	**49.9**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**10**	**13**	**0.40**	**NA**	**NA**
ISO20-16-01-010	COIL-GW-MW-9-90R-0-200602	<0.0250	NR [2]	3.28	2.12	48.8	<0.0500	<0.0472
ISO20-16-01-010-DUP	COIL-GW-MW-9-90R-DB-200602	<0.0250	NR [2]	2.98	1.97	36.2	<0.0500	<0.0472
	Average	**<0.0250**	**NR [2]**	**3.13**	**2.05**	**42.5**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**9.6**	**7.3**	**30 [4]**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) (3)	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-009	COIL-GW-MW-7-90-0-200602	<0.0250	0.288	0.666	<0.0236	<0.0234
ISO20-16-01-009-DUP	COIL-GW-MW-7-90-DB-200602	<0.0250	0.348	0.674	<0.0236	<0.0234
	Average	**<0.0250**	**0.318**	**0.670**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**19**	**1.2**	**NA**	**NA**
ISO20-16-01-010	COIL-GW-MW-9-90R-0-200602	<0.0250	0.0482	3.26	<0.0236	<0.0234
ISO20-16-01-010-DUP	COIL-GW-MW-9-90R-DB-200602	<0.0250	0.0446	3.12	<0.0236	<0.0234
	Average	**<0.0250**	**0.0464**	**3.19**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**7.8**	**4.4**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary [1]

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-011	COIL-GW-MW-1-93-0-200602	4.70	<0.0500	<0.0250	0.0494	<0.0250	<0.0250	<0.0250
ISO20-16-01-011-DUP	COIL-GW-MW-1-93-DB-200602	4.50	<0.0500	<0.0250	0.0536	<0.0250	<0.0250	<0.0250
	Average	**4.60**	**<0.0500**	**<0.0250**	**0.0515**	**<0.0250**	**<0.0250**	**<0.0250**
	%RPD Sample/Sample Dup	**4.3**	**NA**	**NA**	**8.2**	**NA**	**NA**	**NA**
ISO20-16-01-012	COIL-GW-MW-3-94-0-200602	986	17.2	2.56	5.62	2.40	1.61	0.123
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB-200602	954	16.8	3.40	5.52	2.34	1.58	0.119
	Average	**970 [3]**	**17.0**	**2.98**	**5.57**	**2.37**	**1.60**	**0.121**
	%RPD Sample/Sample Dup	**3.3**	**2.4**	**28 [4]**	**1.8**	**2.5**	**1.9**	**3.3**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary [1]

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) [3]
ISO20-16-01-011	COIL-GW-MW-1-93-0-200602	<0.0250	NR [2]	0.0676	0.125	0.936	<0.0500	<0.0472
ISO20-16-01-011-DUP	COIL-GW-MW-1-93-DB-200602	<0.0250	NR [2]	0.0506	0.148	0.910	<0.0500	<0.0472
	Average	**<0.0250**	**NR [2]**	**0.0591**	**0.137**	**0.923**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**29 [4]**	**17**	**2.8**	**NA**	**NA**
ISO20-16-01-012	COIL-GW-MW-3-94-0-200602	<0.0250	NR [2]	360	5.56	81.8	<0.0500	<0.0472
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB-200602	<0.0250	NR [2]	346	5.60	79.8	<0.0500	<0.0472
	Average	**<0.0250**	**NR [2]**	**353 [3]**	**5.58**	**80.8**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**4.0**	**0.72**	**2.5**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) (3)	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-011	COIL-GW-MW-1-93-0-200602	<0.0250	<0.0250	0.144	<0.0236	<0.0234
ISO20-16-01-011-DUP	COIL-GW-MW-1-93-DB-200602	<0.0250	<0.0250	0.144	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**0.144**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**0.0**	**NA**	**NA**
ISO20-16-01-012	COIL-GW-MW-3-94-0-200602	<0.0250	<0.0250	8.54	<0.0236	<0.0234
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB-200602	<0.0250	<0.0250	8.84	<0.0236	<0.0234
	Average	**<0.0250 (6)**	**<0.0250**	**8.69**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**3.5**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-013	COIL-GW-MW-4-94-0-200602	38.4	0.572	0.300	1.38	0.454	0.442	<0.0250
ISO20-16-01-013-DUP	COIL-GW-MW-4-94-DB-200602	45.6	0.622	0.330	1.80	0.514	0.452	<0.0250
	Average	**42.0**	**0.597**	**0.315**	**1.59**	**0.484**	**0.447**	**<0.0250**
	%RPD Sample/Sample Dup	**17**	**8.4**	**9.5**	**26 (4)**	**12**	**2.2**	**NA**
ISO20-16-01-014	COIL-GW-MW-7-94-0-200601	17.8	0.394	0.230	0.504	0.910	1.78	0.0448
ISO20-16-01-014-DUP	COIL-GW-MW-7-94-DB-200601	20.0	0.442	0.270	0.532	0.988	2.06	0.0548
	Average	**18.9**	**0.418**	**0.250**	**0.518**	**0.949**	**1.92**	**0.0498**
	%RPD Sample/Sample Dup	**12**	**11**	**16**	**5.4**	**8.2**	**15**	**20**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) (3)
ISO20-16-01-013	COIL-GW-MW-4-94-0-200602	<0.0250	NR (2)	1.39	1.84	18.6	<0.0500	<0.0472
ISO20-16-01-013-DUP	COIL-GW-MW-4-94-DB-200602	<0.0250	NR (2)	1.66	2.18	20.2	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**1.53**	**2.01**	**19.4**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**18**	**17**	**8.2**	**NA**	**NA**
ISO20-16-01-014	COIL-GW-MW-7-94-0-200601	<0.0250	NR (2)	0.676	1.78	20.6	<0.0500	<0.0472
ISO20-16-01-014-DUP	COIL-GW-MW-7-94-DB-200601	<0.0250	NR (2)	0.734	2.08	21.4	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**0.705**	**1.93**	**21.0**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**8.2**	**16**	**3.8**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary [1]

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) [3]	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-013	COIL-GW-MW-4-94-0-200602	<0.0250	<0.0250	0.494	<0.0236	<0.0234
ISO20-16-01-013-DUP	COIL-GW-MW-4-94-DB-200602	<0.0250	<0.0250	0.464	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**0.479**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**6.3**	**NA**	**NA**
ISO20-16-01-014	COIL-GW-MW-7-94-0-200601	<0.0250	<0.0250	0.412	<0.0236	<0.0234
ISO20-16-01-014-DUP	COIL-GW-MW-7-94-DB-200601	<0.0250	<0.0250	0.386	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**0.399**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**6.5**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-015	COIL-GW-MW-8-94-0-200601	15.6	0.486	0.396	0.440	1.22	1.47	<0.0250
ISO20-16-01-015-DUP	COIL-GW-MW-8-94-DB-200601	15.9	0.466	0.380	0.470	1.21	1.47	<0.0250
	Average	**15.8**	**0.476**	**0.388**	**0.455**	**1.22**	**1.47**	**<0.0250**
	%RPD Sample/Sample Dup	**1.9**	**4.2**	**4.1**	**6.6**	**0.82**	**0.0**	**NA**
ISO20-16-01-016	COIL-GW-MW-9-94-0-200601	29.2	0.798	0.466	0.682	0.770	0.296	<0.0250
ISO20-16-01-016-DUP	COIL-GW-MW-9-94-DB-200601	28.2	0.850	0.444	0.664	0.698	0.276	<0.0250
	Average	**28.7**	**0.824**	**0.455**	**0.673**	**0.734**	**0.286**	**<0.0250**
	%RPD Sample/Sample Dup	**3.5**	**6.3**	**4.8**	**2.7**	**10**	**7.0**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) (3)
ISO20-16-01-015	COIL-GW-MW-8-94-0-200601	<0.0250	NR (2)	0.192	1.20	36.8	<0.0500	<0.0472
ISO20-16-01-015-DUP	COIL-GW-MW-8-94-DB-200601	<0.0250	NR (2)	0.188	1.21	38.0	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**0.190**	**1.21**	**37.4**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**2.1**	**0.83**	**3.2**	**NA**	**NA**
ISO20-16-01-016	COIL-GW-MW-9-94-0-200601	<0.0250	NR (2)	0.240	2.64	16.1	<0.0500	<0.0472
ISO20-16-01-016-DUP	COIL-GW-MW-9-94-DB-200601	<0.0250	NR (2)	0.226	2.64	15.8	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**0.233**	**2.64**	**16.0**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**6.0**	**0.0**	**1.9**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) (3)	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-015	COIL-GW-MW-8-94-0-200601	<0.0250	<0.0250	0.374	<0.0236	<0.0234
ISO20-16-01-015-DUP	COIL-GW-MW-8-94-DB-200601	<0.0250	<0.0250	0.368	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**0.371**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**1.6**	**NA**	**NA**
ISO20-16-01-016	COIL-GW-MW-9-94-0-200601	<0.0250	<0.0250	0.658	<0.0236	<0.0234
ISO20-16-01-016-DUP	COIL-GW-MW-9-94-DB-200601	<0.0250	<0.0250	0.738	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**0.698**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**11**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-017	COIL-GW-MW-2-81-0-200601	2.12	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
ISO20-16-01-017-DUP	COIL-GW-MW-2-81-DB-200601	2.10	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
	Average	**2.11**	**<0.0500**	**<0.0250**	**<0.0240**	**<0.0250**	**<0.0250**	**<0.0250**
	%RPD Sample/Sample Dup	**0.95**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-018	COIL-GW-MW-4-81-0-200601	228	1.53	1.04	2.62	0.610	0.224	<0.0250
ISO20-16-01-018-DUP	COIL-GW-MW-4-81-DB-200601	225	1.57	1.15	2.62	0.626	0.226	<0.0250
	Average	**227 (3)**	**1.55**	**1.10**	**2.62**	**0.618**	**0.225**	**<0.0250**
	%RPD Sample/Sample Dup	**1.3**	**2.6**	**10**	**0.0**	**2.6**	**0.89**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) (3)
ISO20-16-01-017	COIL-GW-MW-2-81-0-200601	<0.0250	NR (2)	0.0410	<0.0250	<0.0232	<0.0500	<0.0472
ISO20-16-01-017-DUP	COIL-GW-MW-2-81-DB-200601	<0.0250	NR (3)	0.0488	<0.0250	<0.0232	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**0.0449**	**<0.0250**	**<0.0232**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**17**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-018	COIL-GW-MW-4-81-0-200601	<0.0250	NR (2)	4.84	4.54	18.1	<0.0500	<0.0472
ISO20-16-01-018-DUP	COIL-GW-MW-4-81-DB-200601	<0.0250	NR (2)	4.88	4.62	18.7	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**4.86**	**4.58**	**18.4**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**0.82**	**1.7**	**3.3**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) (3)	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-017	COIL-GW-MW-2-81-0-200601	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
ISO20-16-01-017-DUP	COIL-GW-MW-2-81-DB-200601	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**<0.0250**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-018	COIL-GW-MW-4-81-0-200601	<0.0250	0.190	2.68	<0.0236	<0.0234
ISO20-16-01-018-DUP	COIL-GW-MW-4-81-DB-200601	<0.0250	0.197	2.58	<0.0236	<0.0234
	Average	**<0.0250**	**0.194**	**2.63**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**3.6**	**3.8**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-019	COIL-GW-MW-5-81-0-200601	<0.0250	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
ISO20-16-01-019-DUP	COIL-GW-MW-5-81-DB-200601	<0.0250	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
	Average	**<0.0250**	**<0.0500**	**<0.0250**	**<0.0240**	**<0.0250**	**<0.0250**	**<0.0250**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-020	COIL-GW-PW-11-0-200603	0.800	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
ISO20-16-01-020-DUP	COIL-GW-PW-11-DB-200603	0.884	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
	Average	**0.842**	**<0.0500**	**<0.0250**	**<0.0240**	**<0.0250**	**<0.0250**	**<0.0250**
	%RPD Sample/Sample Dup	**10**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32% See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) (3)
ISO20-16-01-019	COIL-GW-MW-5-81-0-200601	<0.0250	NR (2)	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
ISO20-16-01-019-DUP	COIL-GW-MW-5-81-DB-200601	<0.0250	NR (2)	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**<0.0250**	**<0.0250**	**<0.0232**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-020	COIL-GW-PW-11-0-200603	<0.0250	NR (2)	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
ISO20-16-01-020-DUP	COIL-GW-PW-11-DB-200603	<0.0250	NR (2)	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**<0.0250**	**<0.0250**	**<0.0232**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) (3)	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-019	COIL-GW-MW-5-81-0-200601	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
ISO20-16-01-019-DUP	COIL-GW-MW-5-81-DB-200601	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**<0.0250**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-020	COIL-GW-PW-11-0-200603	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
ISO20-16-01-020-DUP	COIL-GW-PW-11-DB-200603	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**<0.0250**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-021	COIL-GW-PW-112-0-200603	1.37	<0.0500	<0.0250	0.153	0.304	0.464	<0.0250
ISO20-16-01-021-DUP	COIL-GW-PW-112-DB-200603	1.49	<0.0500	<0.0250	0.178	0.334	0.562	<0.0250
	Average	**1.43**	**<0.0500**	**<0.0250**	**0.166**	**0.319**	**0.513**	**<0.0250**
	%RPD Sample/Sample Dup	**8.4**	**NA**	**NA**	**15**	**9.4**	**19**	**NA**
ISO20-16-01-022	COIL-GW-PW-113-0-200603	27.6	0.714	0.460	1.66	3.26	2.28	<0.0250
ISO20-16-01-022-DUP	COIL-GW-PW-113-DB-200603	32.6	0.800	0.496	2.00	3.88	2.50	<0.0250
	Average	**30.1**	**0.757**	**0.478**	**1.83**	**3.57**	**2.39**	**<0.0250**
	%RPD Sample/Sample Dup	**17**	**11**	**7.5**	**19**	**17**	**9.2**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) (3)
ISO20-16-01-021	COIL-GW-PW-112-0-200603	<0.0250	NR (2)	<0.0250	0.206	7.18	<0.0500	<0.0472
ISO20-16-01-021-DUP	COIL-GW-PW-112-DB-200603	<0.0250	NR (2)	<0.0250	0.246	8.58	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**<0.0250**	**0.226**	**7.88**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**18**	**18**	**NA**	**NA**
ISO20-16-01-022	COIL-GW-PW-113-0-200603	<0.0250	NR (2)	1.94	2.60	62.6	<0.0500	<0.0472
ISO20-16-01-022-DUP	COIL-GW-PW-113-DB-200603	<0.0250	NR (2)	2.24	3.12	77.2	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**2.09**	**2.86**	**69.9**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**14**	**18**	**21 (4)**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary [1]

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) [3]	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-021	COIL-GW-PW-112-0-200603	<0.0250	<0.0250	<0.0250	NR [2]	<0.0234
ISO20-16-01-021-DUP	COIL-GW-PW-112-DB-200603	<0.0250	<0.0250	<0.0250	NR [2]	<0.0234
	Average	**<0.0250**	**<0.0250**	**<0.0250**	**NR [2]**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-022	COIL-GW-PW-113-0-200603	<0.0250	0.0364	0.334	<0.0236	<0.0234
ISO20-16-01-022-DUP	COIL-GW-PW-113-DB-200603	<0.0250	0.0426	0.358	<0.0236	<0.0234
	Average	**<0.0250**	**0.0395**	**0.346**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**16**	**6.9**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-023	COIL-GW-PW-24-0-200603	0.648	<0.0500	<0.0250	0.0950	0.0328	0.0660	<0.0250
ISO20-16-01-023-DUP	COIL-GW-PW-24-DB-200603	0.796	<0.0500	<0.0250	0.101	0.0324	0.0708	<0.0250
	Average	**0.722**	**<0.0500**	**<0.0250**	**0.0980**	**0.0326**	0.0684	**<0.0250**
	%RPD Sample/Sample Dup	**20**	**NA**	**NA**	**6.1**	**1.2**	7.0	**NA**
ISO20-16-01-024	COIL-GW-PW-37-0-200603	0.554	<0.0500	<0.0250	0.0422	0.0594	0.0846	<0.0250
ISO20-16-01-024-DUP	COIL-GW-PW-37-DB-200603	0.548	<0.0500	<0.0250	0.0464	0.0592	0.0916	<0.0250
	Average	**0.551**	**<0.0500**	**<0.0250**	**0.0443**	**0.0593**	**0.0881**	**<0.0250**
	%RPD Sample/Sample Dup	**1.1**	**NA**	**NA**	**9.5**	**0.34**	**7.9**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) (3)
ISO20-16-01-023	COIL-GW-PW-24-0-200603	<0.0250	NR (2)	<0.0250	0.168	2.14	<0.0500	<0.0472
ISO20-16-01-023-DUP	COIL-GW-PW-24-DB-200603	<0.0250	NR (2)	<0.0250	0.206	2.40	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**<0.0250**	**0.187**	**2.27**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**20**	**11**	**NA**	**NA**
ISO20-16-01-024	COIL-GW-PW-37-0-200603	<0.0250	NR (2)	<0.0250	0.0970	2.08	<0.0500	<0.0472
ISO20-16-01-024-DUP	COIL-GW-PW-37-DB-200603	<0.0250	NR (2)	<0.0250	0.0868	2.12	<0.0500	<0.0472
	Average	**<0.0250**	**NR (2)**	**<0.0250**	**0.0919**	**2.10**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**11**	**1.9**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) (3)	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-023	COIL-GW-PW-24-0-200603	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
ISO20-16-01-023-DUP	COIL-GW-PW-24-DB-200603	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**<0.0250**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-024	COIL-GW-PW-37-0-200603	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
ISO20-16-01-024-DUP	COIL-GW-PW-37-DB-200603	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**<0.0250**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-025	COIL-GW-PW-91-0-200603	1.59	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
ISO20-16-01-025-DUP	COIL-GW-PW-91-DB-200603	1.75	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
	Average	**1.67**	**<0.0500**	**<0.0250**	**<0.0240**	**<0.0250**	**<0.0250**	**<0.0250**
	%RPD Sample/Sample Dup	**9.6**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-026	COIL-GW-PW-94-0-200603	6.36	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
ISO20-16-01-026-DUP	COIL-GW-PW-94-DB-200603	6.28	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
	Average	**6.32**	**<0.0500**	**<0.0250**	**<0.0240**	**<0.0250**	**<0.0250**	**<0.0250**
	%RPD Sample/Sample Dup	**1.3**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary [1]

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) [3]
ISO20-16-01-025	COIL-GW-PW-91-0-200603	<0.0250	NR [2]	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
ISO20-16-01-025-DUP	COIL-GW-PW-91-DB-200603	<0.0250	NR [2]	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
	Average	**<0.0250**	**NR [2]**	**<0.0250**	**<0.0250 [7]**	**<0.0232**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-026	COIL-GW-PW-94-0-200603	<0.0250	NR [2]	0.0814	<0.0250	0.109	<0.0500	<0.0472
ISO20-16-01-026-DUP	COIL-GW-PW-94-DB-200603	<0.0250	NR [2]	0.0894	<0.0250	0.0990	<0.0500	<0.0472
	Average	**<0.0250**	**NR [2]**	**0.0854**	**<0.0250**	**0.104**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**9.4**	**NA**	**9.6**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) (3)	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-025	COIL-GW-PW-91-0-200603	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
ISO20-16-01-025-DUP	COIL-GW-PW-91-DB-200603	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**<0.0250**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**NA**	**NA**	**NA**
ISO20-16-01-026	COIL-GW-PW-94-0-200603	<0.0250	<0.0250	0.0888	<0.0236	<0.0234
ISO20-16-01-026-DUP	COIL-GW-PW-94-DB-200603	<0.0250	<0.0250	0.0754	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**0.0821**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**16**	**NA**	**NA**

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary [1]

3M LIMS ID	Sample Description	PFBA Concentration (ng/mL)	PFHxA Concentration (ng/mL)	PFHpA Concentration (ng/mL)	PFOA Concentration (ng/mL)	PFNA Concentration (ng/mL)	PFDA Concentration (ng/mL)	PFUnA Concentration (ng/mL)
ISO20-16-01-027	COIL-GW-Bldg 1 Coffee Sink-0-200603	5.08	0.109	0.0550	0.296	0.540	0.454	<0.0250
ISO20-16-01-027-DUP	COIL-GW-Bldg 1 Coffee Sink-DB-200603	5.72	0.111	0.0666	0.336	0.594	0.502	<0.0250
	Average	**5.40**	**0.110**	**0.0608**	**0.316**	**0.567**	**0.478**	**<0.0250**
	%RPD Sample/Sample Dup	**12**	**1.8**	**19**	**13**	**9.5**	**10**	**NA**
ISO20-16-01-028	COIL-GW-TRIP-0-200529	<0.0250	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
ISO20-16-01-029	COIL-GW-RB01-mw2-81-0-200601	<0.0250	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250
ISO20-16-01-030	COIL-GW -RB02- mw-3-94-0-200602	<0.0250	<0.0500	<0.0250	<0.0240	<0.0250	<0.0250	<0.0250

3M LIMS ID	Sample Description	PFDoA Concentration (ng/mL)	PFTrA Concentration (ng/mL)	PFBS Concentration (ng/mL)	PFHS Concentration (ng/mL)	PFOS Concentration (ng/mL)	PFTreA Concentration (ng/mL)	ADONA Concentration (ng/mL) [3]
ISO20-16-01-027	COIL-GW-Bldg 1 Coffee Sink-0-200603	<0.0250	NR [2]	0.320	0.478	11.7	<0.0500	<0.0472
ISO20-16-01-027-DUP	COIL-GW-Bldg 1 Coffee Sink-DB-200603	<0.0250	NR [2]	0.342	0.524	12.8	<0.0500	<0.0472
	Average	**<0.0250**	**NR [2]**	**0.331**	**0.501**	**12.3**	**<0.0500**	**<0.0472**
	%RPD Sample/Sample Dup	**NA**	**NA**	**6.6**	**9.2**	**9.0**	**NA**	**NA**
ISO20-16-01-028	COIL-GW-TRIP-0-200529	<0.0250	NR [2]	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
ISO20-16-01-029	COIL-GW-RB01-mw2-81-0-200601	<0.0250	NR [2]	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472
ISO20-16-01-030	COIL-GW -RB02- mw-3-94-0-200602	<0.0250	NR [2]	<0.0250	<0.0250	<0.0232	<0.0500	<0.0472

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

Table 1 continued. Targeted Analysis Sample Results Summary (1)

3M LIMS ID	Sample Description	N-MeFOSAA Concentration (ng/mL)	N-EtFOSAA Concentration (ng/mL)	HFPO-DA Concentration (ng/mL) (3)	11Cl-PF3OUdS Concentration (ng/mL)	9Cl-PF3ONS Concentration (ng/mL)
ISO20-16-01-027	COIL-GW-Bldg 1 Coffee Sink-0-200603	<0.0250	<0.0250	0.0798	<0.0236	<0.0234
ISO20-16-01-027-DUP	COIL-GW-Bldg 1 Coffee Sink-DB-200603	<0.0250	<0.0250	0.0812	<0.0236	<0.0234
	Average	**<0.0250**	**<0.0250**	**0.0805**	**<0.0236**	**<0.0234**
	%RPD Sample/Sample Dup	**NA**	**NA**	**1.7**	**NA**	**NA**
ISO20-16-01-028	COIL-GW-TRIP-0-200529	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
ISO20-16-01-029	COIL-GW-RB01-mw2-81-0-200601	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234
ISO20-16-01-030	COIL-GW -RB02- mw-3-94-0-200602	<0.0250	<0.0250	<0.0250	<0.0236	<0.0234

NA = Not Applicable
NR = Not Reportable

(1) Sample set analyzed using internal standard calibration unless noted otherwise. The analytical data uncertainties associated with the reported results using internal calibration are as follows: PFBA ± 30%, PFHxA ± 18%, PFHpA ± 22%, PFOA ± 19%, PFNA ± 18%, PFDA ± 21%, PFUnA ± 19%, PFDoA ± 23%, PFTrA ± 24%, PFTreA ± 21%, PFBS ± 22%, PFHxS ± 17%, PFOS ± 15%, N-MeFOSAA ± 27%, N-EtFOSAA ± 20%, 11Cl-PF3OUdS ± 49%, and 9Cl-PF3ONS ± 22%.
(2) The sample results ***are not reportable*** for PFTrA or 11Cl-PF3OUdS due to non-compliant FMS recovery. See section 4 for the report for additional information.
(3) Sample set analyzed using external standard calibration. The analytical data uncertainties associated with the reported results using external calibration are as follows: PFBA ± 21%, PFBS ± 14%, ADONA ± 21%, and HFPO-DA ± 17%.
(4) The sample/sample duplicate RPD did not meet acceptance criteria of ≤20%.
(5) The analytical data uncertainty for ADONA for location MW-3-81 was expanded to ± 36%. See discussion in section 4 of the report.
(6) The analytical data uncertainty for N-MeFOSAA for location MW-3-94 was expanded to ± 42%. See discussion in section 4 of the report.
(7) The analytical data uncertainty for PFHxS for location PW-91 was expanded to ± 32%. See discussion in section 4 of the report.

2 Methods - Analytical and Preparatory

2.1 Methods

Analysis was completed following 3M EHS Laboratory method ETS-8-044.4 "Method of Analysis for the Determination of Perfluorinated Compounds in Water by LC/MS/MS; Direct Injection Analysis".

Table 2. Target Analytes

Target Analytes	Acronym	Reference Material Structure
Perfluorobutanoic Acid (C4 Acid)	PFBA	Linear
Perfluorohexanoic Acid (C6 Acid)	PFHxA	Linear
Perfluoroheptanoic Acid (C7 Acid)	PFHpA	Linear
Perfluorooctanoic Acid (C8 Acid)	PFOA	Linear + Branched
Perfluorononanoic Acid (C9 Acid)	PFNA	Linear
Perfluorodecanoic Acid (C10 Acid)	PFDA	Linear
Perfluoroundecanoic Acid (C11 Acid)	PFUnA	Linear
Perfluorododecanoic Acid (C12 Acid)	PFDoA	Linear
Perfluorotridecanoic Acid (C13 Acid)	PFTrA	Linear
Perfluorotetradecanoic Acid (C14 Acid)	PFTreA	Linear
Perfluorobutanesulfonic acid (C4 Sulfonate)	PFBS	Linear
Perfluorohexanesulfonic acid (C6 Sulfonate)	PFHxS	Linear
Perfluorooctanesulfonic acid (C8 Sulfonate)	PFOS	Linear + Branched
N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	Linear + Branched
N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	Linear + Branched
4,8-Dioxa-3H-perfluorononanoic acid	ADONA	Linear
Hexafluoropropylene oxide dimer acid	HFPO-DA	Linear
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	Linear
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9Cl-PF3ONS	Linear

2.2 Sample Collection

Samples were collected June 1-3, 2020 in Nalgene™ (high-density polyethylene) bottles prepared at the 3M EHS Laboratory. Prior to sample collection, bottles designated for field matrix spikes were spiked in the laboratory with a known volume of an appropriate matrix spiking solution containing the analytes of interest. Collected sample bottles were returned to the laboratory on ice on June 4, 2020.

2.3 Sample Preparation

The sample bottles were spiked with an internal standard mix at a nominal concentration of 1 ng/mL prior to being sent to the field for sample collection. Samples analyzed by internal standard calibration were prepared by removing a 0.4 mL aliquot of the well mixed sample and diluting it with 0.4 mL of methanol (dilution factor of 2). During the preparation of the laboratory control samples and method blanks, an aliquot of a separate internal standard spiking solution was added to fortify laboratory reagent water (nominal concentration of 1 ng/mL) and were then diluted in the same manner as the samples. Samples analyzed by internal standard calibration were prepared by removing a 0.4 mL aliquot of the well mixed sample and diluting it with 0.4 mL of methanol (dilution factor of 2).

Samples that required further dilution were prepared by diluting 0.100 mL of well-mixed sample with 9.90 mL of methanol (dilution factor of 100). Diluted samples were fortified with 0.0100 mL of a solution containing surrogate recovery standards (SRSs) (SRSs spiked at a nominal concentration of 1 ng/mL). The laboratory control samples were prepared and analyzed in the same manner as the 100-fold diluted samples.

2.4 Analysis

All samples and quality control samples were analyzed for the target analytes using high performance liquid chromatography/tandem mass spectrometry (HPLC/MS/MS). Pertinent instrument parameters, the liquid chromatography gradient program, and the specific mass transitions analyzed are described in the tables below.

Due to the nature of the samples, the wide range of concentrations found in the samples, and the environmental occurrence of multiple isomers of the laboratory's analytes of interest, the software used for processing the analytical results is not able to consistently integrate the analytical peak, manual integration of the analytical peak is necessary. All manual integrations are performed following the procedures outlined in method ETS-12-010.2. The consistency of the laboratory's integration is ensured through the training of laboratory personnel, the peer review process required for all manual integrations, the review of manual integrations by the QAU, and where necessary the review of manual integrations by laboratory management.

Table 3. Instrument Parameters.

Instrument Name	ETS Hermes	ETS Kirk
Liquid Chromatograph	Agilent 1100	Agilent 1260
Analysis Method	ETS-8-044.4	ETS-8-044.4
Analysis Date(s)	01/26/21, 02/09/21, and 02/11/21	01/29/21 and 02/03/21
Guard column	Betasil C8 (2.1 mm X 50 mm), 5 µm	Betasil C8 (2.1 mm X 50 mm), 5 µm
Analytical column	Betasil C18 (2.1 mm X 100 mm), 5 µm	Betasil C18 (2.1 mm X 100 mm), 5 µm
Injection Volume	15 µL	10 µL and 2 µL
Mass Spectrometer	AB Sciex Triple Quad 5500	AB Sciex Triple Quad 5500
Ion Source	Turbo Spray	Turbo Spray
Polarity	Negative	Negative
Software	Analyst 1.7.1	Analyst 1.7.1

Table 4. Liquid Chromatography Gradient Program.

Step Number	Total Time (min)	Flow Rate (µL/min)	Percent A (2 mM ammonium acetate)	Percent B (Methanol)
Hermes and Kirk ETS-8-044.4				
0	0.00	300	90.0	10.0
1	0.50	300	90.0	10.0
2	0.70	300	60.0	40.0
3	9.00	300	5.0	95.0
4	11.0	300	5.0	95.0
5	12.0	300	90.0	10.0
6	14.0	300	90.0	10.0

Table 5. Liquid Chromatography Gradient Program.

Analyte	Mass Transition Q1/Q3	Internal Standard	Mass Transition Q1/Q3
PFBA	213/169	[$^{13}C_4$]-PFBA	217/172
PFHxA	313/119	[$^{13}C_2$]-PFHxA	315/270
	313/269		
PFHpA	363/319	[$^{13}C_4$]-PFHpA	367/322
	363/119		
PFOA	413/369	[$^{13}C_8$]-PFOA	421/376
	413/219		
	413/169		
PFNA	463/419	[$^{13}C_9$]-PFNA	472/427
	463/219		
	463/169		
PFDA	513/469	[$^{13}C_6$]-PFDA	519/474
	513/219		
	513/269		
PFUnA	563/519	[$^{13}C_7$]-PFUnA	570/525
	563/269		
	563/219		
PFDoA	613/569	[$^{13}C_2$]-PFDoA	615/570
	613/319		
	613/269		
PFTrA (1)	663/219	[$^{13}C_2$]-PFDoA	615/570
	663/269		
	663/619		
PFTeDA	713/669	[$^{13}C_2$]-PFTeDA	715/670
PFBS	299/80	[$^{18}O_2$]-PFBS	303/84
	299/99		
PFHxS	399/99	[$^{13}C_3$]-PFHS	402/80
	399/80		
PFOS	499/99	[$^{13}C_8$]-PFOS	507/80
	499/80		
	499/130		

The individual transitions were summed to produce a "total ion chromatogram" (TIC), which was used for quantitation.

(1) An isotopically labeled internal standard is not available for PFTrA, 11Cl-PF3OUdS, or 9Cl-PF3ONS. Surrogate internal standards were used for quantitating these analytes.

(2) ADONA and HFPO-DA were analyzed by external calibration.

Table 5 continued. Liquid Chromatography Gradient Program.

Analyte	Mass Transition Q1/Q3	Internal Standard	Mass Transition Q1/Q3
N-MeFOSAA	570/83	d_3-N-MeFOSAA	573/83
	570/169		573/169
	570/219		573/219
N-EtFOSAA	584/83	d_5-N-EtFOSAA	589/83
	584/169		589/169
	584/219		589/219
ADONA (2)	377/80	NA	NA
	377/251		
HFPO-DA (2)	329/85	NA	NA
11Cl-PF3OUdS (1)	631/83	[$^{13}C_8$]-PFOS	507/80
	631/451		
9Cl-PF3ONS (1)	531/83	[$^{13}C_8$]-PFOS	507/80
	531/351		

The individual transitions were summed to produce a "total ion chromatogram" (TIC), which was used for quantitation.

(1) An isotopically labeled internal standard is not available for PFTrA, 11Cl-PF3OUdS, or 9Cl-PF3ONS. Surrogate internal standards were used for quantitating these analytes.

(2) ADONA and HFPO-DA were analyzed by external calibration.

3 Data Analysis

3.1 Calibration

Solvent dilution analysis using internal standard calibration; 01/26/21, 02/03/21, 02/09/21, and 02/11/21: Samples were analyzed against a matrix-matched stable isotope internal standard calibration curve. Calibration standards were prepared by spiking known amounts of stock solutions into 50 mL of 50:50 methanol:laboratory reagent water. The calibration standards contained an internal standard mix at a nominal concentration of 0.5 ng/mL. Calibration standards ranging from 0.0125 ng/mL to 100 ng/mL (nominal) were analyzed. The standards also contained the surrogates at concentrations ranging from 0.0125 ng/mL to 10 ng/mL (nominal). A quadratic, 1/x weighted, calibration curve of the ratio of the standard peak area counts over the internal standard peak area counts was used to fit the data for each analyte. The data were not forced through zero during the fitting process. Calculating the standard concentrations using the peak area ratios and the resultant calibration curve confirmed accuracy of each curve point.

Solvent dilution analysis using external standard calibration; 1/29/21: Samples were analyzed against an external standard calibration curve. Calibration standards were prepared by spiking known amounts of the stock solution into 50 mL of 90:10 methanol: laboratory Milli-Q™ water. Calibration standards ranging from 0.02 ng/mL to 100 ng/mL (nominal) were analyzed. A quadratic, 1/x weighted, calibration curve of the standard peak area counts was used to fit the data for each analyte. The data were not forced through zero during the fitting process. Calculating the standard concentrations using the peak area counts and the resultant calibration curve confirmed accuracy of each curve point.

For both methods of analysis, each curve point was quantitated using the overall calibration curve and reviewed for accuracy. Method calibration accuracy requirements of 100 ± 25% (100 ± 30% for the lowest curve point) were met for all analytes. The correlation coefficient (r) was greater than 0.995 for all analytes.

3.2 System Suitability

A calibration standard was analyzed four times at the beginning of the analytical sequence to demonstrate overall system suitability. The acceptance criteria for system suitability samples of less than or equal to 5% relative standard deviation (RSD) for peak are counts or peak area ratio and retention time criteria of less than or equal to 2% RSD were met for each analysis for all analytes with the following exceptions:

- 02/03/21 Analysis [ETS Kirk]: The Area Ratio %RSDs for N-MeFOSAA and [$^{13}C_4$]-PFOS were 6.5% and 6.1%, respectively.

Other QC elements were used to determine the reportability of the sample results, including continuing calibration verification (CCV) standards, laboratory control samples (LCSs) and field matrix spikes (FMSs). These other QC elements are discussed in sections 3.6, 3.8 and 4 of the report.

3.3 Limit of Quantitation (LOQ)

The LOQ as defined in method ETS-8-044.4 is the lowest non-zero calibration standard in the curve that meets linearity and accuracy requirements and for which the area counts are at least twice those of the appropriate blanks. The LOQs associated with the sample analysis are listed in the Table 6 below.

Table 6. LOQ.

Analyte	LOQ, ng/mL (1) 1/26/21 Internal Calibration	LOQ, ng/mL (2) 1/29/21 External Calibration	LOQ, ng/mL (1) 2/03/21 Internal Calibration	LOQ, ng/mL (1) 2/09/21 Internal Calibration	LOQ, ng/mL (1) 2/11/21 Internal Calibration
PFBA	NA	25.0	0.0250	NA	0.0250
PFHxA	NA	NA	0.0500	NA	NA
PFHpA	NA	NA	0.0250	NA	NA
PFOA	NA	NA	0.0240	0.0240	NA
PFNA	NA	NA	NA	0.0250	NA
PFDA	NA	NA	NA	0.0250	NA
PFUnA	NA	NA	NA	0.0250	NA
PFDoA	NA	NA	NA	0.0250	NA
PFTrA	NA	NA	NA	NA	NA
PFTreA	0.0500	NA	NA	NA	NA
PFBS	NA	2.00	0.0250	NA	NA
PFHxS	NA	NA	0.0250	NA	NA
PFOS	NA	NA	0.0232	NA	NA
N-MeFOSAA	NA	NA	0.0250	NA	NA
N-EtFOSAA	NA	NA	NA	0.0250	NA
ADONA	0.0472	NA	NA	NA	NA
HFPO-DA	0.0250	NA	NA	NA	NA
11Cl-PF3OUdS	NA	NA	NA	NA	0.0236
9-Cl-PF3ONS	NA	NA	NA	NA	0.0234

NA = Not Applicable
(1) A dilution factor of 2 applied to the LOQ.
(2) A dilution factor of 100 applied to the LOQ.

3.4 Continuing Calibration

During the course of the analytical sequence, several continuing calibration verification samples (CCVs) were analyzed to confirm that the instrument response and the initial calibration curve were still in control. All reported results were bracketed by CCVs that met method acceptance criteria of 100% ± 25%.

3.5 Blanks

Three types of blanks were prepared and analyzed with the samples: method/solvent blanks, field/trip blanks, and sampling equipment blanks. Each blank result was reviewed and used to evaluate method performance. The method/solvent blanks were used to determine the LOQ for each analyte.

3.6 Lab Control Spikes (LCSs)

Low, mid, and high lab control spikes were prepared for the target analytes and analyzed in triplicate. LCSs prepared for internal standard calibration analysis were prepared by spiking known amounts of the analytes into 10 mL of laboratory reagent water to produce the desired concentration. The LCSs were then diluted in the same manner as the samples. Method ETS-8-044.4 states that the average recovery of LCSs at each spiking level must be within 80%-120% with an RSD ≤20%. All LCS samples met these criteria with the following exceptions.

- 01/26/21 Analysis [ETS Hermes]: High-level LCSs were prepared above the resulting upper limit of quantitation (ULOQ) for PFTreA. The low-level LCSs were more appropriate for the sample concentrations and the data are reported.
- 01/29/21 Analysis [ETS Kirk]: Low-level LCSs were prepared below the resulting lower limit of quantitation (LOQ) for PFBA. The mid-level LCSs were more appropriate for the sample concentrations and the data are reported.
- 02/03/21 Analysis [ETS Kirk]: High-level LCSs were prepared above the resulting upper limit of quantitation (ULOQ) for PFBS. High-level LCSs had a %RSD of 23% for N-MeFOSAA. The low-level and mid-level LCSs were more appropriate for the sample concentrations and the data are reported.
- 02/09/21 Analysis [ETS Hermes]: High-level LCSs were prepared above the resulting upper limit of quantitation (ULOQ) for PFOA, PFDA, PFUnA, and PFDoA. The low-level and mid-level LCSs were more appropriate for the sample concentrations and the data are reported.
- 02/11/21 Analysis [ETS Hermes]: High-level LCSs were prepared above the resulting upper limit of quantitation (ULOQ) for PFBA. The low-level LCSs were more appropriate for the sample concentrations and the data are reported. High-level LCSs had a %RSD of 26% for 11Cl-PF3OUdS. Low-level LCSs for 9Cl-PF3ONS had an average recovery of 78.1%. Mid-level LCSs for [$^{13}C_2$]-PFUnA had an average recovery of 78.6%. The low LCSs were more appropriate as compared to the sample concentrations and the data was reported.

The batch LCS recovery results were reviewed when evaluating the analytical method uncertainty in section 3.7 of the report. Individual LCS results are included in the raw data and available upon request.

3.7 Analytical Data Uncertainty

Analytical uncertainty is based on historical QC data that is control charted and used to evaluate method accuracy and precision. The method uncertainty is calculated following ETS-12-012.5. The standard deviation is calculated for the set of accuracy results (in %) obtained for the QC samples. For method ETS-8-044.4, the most recent fifty QC samples were used. The expanded uncertainty is calculated by multiplying the standard deviation by a factor of 2, which corresponds to a confidence level of 95%.

- The data uncertainty for N-MeFOSAA using internal calibration was calculated to be 27% following ETS-12-012.5. Since the %RSD of the high-level LCSs from the analysis on 2/3/21 (23%) was within the calculated analytical method uncertainty of ±27%, no further adjustment was made to the analytical data uncertainty for N-MeFOSAA.

- The data uncertainty for 11Cl-PF3OUdS using internal calibration was calculated to be 49% following ETS-12-012.5. Since the %RSD of the high-level LCSs from the analysis on 2/11/21 (26%) was within the calculated analytical method uncertainty of ±49%, no further adjustment was made to the analytical data uncertainty for 11Cl-PF3OUdS.

- The data uncertainty for 9Cl-PF3ONS using internal calibration was calculated to be 20% following ETS-12-012.5; however, the data uncertainty was increased to ± 22% based on the 9Cl-PF3ONS %recoveries of the low-level LCSs from the analysis on 2/11/21.

- Of the six FMS QC elements associated with the project, only three FMS samples (i.e. MW-3-94, PW-91, and the Trip Blank) had reportable FMS %recoveries for PFTrA. The remaining three FMS samples (i.e. MW-1-79, MW-3-81, and PW-112, see discussion section) had FMS %recoveries that were below the ≥ 50% reportability criteria. Given that 50% of the FMS samples were not reportable for PFTrA, it was elected to list all data for PFTrA as not reportable.

The analytical data uncertainties for the target analytes presented in Tables 1 and 2 of the report are listed in **Table 7**.

Table 7. Analytical Data Uncertainty.

Analyte	Calibration	Number of Data Points Used	Standard Deviation (%)	Method Uncertainty
PFBA	Internal	50	15.0	±30%
PFBA	External	50	10.4	±21%
PFHxA	Internal	50	8.98	±18%
PFHpA	Internal	50	10.9	±22%
PFOA	Internal	50	9.35	±19%
PFNA	Internal	50	8.90	±18%
PFDA	Internal	50	10.4	±21%
PFUnA	Internal	50	9.29	±19%
PFDoA	Internal	50	11.5	±23%
PFTrA (1)	Internal	50	11.8	±24%
PFTreA	Internal	50	10.4	±21%
PFBS	Internal	50	10.8	±22%
PFBS	External	50	7.19	±14%
PFHxS	Internal	50	8.52	±17%
PFOS	Internal	50	7.57	±15%
N-MeFOSAA	Internal	50	13.4	±27%
N-EtFOSAA	Internal	50	10.0	±20%
ADONA	External	50	10.3	±21%
HFPO-DA	External	50	8.16	±16%
11Cl-PF3OUdS	Internal	9	21.4	±49%
9Cl-PF3ONS	Internal	9	NA	±22% (2)

NA = Not Applicable
(1) Analyte have been flagged in Table 1 as NR; Not Reportable due to multiple FMS samples having an average recovery greater than 100 ± 50%.
(2) The analytical data uncertainty was adjusted due to non-compliant QC element.

3.8 Field Matrix Spikes (FMS)

A target analyte field matrix spike sample was collected at select sampling points to verify that the analytical method is applicable for the collected matrix. Field matrix spikes are generated by adding a measured volume of field sample to a container spiked by the laboratory with the target analytes prior to shipping sample containers for sample collection. Field matrix spikes must be at least 50% of the analyte concentration to be considered an appropriate spike level. Field matrix spike recoveries within method acceptance criteria of 100±30% confirm that "unknown" components in the sample matrix do not significantly interfere with the preparation and analysis of the analytes of interest. The standards used for the preparation of the field matrix spiking solutions contained reference materials comprised of both linear and branched isomers for PFOS and PFOA. Field matrix spikes are presented in section 4 of this report.

In addition to target analyte field matrix spikes, all samples contained stable isotope surrogate recovery spikes of [$^{13}C_3$]-PFBA, [$^{13}C_4$]-PFOA, [$^{13}C_2$]-PFUnA, and [$^{13}C_4$]-PFOS, which were added at a nominal concentration of 0.1 ng/mL to select sample bottles prior to sample collection or at a nominal concentration of 1 ng/mL following sample collection. The [$^{13}C_3$]-PFBA and [$^{13}C_4$]-PFOA surrogates were selected to represent perfluorocarboxylic acids. The [$^{13}C_2$]-PFUnA surrogate was selected to represent longer chain perfluorocarboxylic acids. The [$^{13}C_4$]-PFOS surrogate was selected to represent the perfluorosulfonic acids. Surrogate matrix spike recoveries within method acceptance criteria of

100±30% confirm that "unknown" components in the sample matrix do not significantly interfere with the preparation and analysis of the analytes of interest. The surrogate spike recoveries are included in section 4 of this report.

$$FMS\ Recovery = \frac{Sample\ Conc.of\ FMS - Average\ Conc.\ (Field\ Sample\ \&\ Field\ Sample\ Dup)}{Spike\ Conc.} \times 100\%$$

Table 8. Field Matrix Spike Concentrations

	Field Matrix Spike Concentration (µg/L)							
Location	**PFBA**	**PFHxA**	**PFHpA**	**PFOA**	**PFNA**	**PFDA**	**PFUnA**	**PFDoA**
MW-1-79, MW-3-94	15.2	0.200	0.200	15.2	0.200	0.200	0.200	0.200
MW-3-81	25.2	0.200	0.200	25.2	0.200	0.200	0.200	0.200
PW-112, Travel Blank	10.2	0.200	0.200	10.2	0.200	0.200	0.200	0.200
PW-91	0.200	0.200	0.200	0.192	0.200	0.200	0.200	0.200
Location	**PFTrA**	**PFTreA**	**PFBS**	**PFHxS**	**PFOS**	**N-MeFOSAA**	**N-EtFOSAA**	**ADONA**
MW-1-79, MW-3-94	0.200	0.200	15.2	15.2	15.2	0.200	0.200	0.189
MW-3-81	0.200	0.200	25.2	25.2	25.2	0.200	0.200	0.189
PW-112, Travel Blank	0.200	0.200	10.2	10.2	10.2	0.200	0.200	0.189
PW-91	0.200	0.200	0.200	0.200	0.185	0.200	0.200	0.189
Location	**HFPO-DA**	**11Cl-PF3OUdS**	**9-Cl-PF3ONS**					
MW-1-79, MW-3-94	0.199	0.188	0.186					
MW-3-81	0.199	0.188	0.186					
PW-112, Travel Blank	0.199	0.188	0.186					
PW-91	0.199	0.188	0.186					

4 Data Summary and Discussion

Tables 9-14 below summarize the sample results and field matrix spike (or lab matrix spike) recoveries for sampling locations as well as the Trip Blank. Each table provides the average concentration and the relative percent difference (%RPD) of the sample and sample duplicate. Results and average values are rounded to three significant figures. Relative percent difference (%RPD) values are rounded to two significant figures. Because of rounding, values vary slightly from those listed in the raw data. Field matrix spikes meeting the method acceptance criteria of ± 30%, demonstrate that the method is appropriate for the given matrix. **Table 15** summarizes the results for the surrogate recovery standards analyzed with each analytical batch.

All %RPD values met method acceptance criteria of ≤20% with the following exception:

- **ISO20-16-01-010 (MW-9-90R):** The %RPD between the primary and duplicate samples for PFOS was 30%. The %RPD between the primary and duplicate samples for PFDA was 27%.
- **ISO20-16-01-011 (MW-1-93):** The %RPD between the primary and duplicate samples for PFBS was 29%.
- **ISO20-16-01-012 (MW-3-94):** The %RPD between the primary and duplicate samples for PFHpA was 28%.

- **ISO20-16-01-013 (MW-4-94):** The %RPD between the primary and duplicate samples for PFOA was 26%.

- **ISO20-16-01-022 (PW-113):** The %RPD between the primary and duplicate samples for PFOS was 21%.

The method indicates that the target analyte FMS samples should be spiked at approximately 0.5-10 times the expected analyte concentration in the sample. The field matrix spike concentration was selected based on the expected concentration of PFOA and/or PFOS, based on previous results for the Cordova site. In instances where the FMS spike level is >10 times the endogenous amounts, the FMS recovery is reported and flagged as above 10 times the sample concentration.

All FMS recoveries met method acceptance criteria with the following exceptions:

- **ISO20-16-01-001 (MW-1-79):** The FMS %recovery for 11Cl-PF3OUdS did not meet method acceptance criteria with an FMS %recovery of 68.5%. The FMS %recovery for PFTrA did not meet method acceptance criteria with an FMS %recovery of 42.7%.

- **ISO20-16-01-006 (MW-3-81):** The FMS %recovery for ADONA did not meet method acceptance criteria with an FMS %recovery of 64.2%. The FMS %recovery for PFTrA did not meet method acceptance criteria with an FMS %recovery of 44.5%.

- **ISO20-16-01-012 (MW-3-94):** The FMS %recovery for N-MeFOSAA did not meet method acceptance criteria with an FMS %recovery of 58.1%.

- **ISO20-16-01-021 (PW-112):** The FMS %recovery for 11Cl-PF3OUdS did not meet method acceptance criteria with an FMS %recovery of 41.9%. The FMS %recovery for PFTrA did not meet method acceptance criteria with an FMS %recovery of 44.7%.

- **ISO20-16-01-025 (PW-91):** The FMS %recovery for PFHxS did not meet method acceptance criteria with an FMS %recovery of 68.5%.

- **ISO20-16-01-028 (Travel Blank):** The FMS %recovery for 11Cl-PF3OUdS did not meet method acceptance criteria with an FMS %recovery of 131%.

All FMS recoveries were reviewed when assigning the analytical data uncertainty discussed in section 3.8 of the report.

Table 9. COIL-GW-MW-1-79-0-200602 (1)

		PFBA		PFHxA		PFHpA		PFOA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-001	COIL-GW-MW-1-79-0-200602	96.2	NA	1.81	NA	0.758	NA	2.46	NA
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB-200602	96.0	NA	1.70	NA	0.776	NA	2.68	NA
ISO20-16-01-001-FMS	COIL-GW-MW-1-79-FMS-200602	109	NC	1.99	NC	0.996	NC	15.8	87.1
Average Concentration (ng/mL) ± %RPD		**96.1 ng/mL ± 0.21%**		**1.76 ng/mL ± 6.3%**		**0.767 ng/mL ± 2.3%**		**2.57 ng/mL ± 8.6%**	

		PFNA		PFDA		PFUnA		PFDoA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-001	COIL-GW-MW-1-79-0-200602	1.41	NA	0.876	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB-200602	1.54	NA	0.908	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-001-FMS	COIL-GW-MW-1-79-FMS-200602	1.71	NC	1.11	NC	0.176	88.0	0.171	85.5
Average Concentration (ng/mL) ± %RPD		**1.48 ng/mL ± 8.8%**		**0.892 ng/mL ± 3.6%**		**<0.0250 ng/mL**		**<0.0250 ng/mL**	

		PFTrA		PFBS		PFHS		PFOS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-001	COIL-GW-MW-1-79-0-200602	NR (2)		10.7	NA	3.58	NA	37.4	NA
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB-200602			10.7	NA	3.56	NA	37.4	NA
ISO20-16-01-001-FMS	COIL-GW-MW-1-79-FMS-200602			24.4	90.1	17.8	93.6	51.4	NC
Average Concentration (ng/mL) ± %RPD		**NR (2)**		**10.7 ng/mL ± 0.0%**		**3.57 ng/mL ± 0.56%**		**37.4 ng/mL ± 0.0%**	

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%.
(3) FMS recovery did not meet method acceptance criteria of 100 ± 30%.

Table 9 continued. COIL-GW-MW-1-79-0-200602 (1)

		PFTreA		ADONA		HFPO-DA		N-MeFOSAA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-001	COIL-GW-MW-1-79-0-200602	<0.0500	NA	<0.0472	NA	2.06	NA	<0.0250	NA
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB-200602	<0.0500	NA	<0.0472	NA	2.04	NA	<0.0250	NA
ISO20-16-01-001-FMS	COIL-GW-MW-1-79-FMS-200602	0.170	85.1	0.218	116	2.28	NC	0.168	84.2
Average Concentration (ng/mL) ± %RPD		**<0.0500 ng/mL**		**<0.0472 ng/mL**		**2.05 ng/mL ± 1.0%**		**<0.0250 ng/mL**	

		N-EtFOSAA		11Cl-PF3OUdS		9Cl-PF3ONS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-001	COIL-GW-MW-1-79-0-200602	0.0548	NA	<0.0236	NA	<0.0234	NA
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB-200602	0.0544	NA	<0.0236	NA	<0.0234	NA
ISO20-16-01-001-FMS	COIL-GW-MW-1-79-FMS-200602	0.260	103	0.129	68.5 (3)	0.178	95.6
Average Concentration (ng/mL) ± %RPD		**0.0546 ng/mL ± 0.73%**		**<0.0236 ng/mL**		**<0.0234 ng/mL**	

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%.
(3) FMS recovery did not meet method acceptance criteria of 100 ± 30%.

Table 10. COIL-GW-MW-3-81-200602 (1)

		PFBA		PFHxA		PFHpA		PFOA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-006	COIL-GW-MW-3-81-0-200602	50.6	NA	1.85	NA	1.25	NA	6.70	NA
ISO20-16-01-006-DUP	COIL-GW-MW-3-81-DB-200602	49.6	NA	1.93	NA	1.22	NA	6.60	NA
ISO20-16-01-006-FMS	COIL-GW-MW-3-81-FMS-200602	69.6	77.4	1.96	NC	1.45	NC	28.4	86.3
Average Concentration (ng/mL) ± %RPD		**50.1 ng/mL ± 2.0%**		**1.89 ng/mL ± 4.2%**		**1.24 ng/mL ± 2.4%**		**6.65 ng/mL ± 1.5%**	

		PFNA		PFDA		PFUnA		PFDoA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-006	COIL-GW-MW-3-81-0-200602	1.69	NA	0.652	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-006-DUP	COIL-GW-MW-3-81-DB-200602	1.81	NA	0.698	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-006-FMS	COIL-GW-MW-3-81-FMS-200602	1.93	NC	0.758	NC	0.166	83.0	0.200	100
Average Concentration (ng/mL) ± %RPD		**1.75 ng/mL ± 6.9%**		**0.675 ng/mL ± 6.8%**		**<0.0250 ng/mL**		**<0.0250 ng/mL**	

		PFTrA		PFBS		PFHS		PFOS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-006	COIL-GW-MW-3-81-0-200602	NR (2)		0.360	NA	14.7	NA	63.8	NA
ISO20-16-01-006-DUP	COIL-GW-MW-3-81-DB-200602			0.354	NA	15.6	NA	61.8	NA
ISO20-16-01-006-FMS	COIL-GW-MW-3-81-FMS-200602			22.6	88.3	38.2	91.5	80.2	NC
Average Concentration (ng/mL) ± %RPD		**NR (2)**		**0.357 ng/mL ± 1.7%**		**15.2 ng/mL ± 5.9%**		**62.8 ng/mL ± 3.2%**	

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%.
(3) FMS recovery did not meet method acceptance criteria of 100 ± 30%.

Table 10 continued. COIL-GW-MW-3-81-200602 (1)

		PFTreA		ADONA		HFPO-DA		N-MeFOSAA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-006	COIL-GW-MW-3-81-0-200602	<0.0500	NA	<0.0472	NA	0.266	NA	<0.0250	NA
ISO20-16-01-006-DUP	COIL-GW-MW-3-81-DB-200602	<0.0500	NA	<0.0472	NA	0.250	NA	<0.0250	NA
ISO20-16-01-006-FMS	COIL-GW-MW-3-81-FMS-200602	0.171	85.6	0.121	64.2 (3)	0.450	96.3	0.168	84.2
Average Concentration (ng/mL) ± %RPD		**<0.0500 ng/mL**		**<0.0472 ng/mL**		**0.258 ng/mL ± 6.2%**		**<0.0250 ng/mL**	

		N-EtFOSAA		11Cl-PF3OUdS		9Cl-PF3ONS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-006	COIL-GW-MW-3-81-0-200602	<0.0250	NA	<0.0236	NA	<0.0234	NA
ISO20-16-01-006-DUP	COIL-GW-MW-3-81-DB-200602	<0.0250	NA	<0.0236	NA	<0.0234	NA
ISO20-16-01-006-FMS	COIL-GW-MW-3-81-FMS-200602	0.218	109	0.171	90.8	0.214	115
Average Concentration (ng/mL) ± %RPD		**<0.0250 ng/mL**		**<0.0236 ng/mL**		**<0.0234 ng/mL**	

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%.
(3) FMS recovery did not meet method acceptance criteria of 100 ± 30%.

Table 11. COIL-GW-MW-3-94-200602 (1)

		PFBA		PFHxA		PFHpA		PFOA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-012	COIL-GW-MW-3-94-0-200602	986	NA	17.2	NA	2.56	NA	5.62	NA
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB-200602	954	NA	16.8	NA	3.40	NA	5.52	NA
ISO20-16-01-012-FMS	COIL-GW-MW-3-94-FMS-200602	998	NC	17.4	NC	3.08	NC	18.8	87.1
Average Concentration (ng/mL) ± %RPD		**970 ng/mL ± 3.3% (2)**		**17.0 ng/mL ± 2.4%**		**2.98 ng/mL ± 28% (3)**		**5.57 ng/mL ± 1.8%**	

		PFNA		PFDA		PFUnA		PFDoA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-012	COIL-GW-MW-3-94-0-200602	2.40	NA	1.61	NA	0.123	NA	<0.0250	NA
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB-200602	2.34	NA	1.58	NA	0.119	NA	<0.0250	NA
ISO20-16-01-012-FMS	COIL-GW-MW-3-94-FMS-200602	2.70	NC	1.86	NC	0.270	74.5	0.168	84.0
Average Concentration (ng/mL) ± %RPD		**2.37 ng/mL ± 2.5%**		**1.60 ng/mL ± 1.9%**		**0.121 ng/mL ± 3.3%**		**<0.0250 ng/mL**	

		PFTrA		PFBS		PFHS		PFOS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-012	COIL-GW-MW-3-94-0-200602			360	NA	5.56	NA	81.8	NA
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB-200602	NR (4)		346	NA	5.60	NA	79.8	NA
ISO20-16-01-012-FMS	COIL-GW-MW-3-94-FMS-200602			373	NC	19.4	90.9	100	NC
Average Concentration (ng/mL) ± %RPD		**NR (4)**		**353 ng/mL ± 4.0% (2)**		**5.58 ng/mL ± 0.72%**		**80.8 ng/mL ± 2.5%**	

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) Samples analyzed by external standard calibration.
(3) Sample / sample duplicate RPD did not meet method acceptance criteria of ≤20%.
(4) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%.
(5) FMS recovery did not meet method acceptance criteria of 100 ± 30%.

Table 11 continued. COIL-GW-MW-3-94-200602 (1)

		PFTreA		ADONA		HFPO-DA		N-MeFOSAA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-012	COIL-GW-MW-3-94-0-200602	<0.0500	NA	<0.0472	NA	8.54	NA	<0.0250	NA
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB-200602	<0.0500	NA	<0.0472	NA	8.84	NA	<0.0250	NA
ISO20-16-01-012-FMS	COIL-GW-MW-3-94-FMS-200602	0.160	80.1	0.175	92.8	9.06	NC	0.116	58.1 (5)
Average Concentration (ng/mL) ± %RPD		**<0.0500 ng/mL**		**<0.0472 ng/mL**		**8.69 ng/mL ± 3.5%**		**<0.0250 ng/mL**	

		N-EtFOSAA		11Cl-PF3OUdS		9Cl-PF3ONS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-012	COIL-GW-MW-3-94-0-200602	<0.0250	NA	<0.0236	NA	<0.0234	NA
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB-200602	<0.0250	NA	<0.0236	NA	<0.0234	NA
ISO20-16-01-012-FMS	COIL-GW-MW-3-94-FMS-200602	0.181	90.7	0.216	115	0.208	112
Average Concentration (ng/mL) ± %RPD		**<0.0250 ng/mL**		**<0.0236 ng/mL**		**<0.0234 ng/mL**	

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) Samples analyzed by external standard calibration.
(3) Sample / sample duplicate RPD did not meet method acceptance criteria of ≤20%.
(4) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%.
(5) FMS recovery did not meet method acceptance criteria of 100 ± 30%.

Table 12. COIL-GW-PW-112-200603 (1)

		PFBA		PFHxA		PFHpA		PFOA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-021	COIL-GW-PW-112-0-200603	1.37	NA	<0.0500	NA	<0.0250	NA	0.153	NA
ISO20-16-01-021-DUP	COIL-GW-PW-112-DB-200603	1.49	NA	<0.0500	NA	<0.0250	NA	0.178	NA
ISO20-16-01-021-FMS	COIL-GW-PW-112-FMS-200603	11.1	94.8	0.202	101	0.230	115	9.06	87.3 (2)
Average Concentration (ng/mL) ± %RPD		**1.43 ng/mL ± 8.4%**		**<0.0500 ng/mL**		**<0.0250 ng/mL**		**0.166 ng/mL ± 15%**	

		PFNA		PFDA		PFUnA		PFDoA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-021	COIL-GW-PW-112-0-200603	0.304	NA	0.464	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-021-DUP	COIL-GW-PW-112-DB-200603	0.334	NA	0.562	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-021-FMS	COIL-GW-PW-112-FMS-200603	0.482	81.5	0.688	NC	0.174	87.0	0.210	105
Average Concentration (ng/mL) ± %RPD		**0.319 ng/mL ± 9.4%**		**0.513 ng/mL ± 19%**		**<0.0250 ng/mL**		**<0.0250 ng/mL**	

		PFTrA		PFBS		PFHS		PFOS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-021	COIL-GW-PW-112-0-200603	NR (3)		<0.0250	NA	0.206	NA	7.18	NA
ISO20-16-01-021-DUP	COIL-GW-PW-112-DB-200603			<0.0250	NA	0.246	NA	8.58	NA
ISO20-16-01-021-FMS	COIL-GW-PW-112-FMS-200603			9.32	91.4	9.54	91.3	17.4	93.5
Average Concentration (ng/mL) ± %RPD		**NR (3)**		**<0.0250 ng/mL**		**0.226 ng/mL ± 18%**		**7.88 ng/mL ± 18%**	

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) FMS spike level was more than 10x the endogenous sample concentration.
(3) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%. FMS recovery did not meet method acceptance criteria of 100 ± 30%.
(4) Sample results not reportable for 11Cl-PF3OUdS due to FMS recovery below the reporting criteria of 100 ± 50%.

Table 12 continued. COIL-GW-PW-112-200603 [1]

		PFTreA		ADONA		HFPO-DA		N-MeFOSAA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-021	COIL-GW-PW-112-0-200603	<0.0500	NA	<0.0472	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-021-DUP	COIL-GW-PW-112-DB-200603	<0.0500	NA	<0.0472	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-021-FMS	COIL-GW-PW-112-FMS-200603	0.191	95.6	0.183	97.0	0.208	104	0.150	75.2
Average Concentration (ng/mL) ± %RPD		**<0.0500 ng/mL**		**<0.0472 ng/mL**		**<0.0250 ng/mL**		**<0.0250 ng/mL**	

		N-EtFOSAA		11Cl-PF3OUdS		9Cl-PF3ONS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-021	COIL-GW-PW-112-0-200603	<0.0250	NA			<0.0234	NA
ISO20-16-01-021-DUP	COIL-GW-PW-112-DB-200603	<0.0250	NA	NR [4]		<0.0234	NA
ISO20-16-01-021-FMS	COIL-GW-PW-112-FMS-200603	0.197	98.7			0.193	104
Average Concentration (ng/mL) ± %RPD		**<0.0250 ng/mL**		**NR [4]**		**<0.0234 ng/mL**	

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) FMS spike level was more than 10x the endogenous sample concentration.
(3) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%. FMS recovery did not meet method acceptance criteria of 100 ± 30%.
(4) Sample results not reportable for 11Cl-PF3OUdS due to FMS recovery below the reporting criteria of 100 ± 50%.

Table 13. COIL-GW-PW-91-0-200603 (1)

		PFBA		PFHxA		PFHpA		PFOA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-025	COIL-GW-PW-91-0-200603	1.59	NA	<0.0500	NA	<0.0250	NA	<0.0240	NA
ISO20-16-01-025-DUP	COIL-GW-PW-91-DB-200603	1.75	NA	<0.0500	NA	<0.0250	NA	<0.0240	NA
ISO20-16-01-025-FMS	COIL-GW-PW-91-FMS-200603	1.82	NC	0.147	73.5	0.143	71.6	0.142	74.1
Average Concentration (ng/mL) ± %RPD		**1.67 ng/mL ± 9.6%**		**<0.0500 ng/mL**		**<0.0250 ng/mL**		**<0.0240 ng/mL**	

		PFNA		PFDA		PFUnA		PFDoA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-025	COIL-GW-PW-91-0-200603	<0.0250	NA	<0.0250	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-025-DUP	COIL-GW-PW-91-DB-200603	<0.0250	NA	<0.0250	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-025-FMS	COIL-GW-PW-91-FMS-200603	0.179	89.5	0.174	87.0	0.164	82.0	0.152	76.0
Average Concentration (ng/mL) ± %RPD		**<0.0250 ng/mL**		**<0.0250 ng/mL**		**<0.0250 ng/mL**		**<0.0250 ng/mL**	

		PFTrA		PFBS		PFHS		PFOS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-025	COIL-GW-PW-91-0-200603			<0.0250	NA	<0.0250	NA	<0.0232	NA
ISO20-16-01-025-DUP	COIL-GW-PW-91-DB-200603	NR (2)		<0.0250	NA	<0.0250	NA	<0.0232	NA
ISO20-16-01-025-FMS	COIL-GW-PW-91-FMS-200603			0.204	102	0.137	68.5 (3)	0.135	72.8
Average Concentration (ng/mL) ± %RPD		**NR (2)**		**<0.0250 ng/mL**		**<0.0250 ng/mL**		**<0.0250 ng/mL**	

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%.
(3) FMS recovery did not meet method acceptance criteria of 100 ± 30%.

Table 13 continued. COIL-GW-PW-91-0-200603 (1)

		PFTreA		ADONA		HFPO-DA		N-MeFOSAA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-025	COIL-GW-PW-91-0-200603	<0.0500	NA	<0.0472	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-025-DUP	COIL-GW-PW-91-DB-200603	<0.0500	NA	<0.0472	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-025-FMS	COIL-GW-PW-91-FMS-200603	0.151	75.6	0.186	98.6	0.234	117	0.155	77.7
Average Concentration (ng/mL) ± %RPD		**<0.0500 ng/mL**		**<0.0472 ng/mL**		**<0.0250 ng/mL**		**<0.0250 ng/mL**	

		N-EtFOSAA		11Cl-PF3OUdS		9Cl-PF3ONS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-025	COIL-GW-PW-91-0-200603	<0.0250	NA	<0.0236	NA	<0.0234	NA
ISO20-16-01-025-DUP	COIL-GW-PW-91-DB-200603	<0.0250	NA	<0.0236	NA	<0.0234	NA
ISO20-16-01-025-FMS	COIL-GW-PW-91-FMS-200603	0.158	79.2	0.195	104	0.166	89.2
Average Concentration (ng/mL) ± %RPD		**<0.0250 ng/mL**		**<0.0236 ng/mL**		**<0.0234 ng/mL**	

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%.
(3) FMS recovery did not meet method acceptance criteria of 100 ± 30%.

Table 14. COIL-GW-TRIP-200529 (1)

		PFBA		PFHxA		PFHpA		PFOA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-028	COIL-GW-TRIP-0-200529	<0.0250	NA	<0.0500	NA	<0.0250	NA	<0.0240	NA
ISO20-16-01-028-FMS	COIL-GW-TRIP-FMS-200529	9.30	91.2	0.154	77.0	0.175	87.6	8.36	82.0

		PFNA		PFDA		PFUnA		PFDoA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-028	COIL-GW-TRIP-0-200529	<0.0250	NA	<0.0250	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-028-FMS	COIL-GW-TRIP-FMS-200529	0.176	88.0	0.162	81.0	0.171	85.5	0.173	86.5

		PFTrA		PFBS		PFHS		PFOS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-028	COIL-GW-TRIP-0-200529	NR (2)		<0.0250	NA	<0.0250	NA	<0.0232	NA
ISO20-16-01-028-FMS	COIL-GW-TRIP-FMS-200529			9.68	94.9	9.42	92.4	8.88	87.2

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%.
(3) FMS recovery did not meet method acceptance criteria of 100 ± 30%.

Table 14 continued. COIL-GW-TRIP-200529 (1)

		PFTreA		ADONA		HFPO-DA		N-MeFOSAA	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-028	COIL-GW-TRIP-0-200529	<0.0500	NA	<0.0472	NA	<0.0250	NA	<0.0250	NA
ISO20-16-01-028-FMS	COIL-GW-TRIP-FMS-200529	0.162	81.1	0.214	113	0.193	96.8	0.145	72.6

		N-EtFOSAA		11Cl-PF3OUdS		9Cl-PF3ONS	
3M LIMS ID	Description	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery	Concentration (ng/mL)	%Recovery
ISO20-16-01-028	COIL-GW-TRIP-0-200529	<0.0250	NA	<0.0236	NA	<0.0234	NA
ISO20-16-01-028-FMS	COIL-GW-TRIP-FMS-200529	0.144	72.1	0.246	131 (3)	0.182	97.7

NA = Not Applicable
NC = Not Calculated; Spike level was less than 0.5 times the endogenous sample concentration.
NR = Not Reportable
(1) Samples were analyzed by internal standard calibration unless otherwise indicated.
(2) Sample results not reportable for PFTrA due to multiple FMS recoveries below the reporting criteria of 100 ± 50%.
(3) FMS recovery did not meet method acceptance criteria of 100 ± 30%.

Table 15. Surrogate Recovery Standard Results [1]

		Percent Recovery (%)	
		Analyzed 01/29/21	
3M LIMS ID	**Sample Description**	**[$^{13}C_3$]-PFBA**	**[$^{13}C_4$]-PFOS**
ISO20-16-01-001	COIL-GW-MW-1-79-0-200602	110	108
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB-200602	98.6	101
ISO20-16-01-001-FMS	COIL-GW-MW-1-79-FMS-200602	99.6	100
ISO20-16-01-010	COIL-GW-MW-9-90R-0-200602	103	98.3
ISO20-16-01-010-DUP	COIL-GW-MW-9-90R-DB-200602	101	101
ISO20-16-01-012	COIL-GW-MW-3-94-0-200602	96.6	96.6
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB-200602	104	101
ISO20-16-01-012-FMS	COIL-GW-MW-3-94-FMS-200602	101	101
ISO20-16-01-018	COIL-GW-MW-4-81-0-200601	102	101
ISO20-16-01-018-DUP	COIL-GW-MW-4-81-DB-200601	102	101

(1) Reported by external standard calibration. Additional surrogate added during sample preparation.
(2) Reported by internal standard calibration. Surrogate was added during bottle preparation.
(3) Surrogate did not meet method acceptance criteria of 100±30%, however the average of the sample location does meet method acceptance criteria.

Table 15 continued. Surrogate Recovery Standard Results (2)

		Percent Recovery (%)		
		Analyzed 02/03/21		
3M LIMS ID	**Sample Description**	**[$^{13}C_3$]-PFBA**	**[$^{13}C_4$]-PFOA**	**[$^{13}C_4$]-PFOS**
ISO20-16-01-001	COIL-GW-MW-1-79-0-200602	95.5	98.2	112
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB-200602	95.1	111	101
ISO20-16-01-001-FMS	COIL-GW-MW-1-79-FMS-200602	92.9	100	106
ISO20-16-01-002	COIL-GW-MW-3-79-0-200601	89.8	81.2	120
ISO20-16-01-002-DUP	COIL-GW-MW-3-79-DB-200601	90.9	87.0	106
ISO20-16-01-003	COIL-GW-MW-4-79-0-200601	90.7	110	91.9
ISO20-16-01-003-DUP	COIL-GW-MW-4-79-DB-200601	91.9	104	97.6
ISO20-16-01-004	COIL-GW-MW-5-79-0-200601	89.0	96.2	107
ISO20-16-01-004-DUP	COIL-GW-MW-5-79-DB-200601	94.1	102	95.3
ISO20-16-01-005	COIL-GW-MW-1-81-0-200602	89.6	108	99.5
ISO20-16-01-005-DUP	COIL-GW-MW-1-81-DB-200602	91.1	104	87.7
ISO20-16-01-006	COIL-GW-MW-3-81-0-200602	90.7	99.0	101
ISO20-16-01-006-DUP	COIL-GW-MW-3-81-DB-200602	95.5	102	103
ISO20-16-01-006-FMS	COIL-GW-MW-3-81-FMS-200602	89.8	97.4	92.1
ISO20-16-01-007	COIL-GW-MW-1-88-0-200602	94.9	93.2	105
ISO20-16-01-007-DUP	COIL-GW-MW-1-88-DB-200602	94.1	90.8	92.8
ISO20-16-01-008	COIL-GW-MW-2-90-0-200602	92.1	89.2	117
ISO20-16-01-008-DUP	COIL-GW-MW-2-90-DB-200602	89.6	111	119
ISO20-16-01-009	COIL-GW-MW-7-90-0-200602	96.9	105	88.0
ISO20-16-01-009-DUP	COIL-GW-MW-7-90-DB-200602	89.4	82.0	99.3
ISO20-16-01-010	COIL-GW-MW-9-90R-0-200602	87.8	100	107
ISO20-16-01-010-DUP	COIL-GW-MW-9-90R-DB-200602	89.8	62.2 (3)	94.2
ISO20-16-01-011	COIL-GW-MW-1-93-0-200602	95.9	103	107
ISO20-16-01-011-DUP	COIL-GW-MW-1-93-DB-200602	91.5	88.6	85.7
ISO20-16-01-012	COIL-GW-MW-3-94-0-200602	90.5	88.8	103
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB-200602	95.1	96.4	91.7
ISO20-16-01-012-FMS	COIL-GW-MW-3-94-FMS-200602	95.9	75.2	107
ISO20-16-01-013	COIL-GW-MW-4-94-0-200602	88.2	82.8	97.0
ISO20-16-01-013-DUP	COIL-GW-MW-4-94-DB-200602	89.2	101	94.0
ISO20-16-01-014	COIL-GW-MW-7-94-0-200601	92.1	94.6	106
ISO20-16-01-014-DUP	COIL-GW-MW-7-94-DB-200601	92.5	88.2	97.4
ISO20-16-01-015	COIL-GW-MW-8-94-0-200601	90.3	107	105
ISO20-16-01-015-DUP	COIL-GW-MW-8-94-DB-200601	90.3	95.6	94.9
ISO20-16-01-016	COIL-GW-MW-9-94-0-200601	91.9	102	98.8
ISO20-16-01-016-DUP	COIL-GW-MW-9-94-DB-200601	94.3	107	92.1
ISO20-16-01-017	COIL-GW-MW-2-81-0-200601	93.1	96.8	123
ISO20-16-01-017-DUP	COIL-GW-MW-2-81-DB-200601	93.3	105	96.5
ISO20-16-01-018	COIL-GW-MW-4-81-0-200601	99.5	103	86.7
ISO20-16-01-018-DUP	COIL-GW-MW-4-81-DB-200601	95.3	94.2	105

(1) Reported by external standard calibration. Additional surrogate added during sample preparation.
(2) Reported by internal standard calibration. Surrogate was added during bottle preparation.
(3) Surrogate did not meet method acceptance criteria of 100±30%, however the average of the sample location does meet method acceptance criteria.

Table 15 continued. Surrogate Recovery Standard Results (2)

		Percent Recovery (%)		
		Analyzed 02/03/21		
3M LIMS ID	Sample Description	[$^{13}C_3$]-PFBA	[$^{13}C_4$]-PFOA	[$^{13}C_4$]-PFOS
ISO20-16-01-019	COIL-GW-MW-5-81-0-200601	95.5	119	107
ISO20-16-01-019-DUP	COIL-GW-MW-5-81-DB-200601	92.9	114	111
ISO20-16-01-020	COIL-GW-PW-11-0-200603	92.3	99.4	117
ISO20-16-01-020-DUP	COIL-GW-PW-11-DB-200603	95.1	108	92.8
ISO20-16-01-021	COIL-GW-PW-112-0-200603	94.7	80.6	102
ISO20-16-01-021-DUP	COIL-GW-PW-112-DB-200603	93.9	92.8	84.2
ISO20-16-01-021-FMS	COIL-GW-PW-112-FMS-200603	93.1	95.0	107
ISO20-16-01-022	COIL-GW-PW-113-0-200603	87.6	95.4	86.7
ISO20-16-01-022-DUP	COIL-GW-PW-113-DB-200603	91.5	106	95.1
ISO20-16-01-023	COIL-GW-PW-24-0-200603	91.7	99.4	110
ISO20-16-01-023-DUP	COIL-GW-PW-24-DB-200603	92.3	105	103
ISO20-16-01-024	COIL-GW-PW-37-0-200603	93.7	106	109
ISO20-16-01-024-DUP	COIL-GW-PW-37-DB-200603	94.9	114	106
ISO20-16-01-025	COIL-GW-PW-91-0-200603	93.3	116	95.3
ISO20-16-01-025-DUP	COIL-GW-PW-91-DB-200603	94.9	107	97.2
ISO20-16-01-025-FMS	COIL-GW-PW-91-FMS-200603	91.7	111	90.3
ISO20-16-01-026	COIL-GW-PW-94-0-200603	93.5	116	99.9
ISO20-16-01-026-DUP	COIL-GW-PW-94-DB-200603	91.7	105	103
ISO20-16-01-027	COIL-GW-Bldg 1 Coffee Sink-0-200603	90.7	88.2	91.7
ISO20-16-01-027-DUP	COIL-GW-Bldg 1 Coffee Sink-DB-200603	91.1	82.8	86.3
ISO20-16-01-028	COIL-GW-TRIP-0-200529	95.3	107	101
ISO20-16-01-028-FMS	COIL-GW-TRIP-FMS-200529	90.3	109	101
ISO20-16-01-029	COIL-GW-RB01-mw2-81-0-200601	86.8	96.8	87.5
ISO20-16-01-030	COIL-GW -RB02- mw-3-94-0-200602	93.9	110	82.7

(1) Reported by external standard calibration. Additional surrogate added during sample preparation.
(2) Reported by internal standard calibration. Surrogate was added during bottle preparation.
(3) Surrogate did not meet method acceptance criteria of 100±30%, however the average of the sample location does meet method acceptance criteria.

Table 15 continued. Surrogate Recovery Standard Results (2)

		Percent Recovery (%)	
		Analyzed 02/09/21	
3M LIMS ID	Sample Description	[$^{13}C_4$]-PFOA	[$^{13}C_2$]-PFUnA
ISO20-16-01-001	COIL-GW-MW-1-79-0-200602	NA	97.8
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB-200602	NA	94.0
ISO20-16-01-001-FMS	COIL-GW-MW-1-79-FMS-200602	NA	86.2
ISO20-16-01-002	COIL-GW-MW-3-79-0-200601	NA	91.4
ISO20-16-01-002-DUP	COIL-GW-MW-3-79-DB-200601	NA	94.0
ISO20-16-01-003	COIL-GW-MW-4-79-0-200601	NA	90.8
ISO20-16-01-003-DUP	COIL-GW-MW-4-79-DB-200601	NA	99.0
ISO20-16-01-004	COIL-GW-MW-5-79-0-200601	NA	87.4
ISO20-16-01-004-DUP	COIL-GW-MW-5-79-DB-200601	NA	90.8
ISO20-16-01-005	COIL-GW-MW-1-81-0-200602	NA	93.0
ISO20-16-01-005-DUP	COIL-GW-MW-1-81-DB-200602	NA	94.2
ISO20-16-01-006	COIL-GW-MW-3-81-0-200602	NA	91.0
ISO20-16-01-006-DUP	COIL-GW-MW-3-81-DB-200602	NA	90.2
ISO20-16-01-006-FMS	COIL-GW-MW-3-81-FMS-200602	NA	94.2
ISO20-16-01-007	COIL-GW-MW-1-88-0-200602	NA	99.2
ISO20-16-01-007-DUP	COIL-GW-MW-1-88-DB-200602	NA	86.6
ISO20-16-01-008	COIL-GW-MW-2-90-0-200602	NA	94.0
ISO20-16-01-008-DUP	COIL-GW-MW-2-90-DB-200602	NA	86.0
ISO20-16-01-009	COIL-GW-MW-7-90-0-200602	NA	96.0
ISO20-16-01-009-DUP	COIL-GW-MW-7-90-DB-200602	NA	99.4
ISO20-16-01-010	COIL-GW-MW-9-90R-0-200602	NA	87.8
ISO20-16-01-010-DUP	COIL-GW-MW-9-90R-DB-200602	NA	94.4
ISO20-16-01-011	COIL-GW-MW-1-93-0-200602	NA	89.0
ISO20-16-01-011-DUP	COIL-GW-MW-1-93-DB-200602	NA	88.0
ISO20-16-01-012	COIL-GW-MW-3-94-0-200602	NA	90.8
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB-200602	NA	97.2
ISO20-16-01-012-FMS	COIL-GW-MW-3-94-FMS-200602	NA	87.2
ISO20-16-01-013	COIL-GW-MW-4-94-0-200602	NA	83.4
ISO20-16-01-013-DUP	COIL-GW-MW-4-94-DB-200602	NA	87.8
ISO20-16-01-014	COIL-GW-MW-7-94-0-200601	NA	88.0
ISO20-16-01-014-DUP	COIL-GW-MW-7-94-DB-200601	NA	94.0
ISO20-16-01-015	COIL-GW-MW-8-94-0-200601	NA	92.2
ISO20-16-01-015-DUP	COIL-GW-MW-8-94-DB-200601	NA	85.4
ISO20-16-01-016	COIL-GW-MW-9-94-0-200601	NA	88.6
ISO20-16-01-016-DUP	COIL-GW-MW-9-94-DB-200601	NA	91.2
ISO20-16-01-017	COIL-GW-MW-2-81-0-200601	NA	94.8
ISO20-16-01-017-DUP	COIL-GW-MW-2-81-DB-200601	NA	87.6
ISO20-16-01-018	COIL-GW-MW-4-81-0-200601	NA	101
ISO20-16-01-018-DUP	COIL-GW-MW-4-81-DB-200601	NA	90.2

(1) Reported by external standard calibration. Additional surrogate added during sample preparation.
(2) Reported by internal standard calibration. Surrogate was added during bottle preparation.
(3) Surrogate did not meet method acceptance criteria of 100±30%, however the average of the sample location does meet method acceptance criteria.

Table 15 continued. Surrogate Recovery Standard Results (2)

		Percent Recovery (%)	
		Analyzed 02/09/21	
3M LIMS ID	**Sample Description**	**[$^{13}C_4$]-PFOA**	**[$^{13}C_2$]-PFUnA**
ISO20-16-01-019	COIL-GW-MW-5-81-0-200601	NA	90.0
ISO20-16-01-019-DUP	COIL-GW-MW-5-81-DB-200601	NA	94.6
ISO20-16-01-020	COIL-GW-PW-11-0-200603	NA	101
ISO20-16-01-020-DUP	COIL-GW-PW-11-DB-200603	NA	93.8
ISO20-16-01-021	COIL-GW-PW-112-0-200603	NA	93.8
ISO20-16-01-021-DUP	COIL-GW-PW-112-DB-200603	NA	91.6
ISO20-16-01-021-FMS	COIL-GW-PW-112-FMS-200603	NA	94.4
ISO20-16-01-022	COIL-GW-PW-113-0-200603	NA	94.0
ISO20-16-01-022-DUP	COIL-GW-PW-113-DB-200603	NA	86.8
ISO20-16-01-023	COIL-GW-PW-24-0-200603	83.4	89.2
ISO20-16-01-023-DUP	COIL-GW-PW-24-DB-200603	85.2	90.4
ISO20-16-01-024	COIL-GW-PW-37-0-200603	NA	94.8
ISO20-16-01-024-DUP	COIL-GW-PW-37-DB-200603	NA	89.2
ISO20-16-01-025	COIL-GW-PW-91-0-200603	NA	98.8
ISO20-16-01-025-DUP	COIL-GW-PW-91-DB-200603	NA	96.6
ISO20-16-01-025-FMS	COIL-GW-PW-91-FMS-200603	NA	88.0
ISO20-16-01-026	COIL-GW-PW-94-0-200603	NA	92.0
ISO20-16-01-026-DUP	COIL-GW-PW-94-DB-200603	NA	87.8
ISO20-16-01-027	COIL-GW-Bldg 1 Coffee Sink-0-200603	NA	89.0
ISO20-16-01-027-DUP	COIL-GW-Bldg 1 Coffee Sink-DB-200603	NA	87.2
ISO20-16-01-028	COIL-GW-TRIP-0-200529	NA	96.4
ISO20-16-01-028-FMS	COIL-GW-TRIP-FMS-200529	NA	93.0
ISO20-16-01-029	COIL-GW-RB01-mw2-81-0-200601	NA	93.4
ISO20-16-01-030	COIL-GW -RB02- mw-3-94-0-200602	NA	90.2

(1) Reported by external standard calibration. Additional surrogate added during sample preparation.
(2) Reported by internal standard calibration. Surrogate was added during bottle preparation.
(3) Surrogate did not meet method acceptance criteria of 100±30%, however the average of the sample location does meet method acceptance criteria.

		Percent Recovery (%)
		Analyzed 02/11/21 (2)
3M LIMS ID	**Sample Description**	**[$^{13}C_3$]-PFBA**
ISO20-16-01-028	COIL-GW-TRIP-0-200529	83.6
ISO20-16-01-028-FMS	COIL-GW-TRIP-FMS-200529	87.2

(1) Reported by external standard calibration. Additional surrogate added during sample preparation.
(2) Reported by internal standard calibration. Surrogate was added during bottle preparation.
(3) Surrogate did not meet method acceptance criteria of 100±30%, however the average of the sample location does meet method acceptance criteria.

5 Conclusion

Laboratory control spikes were used to determine the analytical method accuracy and precision for all analytes. The accuracy and precision were then used to estimate the method uncertainty for the results. Field matrix spike recoveries demonstrated that the analytical method was appropriate for the given sample matrix except where noted. Analysis was completed using 3M EHS Laboratory method ETS-8-044.4 "Method of Analysis for the Determination of Perfluorinated Compounds in Water by LC/MS/MS; Direct Injection Analysis". Analytical results are reported in Tables 1 and 9-15 of this report.

6 Data / Sample Retention

All remaining sample and associated project data (hardcopy and electronic) will be archived according to 3M EHS Laboratory standard operating procedures.

7 Attachments

Attachment A: Chain of Custody Form

8 Signatures

Christian Toonstra, Ph.D., Report Author

Susan T. Wolf, 3M Principal Analytical Investigator

The 3M EHS Laboratory's Quality Assurance Unit has audited the data and report for this project.

Quality Assurance Representative

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3M EHS LABORATORY
Chain-of-Custody

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Project: ISO20-16-01 (cont.)

Requester: Blomquist, Karie Lyn (MAPLEWOOI
Department: 108100 Site Source: 01L1M100
Project Number:
Date Created: 5/27/2020
Project Description: Cordova PFC Groundwater Monitoring

Completion Date:
Project Lead: Susan T. Wolf
Phone Number: 651-733-9851
Email Address: stwolf@mmm.com

3M Sample Number	Sample Description	Date/Time Sampled	Matrix	Comment
ISO20-16-01-019-DUP	COIL-GW-MW-5-81-DB- 200601	6-1-2020/10:15	WG	
ISO20-16-01-020	COIL-GW-PW-11-0- 200603	6-3-2020/08:05	WG	
ISO20-16-01-020-DUP	COIL-GW-PW-11-DB- 200603	↓ ↓	WG	
ISO20-16-01-021	COIL-GW-PW-112-0- 200603	6-3-2020/08:20	WG	
ISO20-16-01-021-DUP	COIL-GW-PW-112-DB- 200603	↓ ↓	WG	
ISO20-16-01-021-EMS	COIL-GW-PW-112-EMS- 200603	↓ ↓	WG	
ISO20-16-01-022	COIL-GW-PW-113-0- 200603	6-3-2020/07:45	WG	
ISO20-16-01-022-DUP	COIL-GW-PW-113-DB- 200603	↓ ↓	WG	
ISO20-16-01-023	COIL-GW-PW-21-0- 200603	6-3-2020/08:20	WG	
ISO20-16-01-023-DUP	COIL-GW-PW-21-DB- 200603	↓ ↓	WG	
ISO20-16-01-024	COIL-GW-PW-37-0- 200603	6-3-2020/08:40	WG	
ISO20-16-01-024-DUP	COIL-GW-PW-37-DB- 200603	↓ ↓	WG	
ISO20-16-01-025	COIL-GW-PW-91-0- 200603	6-3-2020/07:55	WG	
ISO20-16-01-025-DUP	COIL-GW-PW-91-DB- 200603	↓ ↓	WG	

Sample Condition Upon Receipt: ☒ Acceptable ☒ All items accounted for

Temperature: 1.7 Deg C ☒ Received on Ice ☐ Other:

Collected by (print): DAVE CAIRNS **Collector's signature:** [signature]

Item #	Relinquished by:	Date	Time	Shipped Via	Received by:	Date	Time
	C. Smith	6/4	1400		JAY KEARNS	6/4/20	14:29

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Project: ISO20-16-01 (cont.)

Requester: Blomquist, Karie Lyn (MAPLEWOOI
Department: 108100 Site Source: 01L1M100
Project Number:
Date Created: 5/27/2020
Project Description: Cordova PFC Groundwater Monitoring

Completion Date:
Project Lead: Susan T. Wolf
Phone Number: 651-733-9851
Email Address: stwolf@mmm.com

3M Sample Number	Sample Description	Date/Time Sampled	Matrix	Comment
ISO20-16-01-025-FMS	COIL-GW-PW-91-FMS- 200603	6-3 2020/07:55	WG	
ISO20-16-01-026	COIL-GW-PW-94-0- 200603	6-3-2020/07:30	WG	
ISO20-16-01-026-DUP	COIL-GW-PW-94-DB- 200603	↓ ↓	WG	
ISO20-16-01-027	COIL-GW-Bldg 1 Coffee Sink-0- 200603	6-3-2020/09:35	WG	
ISO20-16-01-027-DUP	COIL-GW-Bldg 1 Coffee Sink-DB- 200603	↓ ↓	WG	
ISO20-16-01-028	COIL-GW-TRIP-0- 200529	5/29/20 10:18am	WG	ATP
ISO20-16-01-028-FMS	COIL-GW-TRIP-FMS- 200529	5/29/20 10:18am	WG	ATP
ISO20-16-01-029	COIL-GW-RB01-MW-2-81-0- 200601	6-1-2020/13:35	WG	COIL-GW-RB01-MW-2-81-0-200601
ISO20-16-01-030	COIL-GW-RB02-MW-3-44-0- 200602	6-2-2020/10:30	WG	COIL-GW-RB02-MW-3-44-0-200602

Sample Condition Upon Receipt: ☒ Acceptable ☒ All items accounted for
Temperature: 4 Deg C ☒ Received on Ice ☐ Other:

Collected by (print): DAVE CAIRNS **Collector's signature:** [signature]

Item #	Relinquished by:	Date	Time	Shipped Via	Received by:	Date	Time
	[signature]	6/4	1400		JAY KEARNS	6/4/20	14:29

Page 5 of 5

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Project: ISO20-16-01

Requester: Blomquist, Karie Lyn (MAPLEWOOI
Department: 108100 Site Source: 01L1M100
Project Number:
Date Created: 5/27/2020
Project Description: Cordova PFC Groundwater Monitoring
Comments:

Completion Date:
Project Lead: Susan T. Wolf
Phone Number: 651-733-9851
Email Address: stwolf@mmm.com

3M Sample Number	Sample Description	Date/Time Sampled	Matrix	Comment
ISO20-16-01-001	COIL-GW-MW-1-79-0- 200602	6-2-2020/15:45	WG	
ISO20-16-01-001-DUP	COIL-GW-MW-1-79-DB- 200602	↓ ↓	WG	
ISO20-16-01-001-FMS	COIL-GW-MW-1-79-FMS- 200602	↓ ↓	WG	
ISO20-16-01-002	COIL-GW-MW-3-79-0- 200601	6-1-2020/13:00	WG	
ISO20-16-01-002-DUP	COIL-GW-MW-3-79-DB- 200601	↓ ↓	WG	
ISO20-16-01-003	COIL-GW-MW-4-79-0- 200601	6-1-2020/12:15	WG	
ISO20-16-01-003-DUP	COIL-GW-MW-4-79-DB- 200601	↓ ↓	WG	
ISO20-16-01-004	COIL-GW-MW-5-79-0- 200601	6-1-2020/11:25	WG	
ISO20-16-01-004-DUP	COIL-GW-MW-5-79-DB- 200601	↓ ↓	WG	
ISO20-16-01-005	COIL-GW-MW-1-81-0- 200602	6-2-2020/08:25	WG	
ISO20-16-01-005-DUP	COIL-GW-MW-1-81-DB- 200602	↓ ↓	WG	
ISO20-16-01-006	COIL-GW-MW-3-81-0- 200602	6-2-2020/13:00	WG	

Sample Condition Upon Receipt: ☒ Acceptable ☒ All items accounted for

Temperature: 4 Deg C ☒ Received on Ice ☐ Other:

Collected by (print): DAVE CAIRNS **Collector's signature:** [signature]

Item #	Relinquished by:	Date	Time	Shipped Via	Received by:	Date	Time
	A Smith	6/4	1400		JAY KEARNS	6/4/20	14:30

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Project: ISO20-16-01 (cont.)

Requester: Blomquist, Karie Lyn (MAPLEWOOI
Department: 108100 Site Source: 01L1M100
Project Number:
Date Created: 5/27/2020
Project Description: Cordova PFC Groundwater Monitoring

Completion Date:
Project Lead: Susan T. Wolf
Phone Number: 651-733-9851
Email Address: stwolf@mmm.com

3M Sample Number	Sample Description	Date/Time Sampled	Matrix	Comment
ISO20-16-01-006-DUP	COIL-GW-MW-3-81-DB- 200602	6-2-2020/13:00	WG	
ISO20-16-01-006-FMS	COIL-GW-MW-3-81-FMS- 200602	↓ ↓	WG	
ISO20-16-01-007	COIL-GW-MW-1-88-0- 200602	6-2-2020/09:20	WG	
ISO20-16-01-007-DUP	COIL-GW-MW-1-88-DB- 200602	↓ ↓	WG	
ISO20-16-01-008	COIL-GW-MW-2-90-0- 200602	6-2-2020/12:00	WG	
ISO20-16-01-008-DUP	COIL-GW-MW-2-90-DB- 200602	↓ ↓	WG	
ISO20-16-01-009	COIL-GW-MW-7-90-0- 200602	6-2-2020/09:55	WG	
ISO20-16-01-009-DUP	COIL-GW-MW-7-90-DB- 200602	↓ ↓	WG	
ISO20-16-01-010	COIL-GW-MW-9-90R-0- 200602	6-2-2020/11:25	WG	
ISO20-16-01-010-DUP	COIL-GW-MW-9-90R-DB- 200602	↓ ↓	WG	
ISO20-16-01-011	COIL-GW-MW-1-93-0- 200602	6-2-2020/08:45	WG	
ISO20-16-01-011-DUP	COIL-GW-MW-1-93-DB- 200602	↓ ↓	WG	
ISO20-16-01-012	COIL-GW-MW-3-94-0- 200602	6-2-2020/10:55	WG	
ISO20-16-01-012-DUP	COIL-GW-MW-3-94-DB- 200602	↓ ↓	WG	

Sample Condition Upon Receipt: ☒ Acceptable ☒ All items accounted for

Temperature: 4 **Deg C** ☒ Received on Ice ☐ Other:

Collected by (print): DAVE CAIRNS **Collector's signature:** [signature]

Item #	Relinquished by:	Date	Time	Shipped Via	Received by:	Date	Time
	G Smith	6/4	1400		JAY KEARNS	6/4/20	14:30

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Project: ISO20-16-01 (cont.)

Requester: Blomquist, Karie Lyn (MAPLEWOOI
Department: 108100 Site Source: 01L1M100
Project Number:
Date Created: 5/27/2020
Project Description: Cordova PFC Groundwater Monitoring

Completion Date:
Project Lead: Susan T. Wolf
Phone Number: 651-733-9851
Email Address: stwolf@mmm.com

3M Sample Number	Sample Description	Date/Time Sampled	Matrix	Comment
ISO20-16-01-012-FMS	COIL-GW-MW-3-94-FMS- 200602	6-2-2020/10:55	WQ	
ISO20-16-01-013	COIL-GW-MW-4-94-0- 200602	6-2-2020/10:20	WG	
ISO20-16-01-013-DUP	COIL-GW-MW-4-94-DB- 200602	↓ ↓	WG	
ISO20-16-01-014	COIL-GW-MW-7-94-0- 200601	6-1-2020/16:20	WG	
ISO20-16-01-014-DUP	COIL-GW-MW-7-94-DB- 200601	↓ ↓	WG	
ISO20-16-01-015	COIL-GW-MW-8-94-0- 200601	6-1-2020/15:50	WG	
ISO20-16-01-015-DUP	COIL-GW-MW-8-94-DB- 200601	↓ ↓	WG	
ISO20-16-01-016	COIL-GW-MW-9-94-0- 200601	6-1-2020/15:25	WG	
ISO20-16-01-016-DUP	COIL-GW-MW-9-94-DB- 200601	↓ ↓	WG	
ISO20-16-01-017	COIL-GW-MW-2-81-0- 200601	6-1-2020/14:10	WG	
ISO20-16-01-017-DUP	COIL-GW-MW-2-81-DB- 200601	↓ ↓	WG	
ISO20-16-01-018	COIL-GW-MW-4-81-0- 200601	6-1-2020/14:55	WG	
ISO20-16-01-018-DUP	COIL-GW-MW-4-81-DB- 200601	↓ ↓	WG	
ISO20-16-01-019	COIL-GW-MW-5-81-0- 200601	6-1-2020/10:15	WG	

Sample Condition Upon Receipt: ☒ Acceptable ☒ All items accounted for

Temperature: 4 Deg C ☒ Received on Ice ☐ Other:

Collected by (print): DAVE CARLB **Collector's signature:** [signature]

Item #	Relinquished by:	Date	Time	Shipped Via	Received by:	Date	Time
	C. Smith	6/4	1400		JAY KEARNS	6/4/20	14:30

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- **November 2020 Laboratory Analytical Data**

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

Laboratory Job ID: 320-66718-1
Laboratory SDG: 3M Cordova Semo-Annual 2020 Sampling
Client Project/Site: E20-2199
Revision: 1

For:
3M Company
3M Center
Building 224-2W-17
St. Paul, Minnesota 55144

Attn: Kristin Colberg

Authorized for release by:
12/10/2020 8:42:38 AM

David Alltucker, Project Manager I
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LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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

Table of Contents

Cover Page 1
Table of Contents 2
Definitions/Glossary 3
Case Narrative 4
Detection Summary 7
Client Sample Results 14
Isotope Dilution Summary 31
QC Sample Results 33
QC Association Summary 47
Lab Chronicle 52
Certification Summary 59
Method Summary 60
Sample Summary 61
Chain of Custody 62
Receipt Checklists 66

Qualifiers

LCMS

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
H	Sample was prepped or analyzed beyond the specified holding time
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Job ID: 320-66718-1

Laboratory: Eurofins TestAmerica, Sacramento

Narrative

Job Narrative
320-66718-1

Revision 12-10-2020: This report has been revised to add additional detail to case narrative comments.

Receipt
The samples were received on 11/13/2020 10:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 5.0° C and 5.5° C.

LCMS
Method 537(Modified): The method blank for preparation batch 320-436772 contained Perfluorooctanesulfonic acid (PFOS) above half of the reporting limit (RL). The sample associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of sample was not performed: (MB 320-436772/2-A).

Method 537(Modified): Due to the high concentration of Perfluorobutanoic acid, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-433783 and analytical batch 320-434206 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 537(Modified): Due to the high concentration of Perfluorobutanoic acid, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-433240 and analytical batch 320-435692 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 537(Modified): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 320-436772 and analytical batch 320-437412 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated Low/Mid/High level laboratory control sample (LLCSSD/MLLCSSD/HLLCSSD) recoveries were within acceptance limits.

Method 537(Modified): Due to the high concentration of Perfluorooctanoic acid (PFOA), the matrix spike duplicate (MSD) for preparation batch 320-436772 and analytical batch 320-437412 could not be evaluated for accuracy. The associated laboratory control sample (LCS) met acceptance criteria.

Method 537(Modified): Results for samples COIL-GW-MW-1-79-0-201111 (320-66718-1), COIL-GW-MW-9-90R-0-201111 (320-66718-11), COIL-GW-MW-3-94-0-201111 (320-66718-13), COIL-GW-MW-4-81-0-201110 (320-66718-19), (320-66718-A-1-E MS) and (320-66718-A-1-F MSD) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 537(Modified): Results for samples COIL-GW-MW-4-79-0-201109 (320-66718-3), COIL-GW-MW-2-81-0-201109 (320-66718-18), COIL-GW-23321-0-201111 (320-66718-21), COIL-GW-22703-0-201111 (320-66718-23), COIL-GW-22703-0-201111 (320-66718-23[MS]), COIL-GW-22703-0-201111 (320-66718-23[MSD]) and COIL-GW-22414-0-201111 (320-66718-24) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 537(Modified): Results for samples COIL-GW-22009-0-201111 (320-66718-25), COIL-GW-22009-DB-201111 (320-66718-26), COIL-GW-22125-0-201111 (320-66718-27), COIL-GW-21421-0-201111 (320-66718-28), COIL-GW-PW-11-0-201112 (320-66718-29), COIL-GW-PW-124-0-201112 (320-66718-32), COIL-GW-PW-91-0-201112 (320-66718-34), COIL-GW-PW-91-0-201112 (320-66718-34[MS]), COIL-GW-PW-91-0-201112 (320-66718-34[MSD]), and COIL-GW-PW-94-0-201112 (320-66718-35) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 537(Modified): The transition mass ratio for the indicated analyte was outside of the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analytes. COIL-GW-MW-7-90-0-201111 (320-66718-10)

Method 537(Modified): The following equipment blank (EB) was re-extracted out of hold due to a detection above the reporting limit for

Job ID: 320-66718-1 (Continued)

Laboratory: Eurofins TestAmerica, Sacramento (Continued)

Perfluorooctanesulfonic acid, therefore, both sets of data were reported: COIL-GW-MW-7-94-EB01-0-201110 (320-66718-39).

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

Organic Prep

Method 3535: The following samples contained floating particulates in the sample bottle prior to extraction: COIL-GW-MW-1-79-0-201111 (320-66718-1), COIL-GW-MW-3-79-0-201109 (320-66718-2), COIL-GW-MW-3-81-0-201110 (320-66718-7), COIL-GW-MW-1-88-0-201110 (320-66718-8), COIL-GW-MW-2-90-0-201110 (320-66718-9), COIL-GW-MW-7-90-0-201111 (320-66718-10), COIL-GW-MW-9-90R-0-201111 (320-66718-11), COIL-GW-MW-1-93-0-201110 (320-66718-12), COIL-GW-MW-3-94-0-201111 (320-66718-13), COIL-GW-MW-4-94-0-201111 (320-66718-14), COIL-GW-MW-7-94-0-201110 (320-66718-15), COIL-GW-MW-8-94-0-201110 (320-66718-16), COIL-GW-MW-9-94-0-201109 (320-66718-17), COIL-GW-MW-4-81-0-201110 (320-66718-19), COIL-GW-PW-112-0-201112 (320-66718-30), COIL-GW-PW-113-0-201112 (320-66718-31), COIL-GW-Bldg 1 Coffee Sink-0-201112 (320-66718-36), (320-66718-A-1 MS) and (320-66718-A-1 MSD).

Method 3535: A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: due to the matrix, the following samples were prepared using a 1.00 mL aliquot without extracting via the SPE process: COIL-GW-MW-1-79-0-201111 (320-66718-1), COIL-GW-MW-3-79-0-201109 (320-66718-2), COIL-GW-MW-3-81-0-201110 (320-66718-7), COIL-GW-MW-1-88-0-201110 (320-66718-8), COIL-GW-MW-2-90-0-201110 (320-66718-9), COIL-GW-MW-7-90-0-201111 (320-66718-10), COIL-GW-MW-9-90R-0-201111 (320-66718-11), COIL-GW-MW-1-93-0-201110 (320-66718-12), COIL-GW-MW-3-94-0-201111 (320-66718-13), COIL-GW-MW-4-94-0-201111 (320-66718-14), COIL-GW-MW-7-94-0-201110 (320-66718-15), COIL-GW-MW-8-94-0-201110 (320-66718-16), COIL-GW-MW-9-94-0-201109 (320-66718-17), COIL-GW-MW-4-81-0-201110 (320-66718-19), COIL-GW-PW-112-0-201112 (320-66718-30), COIL-GW-PW-113-0-201112 (320-66718-31), COIL-GW-Bldg 1 Coffee Sink-0-201112 (320-66718-36), (320-66718-A-1 MS) and (320-66718-A-1 MSD). This is the equivalent of a 250x dilution prior to submitting extracts for analysis, detection limits are adjusted accordingly. Note, as this dilution is done at the extraction level, the dilution factor on final data will still reflect 1x dilution unless further dilution is performed during analysis. Batch QC samples prepared with the samples were prepared in the same manner as the samples. However, the inital volume listed in the LIMS is set at the normal 250mL extraction volume to reflect the methods standard detection limits. Samples are associated to prep batch 320-434277.

Method 3535: Samples contain a small amount of dark brown sediment. COIL-GW-MW-1-81-DB-201110 (320-66718-6)

Method 3535: Samples contain a small amount of reddish-brown sediment. COIL-GW-MW-4-79-0-201109 (320-66718-3), COIL-GW-MW-5-79-0-201109 (320-66718-4), COIL-GW-MW-1-81-0-201110 (320-66718-5), COIL-GW-MW-2-81-0-201109 (320-66718-18), COIL-GW-MW-5-81-0-201109 (320-66718-20) and COIL-GW-22610-0-201111 (320-66718-22)

Method 3535: The following samples were observed to be yellow and contain particulate matter prior to extraction: COIL-GW-MW-1-79-0-201111 (320-66718-1), COIL-GW-MW-1-88-0-201110 (320-66718-8), COIL-GW-MW-2-90-0-201110 (320-66718-9), COIL-GW-MW-4-81-0-201110 (320-66718-19), (320-66718-A-1 MS) and (320-66718-A-1 MSD).

Method 3535: The following samples were observed to contain sediment at the bottom of the bottle prior to extraction: COIL-GW-MW-9-90R-0-201111 (320-66718-11), COIL-GW-MW-3-94-0-201111 (320-66718-13), COIL-GW-MW-4-94-0-201111 (320-66718-14) and COIL-GW-MW-7-94-0-201110 (320-66718-15).

Method 3535: A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: due to the matrix, the following samples were prepared using a 1 mL aliquot without extracting via the SPE process: COIL-GW-MW-1-79-0-201111 (320-66718-1), COIL-GW-MW-3-79-0-201109 (320-66718-2), COIL-GW-MW-3-81-0-201110 (320-66718-7), COIL-GW-MW-1-88-0-201110 (320-66718-8), COIL-GW-MW-2-90-0-201110 (320-66718-9), COIL-GW-MW-7-90-0-201111 (320-66718-10), COIL-GW-MW-9-90R-0-201111 (320-66718-11), COIL-GW-MW-1-93-0-201110 (320-66718-12), COIL-GW-MW-3-94-0-201111 (320-66718-13), COIL-GW-MW-4-94-0-201111 (320-66718-14), COIL-GW-MW-7-94-0-201110 (320-66718-15), COIL-GW-MW-8-94-0-201110 (320-66718-16), COIL-GW-MW-9-94-0-201109 (320-66718-17), COIL-GW-MW-4-81-0-201110 (320-66718-19), COIL-GW-PW-112-0-201112 (320-66718-30), COIL-GW-PW-113-0-201112 (320-66718-31), COIL-GW-Bldg 1 Coffee Sink-0-201112 (320-66718-36), (320-66718-A-1 MS) and (320-66718-A-1 MSD). This is the equivalent of a 250x dilution prior to submitting extracts for analysis, detection limits are adjusted accordingly. Note, as this dilution is done at the extraction level dilution factor on final data will still reflect 1x dilution unless further dilution is performed during analysis.

Method 3535: The following sample was re-prepared outside of preparation holding time due to confirm PFOS hit in the equipment

Job ID: 320-66718-1 (Continued)

Laboratory: Eurofins TestAmerica, Sacramento (Continued)

blank:COIL-GW-MW-7-94-EB01-0-201110 (320-66718-39).

Method 3535: Elevated reporting limits are provided for the following sample due to insufficient sample provided for preparation: COIL-GW-MW-7-94-EB01-0-201110 (320-66718-39). Sample bottle contained 246.6mL instead of the 250mL normally used for extraction.

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

Detection Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Client Sample ID: COIL-GW-MW-1-79-0-201111 — Lab Sample ID: 320-66718-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	2200		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	1000		500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	13000		500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	3300		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	40000		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorobutanoic acid - DL	110000		6300	3000	ng/L	5		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-3-79-0-201109 — Lab Sample ID: 320-66718-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	16000		1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	590		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	600		500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	330	J	500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	1600		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	24000		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-4-79-0-201109 — Lab Sample ID: 320-66718-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	18		1.8	0.76	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	2.0		1.8	0.24	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	100		1.8	0.18	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	9.8		1.8	0.51	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	54		1.8	0.48	ng/L	1		537(Modified)	Total/NA
Perfluorobutanoic acid - DL	960		45	21	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-5-79-0-201109 — Lab Sample ID: 320-66718-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	120		4.6	2.2	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	4.5		1.8	0.78	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	0.46	J	1.8	0.25	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	10		1.8	0.18	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	2.2		1.8	0.52	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	10		1.8	0.49	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-1-81-0-201110 — Lab Sample ID: 320-66718-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	89		4.4	2.1	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	2.1		1.8	0.76	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	0.34	J	1.8	0.24	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	28		1.8	0.18	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	2.7		1.8	0.51	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	14		1.8	0.48	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-1-81-DB-201110 — Lab Sample ID: 320-66718-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	91		4.5	2.2	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	2.1		1.8	0.77	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	0.35	J	1.8	0.24	ng/L	1		537(Modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: COIL-GW-MW-1-81-DB-201110 (Continued) — Lab Sample ID: 320-66718-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid	26		1.8	0.18	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	2.9		1.8	0.52	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	14		1.8	0.49	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-3-81-0-201110 — Lab Sample ID: 320-66718-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	35000		1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	4700		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	890		500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	300	J	500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	11000		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	53000		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-1-88-0-201110 — Lab Sample ID: 320-66718-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	39000		1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	940		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	130	J	500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	2800		500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	2100		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	2600		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-2-90-0-201110 — Lab Sample ID: 320-66718-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	24000		1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	880		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	590		500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	1300		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	5600		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-7-90-0-201111 — Lab Sample ID: 320-66718-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	42000		1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	970		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	90	J I	500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	1900		500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	3900		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	27000		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-9-90R-0-201111 — Lab Sample ID: 320-66718-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	1400		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	230	J	500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	5500		500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	2000		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	50000		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorobutanoic acid - DL	510000		13000	6000	ng/L	10		537(Modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Client Sample ID: COIL-GW-MW-1-93-0-201110 — Lab Sample ID: 320-66718-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	7800		1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	250	J	500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	910		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	2800		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-3-94-0-201111 — Lab Sample ID: 320-66718-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	2300		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	270	J	500	68	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	3000		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorobutanoic acid - DL	1100000		25000	12000	ng/L	20		537(Modified)	Total/NA
Perfluorobutanesulfonic acid - DL	160000		10000	1000	ng/L	20		537(Modified)	Total/NA
Perfluorooctanesulfonic acid - DL	110000		10000	2700	ng/L	20		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-4-94-0-201111 — Lab Sample ID: 320-66718-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	28000		1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	900		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	160	J	500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	1500		500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	1300		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	15000		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-7-94-0-201110 — Lab Sample ID: 320-66718-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	21000		1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	400	J	500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	120	J	500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	780		500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	1600		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	13000		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-8-94-0-201110 — Lab Sample ID: 320-66718-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	15000		1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	400	J	500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	300	J	500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	230	J	500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	1200		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	17000		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-9-94-0-201109 — Lab Sample ID: 320-66718-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	35000		1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	690		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	200	J	500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	360	J	500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	2600		500	140	ng/L	1		537(Modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Client Sample ID: COIL-GW-MW-9-94-0-201109 (Continued) — Lab Sample ID: 320-66718-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	6300		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-2-81-0-201109 — Lab Sample ID: 320-66718-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	8.8		1.8	0.75	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	1.9		1.8	0.24	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	78		1.8	0.18	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	5.9		1.8	0.51	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	68		1.8	0.48	ng/L	1		537(Modified)	Total/NA
Perfluorobutanoic acid - DL	2200		44	21	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-4-81-0-201110 — Lab Sample ID: 320-66718-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	2200		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	230	J	500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	4900		500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	4500		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	19000		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorobutanoic acid - DL	200000		13000	6000	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-5-81-0-201109 — Lab Sample ID: 320-66718-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	36		4.3	2.1	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	4.1		1.7	0.73	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	0.45	J	1.7	0.23	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	4.6		1.7	0.17	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	1.4	J	1.7	0.49	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	11		1.7	0.47	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	5.1		1.7	0.73	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	0.46	J	1.7	0.23	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	10		1.7	0.17	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	2.0		1.7	0.49	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	7.2		1.7	0.46	ng/L	1		537(Modified)	Total/NA
Perfluorobutanoic acid - DL	910		43	21	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	230		4.5	2.2	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	10		1.8	0.77	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	0.27	J	1.8	0.24	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	10		1.8	0.18	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	3.4		1.8	0.52	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	16		1.8	0.49	ng/L	1		537(Modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	2.0		1.7	0.72	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	14		1.7	0.17	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	2.6		1.7	0.48	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	1.7		1.7	0.46	ng/L	1		537(Modified)	Total/NA
Perfluorobutanoic acid - DL	1800		42	20	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid	0.78	J	1.7	0.74	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	3.0		1.7	0.17	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	1.1	J	1.7	0.50	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	0.72	J	1.7	0.47	ng/L	1		537(Modified)	Total/NA
Perfluorobutanoic acid - DL	610		22	10	ng/L	5		537(Modified)	Total/NA

Client Sample ID: COIL-GW[redacted]-0-201111 — Lab Sample ID: 320-66718-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	1500		44	21	ng/L	10		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	11	J	17	1.7	ng/L	10		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	8.2	J	17	5.0	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-[redacted]-DB-201111 — Lab Sample ID: 320-66718-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	1500		45	21	ng/L	10		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	12	J	18	1.8	ng/L	10		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	8.0	J	18	5.1	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	1700		44	21	ng/L	10		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	14	J	17	1.7	ng/L	10		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	11	J	17	5.0	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	1700		43	21	ng/L	10		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	30		17	1.7	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-PW-11-0-201112 — Lab Sample ID: 320-66718-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	990		43	20	ng/L	10		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	5.8	J	17	1.7	ng/L	10		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	4.8	J	17	4.8	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-PW-112-0-201112 — Lab Sample ID: 320-66718-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	1200	J	1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	230	J	500	68	ng/L	1		537(Modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: COIL-GW-PW-112-0-201112 (Continued) — Lab Sample ID: 320-66718-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid	300	J	500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	6000		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-PW-113-0-201112 — Lab Sample ID: 320-66718-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	26000		1300	600	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	1400		500	210	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	1400		500	68	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	2300		500	50	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	2600		500	140	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	44000		500	140	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-PW-124-0-201112 — Lab Sample ID: 320-66718-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	570		42	20	ng/L	10		537(Modified)	Total/NA
Perfluorooctanoic acid	54		17	7.2	ng/L	10		537(Modified)	Total/NA
Perfluorononanoic acid	24		17	2.3	ng/L	10		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	9.4	J	17	1.7	ng/L	10		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	110		17	4.8	ng/L	10		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	1500		17	4.6	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-PW-37-0-201112 — Lab Sample ID: 320-66718-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	88		4.3	2.1	ng/L	1		537(Modified)	Total/NA
Perfluorooctanoic acid	12		1.7	0.73	ng/L	1		537(Modified)	Total/NA
Perfluorononanoic acid	1.0	J	1.7	0.23	ng/L	1		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	4.8		1.7	0.17	ng/L	1		537(Modified)	Total/NA
Perfluorohexanesulfonic acid	10		1.7	0.49	ng/L	1		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	72		1.7	0.47	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-PW-91-0-201112 — Lab Sample ID: 320-66718-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	1600		48	23	ng/L	10		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	12	J	19	1.9	ng/L	10		537(Modified)	Total/NA

Client Sample ID: COIL-GW-PW-94-0-201112 — Lab Sample ID: 320-66718-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid	5800		450	220	ng/L	100		537(Modified)	Total/NA
Perfluorobutanesulfonic acid	110	J	180	18	ng/L	100		537(Modified)	Total/NA
Perfluorooctanesulfonic acid	190		180	48	ng/L	100		537(Modified)	Total/NA

Client Sample ID: COIL-GW-Bldg 1 Coffee Sink-0-201112 — Lab Sample ID: 320-66718-36

No Detections.

Client Sample ID: COIL-GW-TRIP-0-201109 — Lab Sample ID: 320-66718-37

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Client Sample ID: COIL-GW-FB01-0-201111 — Lab Sample ID: 320-66718-38

No Detections.

Client Sample ID: COIL-GW-MW-7-94-EB01-0-201110 — Lab Sample ID: 320-66718-39

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	2.8		1.8	0.50	ng/L	1		537(Modified)	Total/NA

Client Sample ID: COIL-GW-MW-1-79-EB02-0-201111 — Lab Sample ID: 320-66718-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid	0.53	J	1.9	0.50	ng/L	1		537(Modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: COIL-GW-MW-1-79-0-201111

Lab Sample ID: 320-66718-1
Date Collected: 11/11/20 14:15
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	2200		500	210	ng/L		11/21/20 04:23	11/28/20 03:54	1
Perfluorononanoic acid	1000		500	68	ng/L		11/21/20 04:23	11/28/20 03:54	1
Perfluorobutanesulfonic acid	13000		500	50	ng/L		11/21/20 04:23	11/28/20 03:54	1
Perfluorohexanesulfonic acid	3300		500	140	ng/L		11/21/20 04:23	11/28/20 03:54	1
Perfluorooctanesulfonic acid	40000		500	140	ng/L		11/21/20 04:23	11/28/20 03:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*113*		*50 - 150*	*11/21/20 04:23*	*11/28/20 03:54*	*1*
13C5 PFNA	*106*		*50 - 150*	*11/21/20 04:23*	*11/28/20 03:54*	*1*
13C3 PFBS	*100*		*50 - 150*	*11/21/20 04:23*	*11/28/20 03:54*	*1*
18O2 PFHxS	*103*		*50 - 150*	*11/21/20 04:23*	*11/28/20 03:54*	*1*
13C4 PFOS	*103*		*50 - 150*	*11/21/20 04:23*	*11/28/20 03:54*	*1*

Method: 537(Modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	110000		6300	3000	ng/L		11/21/20 04:23	11/30/20 14:05	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*50 - 150*	*11/21/20 04:23*	*11/30/20 14:05*	*5*

Client Sample ID: COIL-GW-MW-3-79-0-201109

Lab Sample ID: 320-66718-2
Date Collected: 11/09/20 14:20
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	16000		1300	600	ng/L		11/21/20 04:23	11/28/20 04:22	1
Perfluorooctanoic acid	590		500	210	ng/L		11/21/20 04:23	11/28/20 04:22	1
Perfluorononanoic acid	600		500	68	ng/L		11/21/20 04:23	11/28/20 04:22	1
Perfluorobutanesulfonic acid	330	J	500	50	ng/L		11/21/20 04:23	11/28/20 04:22	1
Perfluorohexanesulfonic acid	1600		500	140	ng/L		11/21/20 04:23	11/28/20 04:22	1
Perfluorooctanesulfonic acid	24000		500	140	ng/L		11/21/20 04:23	11/28/20 04:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*128*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:22*	*1*
13C4 PFOA	*140*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:22*	*1*
13C5 PFNA	*134*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:22*	*1*
13C3 PFBS	*129*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:22*	*1*
18O2 PFHxS	*131*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:22*	*1*
13C4 PFOS	*135*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:22*	*1*

Client Sample ID: COIL-GW-MW-4-79-0-201109

Lab Sample ID: 320-66718-3
Date Collected: 11/09/20 12:45
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	18		1.8	0.76	ng/L		11/18/20 19:32	11/21/20 16:24	1
Perfluorononanoic acid	2.0		1.8	0.24	ng/L		11/18/20 19:32	11/21/20 16:24	1
Perfluorobutanesulfonic acid	100		1.8	0.18	ng/L		11/18/20 19:32	11/21/20 16:24	1
Perfluorohexanesulfonic acid	9.8		1.8	0.51	ng/L		11/18/20 19:32	11/21/20 16:24	1
Perfluorooctanesulfonic acid	54		1.8	0.48	ng/L		11/18/20 19:32	11/21/20 16:24	1

Client Sample ID: COIL-GW-MW-4-79-0-201109 — Lab Sample ID: 320-66718-3

Date Collected: 11/09/20 12:45
Date Received: 11/13/20 10:00
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	96		50 - 150	11/18/20 19:32	11/21/20 16:24	1
13C5 PFNA	97		50 - 150	11/18/20 19:32	11/21/20 16:24	1
13C3 PFBS	74		50 - 150	11/18/20 19:32	11/21/20 16:24	1
18O2 PFHxS	85		50 - 150	11/18/20 19:32	11/21/20 16:24	1
13C4 PFOS	89		50 - 150	11/18/20 19:32	11/21/20 16:24	1

Method: 537(Modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	960		45	21	ng/L		11/18/20 19:32	11/26/20 06:08	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	84		50 - 150	11/18/20 19:32	11/26/20 06:08	10

Client Sample ID: COIL-GW-MW-5-79-0-201109 — Lab Sample ID: 320-66718-4

Date Collected: 11/09/20 10:55
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	120		4.6	2.2	ng/L		11/18/20 19:32	11/21/20 16:34	1
Perfluorooctanoic acid	4.5		1.8	0.78	ng/L		11/18/20 19:32	11/21/20 16:34	1
Perfluorononanoic acid	0.46	J	1.8	0.25	ng/L		11/18/20 19:32	11/21/20 16:34	1
Perfluorobutanesulfonic acid	10		1.8	0.18	ng/L		11/18/20 19:32	11/21/20 16:34	1
Perfluorohexanesulfonic acid	2.2		1.8	0.52	ng/L		11/18/20 19:32	11/21/20 16:34	1
Perfluorooctanesulfonic acid	10		1.8	0.49	ng/L		11/18/20 19:32	11/21/20 16:34	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	72		50 - 150	11/18/20 19:32	11/21/20 16:34	1
13C4 PFOA	96		50 - 150	11/18/20 19:32	11/21/20 16:34	1
13C5 PFNA	94		50 - 150	11/18/20 19:32	11/21/20 16:34	1
13C3 PFBS	74		50 - 150	11/18/20 19:32	11/21/20 16:34	1
18O2 PFHxS	90		50 - 150	11/18/20 19:32	11/21/20 16:34	1
13C4 PFOS	89		50 - 150	11/18/20 19:32	11/21/20 16:34	1

Client Sample ID: COIL-GW-MW-1-81-0-201110 — Lab Sample ID: 320-66718-5

Date Collected: 11/10/20 13:35
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	89		4.4	2.1	ng/L		11/18/20 19:32	11/21/20 16:43	1
Perfluorooctanoic acid	2.1		1.8	0.76	ng/L		11/18/20 19:32	11/21/20 16:43	1
Perfluorononanoic acid	0.34	J	1.8	0.24	ng/L		11/18/20 19:32	11/21/20 16:43	1
Perfluorobutanesulfonic acid	28		1.8	0.18	ng/L		11/18/20 19:32	11/21/20 16:43	1
Perfluorohexanesulfonic acid	2.7		1.8	0.51	ng/L		11/18/20 19:32	11/21/20 16:43	1
Perfluorooctanesulfonic acid	14		1.8	0.48	ng/L		11/18/20 19:32	11/21/20 16:43	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	73		50 - 150	11/18/20 19:32	11/21/20 16:43	1
13C4 PFOA	92		50 - 150	11/18/20 19:32	11/21/20 16:43	1
13C5 PFNA	92		50 - 150	11/18/20 19:32	11/21/20 16:43	1
13C3 PFBS	69		50 - 150	11/18/20 19:32	11/21/20 16:43	1
18O2 PFHxS	86		50 - 150	11/18/20 19:32	11/21/20 16:43	1
13C4 PFOS	89		50 - 150	11/18/20 19:32	11/21/20 16:43	1

Client Sample ID: COIL-GW-MW-1-81-DB-201110 — Lab Sample ID: 320-66718-6

Date Collected: 11/10/20 13:35
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	91		4.5	2.2	ng/L		11/18/20 19:32	11/21/20 16:53	1
Perfluorooctanoic acid	2.1		1.8	0.77	ng/L		11/18/20 19:32	11/21/20 16:53	1
Perfluorononanoic acid	0.35	J	1.8	0.24	ng/L		11/18/20 19:32	11/21/20 16:53	1
Perfluorobutanesulfonic acid	26		1.8	0.18	ng/L		11/18/20 19:32	11/21/20 16:53	1
Perfluorohexanesulfonic acid	2.9		1.8	0.52	ng/L		11/18/20 19:32	11/21/20 16:53	1
Perfluorooctanesulfonic acid	14		1.8	0.49	ng/L		11/18/20 19:32	11/21/20 16:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*50 - 150*	*11/18/20 19:32*	*11/21/20 16:53*	*1*
13C4 PFOA	*95*		*50 - 150*	*11/18/20 19:32*	*11/21/20 16:53*	*1*
13C5 PFNA	*91*		*50 - 150*	*11/18/20 19:32*	*11/21/20 16:53*	*1*
13C3 PFBS	*78*		*50 - 150*	*11/18/20 19:32*	*11/21/20 16:53*	*1*
18O2 PFHxS	*86*		*50 - 150*	*11/18/20 19:32*	*11/21/20 16:53*	*1*
13C4 PFOS	*87*		*50 - 150*	*11/18/20 19:32*	*11/21/20 16:53*	*1*

Client Sample ID: COIL-GW-MW-3-81-0-201110 — Lab Sample ID: 320-66718-7

Date Collected: 11/10/20 11:45
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	35000		1300	600	ng/L		11/21/20 04:23	11/28/20 04:31	1
Perfluorooctanoic acid	4700		500	210	ng/L		11/21/20 04:23	11/28/20 04:31	1
Perfluorononanoic acid	890		500	68	ng/L		11/21/20 04:23	11/28/20 04:31	1
Perfluorobutanesulfonic acid	300	J	500	50	ng/L		11/21/20 04:23	11/28/20 04:31	1
Perfluorohexanesulfonic acid	11000		500	140	ng/L		11/21/20 04:23	11/28/20 04:31	1
Perfluorooctanesulfonic acid	53000		500	140	ng/L		11/21/20 04:23	11/28/20 04:31	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:31*	*1*
13C4 PFOA	*110*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:31*	*1*
13C5 PFNA	*102*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:31*	*1*
13C3 PFBS	*100*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:31*	*1*
18O2 PFHxS	*103*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:31*	*1*
13C4 PFOS	*104*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:31*	*1*

Client Sample ID: COIL-GW-MW-1-88-0-201110 — Lab Sample ID: 320-66718-8

Date Collected: 11/10/20 16:00
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	39000		1300	600	ng/L		11/21/20 04:23	11/28/20 04:41	1
Perfluorooctanoic acid	940		500	210	ng/L		11/21/20 04:23	11/28/20 04:41	1
Perfluorononanoic acid	130	J	500	68	ng/L		11/21/20 04:23	11/28/20 04:41	1
Perfluorobutanesulfonic acid	2800		500	50	ng/L		11/21/20 04:23	11/28/20 04:41	1
Perfluorohexanesulfonic acid	2100		500	140	ng/L		11/21/20 04:23	11/28/20 04:41	1
Perfluorooctanesulfonic acid	2600		500	140	ng/L		11/21/20 04:23	11/28/20 04:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*97*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:41*	*1*
13C4 PFOA	*109*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:41*	*1*
13C5 PFNA	*107*		*50 - 150*	*11/21/20 04:23*	*11/28/20 04:41*	*1*

Client Sample ID: COIL-GW-MW-1-88-0-201110

Lab Sample ID: 320-66718-8

Date Collected: 11/10/20 16:00
Matrix: Water
Date Received: 11/13/20 10:00

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	105		50 - 150	11/21/20 04:23	11/28/20 04:41	1
18O2 PFHxS	104		50 - 150	11/21/20 04:23	11/28/20 04:41	1
13C4 PFOS	104		50 - 150	11/21/20 04:23	11/28/20 04:41	1

Client Sample ID: COIL-GW-MW-2-90-0-201110

Lab Sample ID: 320-66718-9

Date Collected: 11/10/20 10:45
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	24000		1300	600	ng/L		11/21/20 04:23	11/28/20 04:50	1
Perfluorooctanoic acid	880		500	210	ng/L		11/21/20 04:23	11/28/20 04:50	1
Perfluorononanoic acid	ND		500	68	ng/L		11/21/20 04:23	11/28/20 04:50	1
Perfluorobutanesulfonic acid	590		500	50	ng/L		11/21/20 04:23	11/28/20 04:50	1
Perfluorohexanesulfonic acid	1300		500	140	ng/L		11/21/20 04:23	11/28/20 04:50	1
Perfluorooctanesulfonic acid	5600		500	140	ng/L		11/21/20 04:23	11/28/20 04:50	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	103		50 - 150	11/21/20 04:23	11/28/20 04:50	1
13C4 PFOA	119		50 - 150	11/21/20 04:23	11/28/20 04:50	1
13C5 PFNA	113		50 - 150	11/21/20 04:23	11/28/20 04:50	1
13C3 PFBS	105		50 - 150	11/21/20 04:23	11/28/20 04:50	1
18O2 PFHxS	119		50 - 150	11/21/20 04:23	11/28/20 04:50	1
13C4 PFOS	111		50 - 150	11/21/20 04:23	11/28/20 04:50	1

Client Sample ID: COIL-GW-MW-7-90-0-201111

Lab Sample ID: 320-66718-10

Date Collected: 11/11/20 12:35
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	42000		1300	600	ng/L		11/21/20 04:23	11/28/20 04:59	1
Perfluorooctanoic acid	970		500	210	ng/L		11/21/20 04:23	11/28/20 04:59	1
Perfluorononanoic acid	90	J I	500	68	ng/L		11/21/20 04:23	11/28/20 04:59	1
Perfluorobutanesulfonic acid	1900		500	50	ng/L		11/21/20 04:23	11/28/20 04:59	1
Perfluorohexanesulfonic acid	3900		500	140	ng/L		11/21/20 04:23	11/28/20 04:59	1
Perfluorooctanesulfonic acid	27000		500	140	ng/L		11/21/20 04:23	11/28/20 04:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	105		50 - 150	11/21/20 04:23	11/28/20 04:59	1
13C4 PFOA	120		50 - 150	11/21/20 04:23	11/28/20 04:59	1
13C5 PFNA	110		50 - 150	11/21/20 04:23	11/28/20 04:59	1
13C3 PFBS	109		50 - 150	11/21/20 04:23	11/28/20 04:59	1
18O2 PFHxS	113		50 - 150	11/21/20 04:23	11/28/20 04:59	1
13C4 PFOS	118		50 - 150	11/21/20 04:23	11/28/20 04:59	1

Client Sample ID: COIL-GW-MW-9-90R-0-201111 — Lab Sample ID: 320-66718-11

Date Collected: 11/11/20 11:25
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	1400		500	210	ng/L		11/21/20 04:23	11/28/20 05:18	1
Perfluorononanoic acid	230	J	500	68	ng/L		11/21/20 04:23	11/28/20 05:18	1
Perfluorobutanesulfonic acid	5500		500	50	ng/L		11/21/20 04:23	11/28/20 05:18	1
Perfluorohexanesulfonic acid	2000		500	140	ng/L		11/21/20 04:23	11/28/20 05:18	1
Perfluorooctanesulfonic acid	50000		500	140	ng/L		11/21/20 04:23	11/28/20 05:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*112*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:18*	*1*
13C5 PFNA	*105*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:18*	*1*
13C3 PFBS	*105*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:18*	*1*
18O2 PFHxS	*106*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:18*	*1*
13C4 PFOS	*107*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:18*	*1*

Method: 537(Modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	510000		13000	6000	ng/L		11/21/20 04:23	11/30/20 14:33	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*50 - 150*	*11/21/20 04:23*	*11/30/20 14:33*	*10*

Client Sample ID: COIL-GW-MW-1-93-0-201110 — Lab Sample ID: 320-66718-12

Date Collected: 11/10/20 14:10
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	7800		1300	600	ng/L		11/21/20 04:23	11/28/20 05:28	1
Perfluorooctanoic acid	ND		500	210	ng/L		11/21/20 04:23	11/28/20 05:28	1
Perfluorononanoic acid	ND		500	68	ng/L		11/21/20 04:23	11/28/20 05:28	1
Perfluorobutanesulfonic acid	250	J	500	50	ng/L		11/21/20 04:23	11/28/20 05:28	1
Perfluorohexanesulfonic acid	910		500	140	ng/L		11/21/20 04:23	11/28/20 05:28	1
Perfluorooctanesulfonic acid	2800		500	140	ng/L		11/21/20 04:23	11/28/20 05:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:28*	*1*
13C4 PFOA	*123*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:28*	*1*
13C5 PFNA	*113*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:28*	*1*
13C3 PFBS	*110*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:28*	*1*
18O2 PFHxS	*117*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:28*	*1*
13C4 PFOS	*113*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:28*	*1*

Client Sample ID: COIL-GW-MW-3-94-0-201111 — Lab Sample ID: 320-66718-13

Date Collected: 11/11/20 13:00
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	2300		500	210	ng/L		11/21/20 04:23	11/28/20 05:37	1
Perfluorononanoic acid	270	J	500	68	ng/L		11/21/20 04:23	11/28/20 05:37	1
Perfluorohexanesulfonic acid	3000		500	140	ng/L		11/21/20 04:23	11/28/20 05:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*110*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:37*	*1*
13C5 PFNA	*104*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:37*	*1*

Client Sample ID: COIL-GW-MW-3-94-0-201111 — Lab Sample ID: 320-66718-13

Date Collected: 11/11/20 13:00 — **Matrix: Water**
Date Received: 11/13/20 10:00

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	108		50 - 150	11/21/20 04:23	11/28/20 05:37	1

Method: 537(Modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	1100000		25000	12000	ng/L		11/21/20 04:23	11/30/20 14:52	20
Perfluorobutanesulfonic acid	160000		10000	1000	ng/L		11/21/20 04:23	11/30/20 14:52	20
Perfluorooctanesulfonic acid	110000		10000	2700	ng/L		11/21/20 04:23	11/30/20 14:52	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	93		50 - 150	11/21/20 04:23	11/30/20 14:52	20
13C3 PFBS	93		50 - 150	11/21/20 04:23	11/30/20 14:52	20
13C4 PFOS	96		50 - 150	11/21/20 04:23	11/30/20 14:52	20

Client Sample ID: COIL-GW-MW-4-94-0-201111 — Lab Sample ID: 320-66718-14

Date Collected: 11/11/20 12:00 — **Matrix: Water**
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	28000		1300	600	ng/L		11/21/20 04:23	11/28/20 05:46	1
Perfluorooctanoic acid	900		500	210	ng/L		11/21/20 04:23	11/28/20 05:46	1
Perfluorononanoic acid	160	J	500	68	ng/L		11/21/20 04:23	11/28/20 05:46	1
Perfluorobutanesulfonic acid	1500		500	50	ng/L		11/21/20 04:23	11/28/20 05:46	1
Perfluorohexanesulfonic acid	1300		500	140	ng/L		11/21/20 04:23	11/28/20 05:46	1
Perfluorooctanesulfonic acid	15000		500	140	ng/L		11/21/20 04:23	11/28/20 05:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	106		50 - 150	11/21/20 04:23	11/28/20 05:46	1
13C4 PFOA	117		50 - 150	11/21/20 04:23	11/28/20 05:46	1
13C5 PFNA	112		50 - 150	11/21/20 04:23	11/28/20 05:46	1
13C3 PFBS	110		50 - 150	11/21/20 04:23	11/28/20 05:46	1
18O2 PFHxS	116		50 - 150	11/21/20 04:23	11/28/20 05:46	1
13C4 PFOS	116		50 - 150	11/21/20 04:23	11/28/20 05:46	1

Client Sample ID: COIL-GW-MW-7-94-0-201110 — Lab Sample ID: 320-66718-15

Date Collected: 11/10/20 08:40 — **Matrix: Water**
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	21000		1300	600	ng/L		11/21/20 04:23	11/28/20 05:56	1
Perfluorooctanoic acid	400	J	500	210	ng/L		11/21/20 04:23	11/28/20 05:56	1
Perfluorononanoic acid	120	J	500	68	ng/L		11/21/20 04:23	11/28/20 05:56	1
Perfluorobutanesulfonic acid	780		500	50	ng/L		11/21/20 04:23	11/28/20 05:56	1
Perfluorohexanesulfonic acid	1600		500	140	ng/L		11/21/20 04:23	11/28/20 05:56	1
Perfluorooctanesulfonic acid	13000		500	140	ng/L		11/21/20 04:23	11/28/20 05:56	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	99		50 - 150	11/21/20 04:23	11/28/20 05:56	1
13C4 PFOA	115		50 - 150	11/21/20 04:23	11/28/20 05:56	1
13C5 PFNA	110		50 - 150	11/21/20 04:23	11/28/20 05:56	1
13C3 PFBS	107		50 - 150	11/21/20 04:23	11/28/20 05:56	1
18O2 PFHxS	111		50 - 150	11/21/20 04:23	11/28/20 05:56	1

Client Sample ID: COIL-GW-MW-7-94-0-201110

Lab Sample ID: 320-66718-15
Matrix: Water

Date Collected: 11/10/20 08:40
Date Received: 11/13/20 10:00

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*105*		*50 - 150*	*11/21/20 04:23*	*11/28/20 05:56*	*1*

Client Sample ID: COIL-GW-MW-8-94-0-201110

Lab Sample ID: 320-66718-16
Matrix: Water

Date Collected: 11/10/20 08:00
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	15000		1300	600	ng/L		11/21/20 04:23	11/28/20 06:05	1
Perfluorooctanoic acid	400	J	500	210	ng/L		11/21/20 04:23	11/28/20 06:05	1
Perfluorononanoic acid	300	J	500	68	ng/L		11/21/20 04:23	11/28/20 06:05	1
Perfluorobutanesulfonic acid	230	J	500	50	ng/L		11/21/20 04:23	11/28/20 06:05	1
Perfluorohexanesulfonic acid	1200		500	140	ng/L		11/21/20 04:23	11/28/20 06:05	1
Perfluorooctanesulfonic acid	17000		500	140	ng/L		11/21/20 04:23	11/28/20 06:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:05*	*1*
13C4 PFOA	*116*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:05*	*1*
13C5 PFNA	*111*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:05*	*1*
13C3 PFBS	*104*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:05*	*1*
18O2 PFHxS	*109*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:05*	*1*
13C4 PFOS	*108*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:05*	*1*

Client Sample ID: COIL-GW-MW-9-94-0-201109

Lab Sample ID: 320-66718-17
Matrix: Water

Date Collected: 11/09/20 16:30
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	35000		1300	600	ng/L		11/21/20 04:23	11/28/20 06:15	1
Perfluorooctanoic acid	690		500	210	ng/L		11/21/20 04:23	11/28/20 06:15	1
Perfluorononanoic acid	200	J	500	68	ng/L		11/21/20 04:23	11/28/20 06:15	1
Perfluorobutanesulfonic acid	360	J	500	50	ng/L		11/21/20 04:23	11/28/20 06:15	1
Perfluorohexanesulfonic acid	2600		500	140	ng/L		11/21/20 04:23	11/28/20 06:15	1
Perfluorooctanesulfonic acid	6300		500	140	ng/L		11/21/20 04:23	11/28/20 06:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:15*	*1*
13C4 PFOA	*114*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:15*	*1*
13C5 PFNA	*112*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:15*	*1*
13C3 PFBS	*99*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:15*	*1*
18O2 PFHxS	*109*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:15*	*1*
13C4 PFOS	*114*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:15*	*1*

Client Sample ID: COIL-GW-MW-2-81-0-201109

Lab Sample ID: 320-66718-18
Matrix: Water

Date Collected: 11/09/20 15:30
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	8.8		1.8	0.75	ng/L		11/18/20 19:32	11/21/20 17:21	1
Perfluorononanoic acid	1.9		1.8	0.24	ng/L		11/18/20 19:32	11/21/20 17:21	1

Client Sample ID: COIL-GW-MW-2-81-0-201109 — Lab Sample ID: 320-66718-18

Date Collected: 11/09/20 15:30
Date Received: 11/13/20 10:00
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	78		1.8	0.18	ng/L		11/18/20 19:32	11/21/20 17:21	1
Perfluorohexanesulfonic acid	5.9		1.8	0.51	ng/L		11/18/20 19:32	11/21/20 17:21	1
Perfluorooctanesulfonic acid	68		1.8	0.48	ng/L		11/18/20 19:32	11/21/20 17:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*93*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:21*	*1*
13C5 PFNA	*94*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:21*	*1*
13C3 PFBS	*76*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:21*	*1*
18O2 PFHxS	*85*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:21*	*1*
13C4 PFOS	*82*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:21*	*1*

Method: 537(Modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	2200		44	21	ng/L		11/18/20 19:32	11/26/20 06:17	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77*		*50 - 150*	*11/18/20 19:32*	*11/26/20 06:17*	*10*

Client Sample ID: COIL-GW-MW-4-81-0-201110 — Lab Sample ID: 320-66718-19

Date Collected: 11/10/20 10:00
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	2200		500	210	ng/L		11/21/20 04:23	11/28/20 06:24	1
Perfluorononanoic acid	230	J	500	68	ng/L		11/21/20 04:23	11/28/20 06:24	1
Perfluorobutanesulfonic acid	4900		500	50	ng/L		11/21/20 04:23	11/28/20 06:24	1
Perfluorohexanesulfonic acid	4500		500	140	ng/L		11/21/20 04:23	11/28/20 06:24	1
Perfluorooctanesulfonic acid	19000		500	140	ng/L		11/21/20 04:23	11/28/20 06:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*116*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:24*	*1*
13C5 PFNA	*117*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:24*	*1*
13C3 PFBS	*106*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:24*	*1*
18O2 PFHxS	*108*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:24*	*1*
13C4 PFOS	*112*		*50 - 150*	*11/21/20 04:23*	*11/28/20 06:24*	*1*

Method: 537(Modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	200000		13000	6000	ng/L		11/21/20 04:23	11/30/20 14:42	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98*		*50 - 150*	*11/21/20 04:23*	*11/30/20 14:42*	*10*

Client Sample ID: COIL-GW-MW-5-81-0-201109 — Lab Sample ID: 320-66718-20

Date Collected: 11/09/20 09:10
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	36		4.3	2.1	ng/L		11/18/20 19:32	11/21/20 17:30	1
Perfluorooctanoic acid	4.1		1.7	0.73	ng/L		11/18/20 19:32	11/21/20 17:30	1
Perfluorononanoic acid	0.45	J	1.7	0.23	ng/L		11/18/20 19:32	11/21/20 17:30	1
Perfluorobutanesulfonic acid	4.6		1.7	0.17	ng/L		11/18/20 19:32	11/21/20 17:30	1

Client Sample ID: COIL-GW-MW-5-81-0-201109

Lab Sample ID: 320-66718-20
Matrix: Water

Date Collected: 11/09/20 09:10
Date Received: 11/13/20 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	1.4	J	1.7	0.49	ng/L		11/18/20 19:32	11/21/20 17:30	1
Perfluorooctanesulfonic acid	11		1.7	0.47	ng/L		11/18/20 19:32	11/21/20 17:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*72*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:30*	*1*
13C4 PFOA	*99*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:30*	*1*
13C5 PFNA	*98*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:30*	*1*
13C3 PFBS	*75*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:30*	*1*
18O2 PFHxS	*89*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:30*	*1*
13C4 PFOS	*90*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:30*	*1*

Client Sample ID: COIL-GW[redacted]-0-201111

Lab Sample ID: 320-66718-21
Matrix: Water

Date Collected: 11/11/20 16:05
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	5.1		1.7	0.73	ng/L		11/18/20 19:32	11/21/20 17:40	1
Perfluorononanoic acid	0.46	J	1.7	0.23	ng/L		11/18/20 19:32	11/21/20 17:40	1
Perfluorobutanesulfonic acid	10		1.7	0.17	ng/L		11/18/20 19:32	11/21/20 17:40	1
Perfluorohexanesulfonic acid	2.0		1.7	0.49	ng/L		11/18/20 19:32	11/21/20 17:40	1
Perfluorooctanesulfonic acid	7.2		1.7	0.46	ng/L		11/18/20 19:32	11/21/20 17:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*98*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:40*	*1*
13C5 PFNA	*96*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:40*	*1*
13C3 PFBS	*79*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:40*	*1*
18O2 PFHxS	*93*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:40*	*1*
13C4 PFOS	*91*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:40*	*1*

Method: 537(Modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	910		43	21	ng/L		11/18/20 19:32	11/26/20 06:36	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83*		*50 - 150*	*11/18/20 19:32*	*11/26/20 06:36*	*10*

Client Sample ID: COIL-GW-[redacted]-0-201111

Lab Sample ID: 320-66718-22
Matrix: Water

Date Collected: 11/11/20 15:05
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	230		4.5	2.2	ng/L		11/18/20 19:32	11/21/20 17:49	1
Perfluorooctanoic acid	10		1.8	0.77	ng/L		11/18/20 19:32	11/21/20 17:49	1
Perfluorononanoic acid	0.27	J	1.8	0.24	ng/L		11/18/20 19:32	11/21/20 17:49	1
Perfluorobutanesulfonic acid	10		1.8	0.18	ng/L		11/18/20 19:32	11/21/20 17:49	1
Perfluorohexanesulfonic acid	3.4		1.8	0.52	ng/L		11/18/20 19:32	11/21/20 17:49	1
Perfluorooctanesulfonic acid	16		1.8	0.49	ng/L		11/18/20 19:32	11/21/20 17:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*74*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:49*	*1*
13C4 PFOA	*92*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:49*	*1*
13C5 PFNA	*93*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:49*	*1*

Client Sample ID: COIL-GW-[redacted]-0-201111

Lab Sample ID: 320-66718-22
Date Collected: 11/11/20 15:05
Matrix: Water
Date Received: 11/13/20 10:00

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*72*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:49*	*1*
18O2 PFHxS	*89*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:49*	*1*
13C4 PFOS	*89*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:49*	*1*

Client Sample ID: COIL-GW-[redacted]-0-201111

Lab Sample ID: 320-66718-23
Date Collected: 11/11/20 15:25
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	2.0		1.7	0.72	ng/L		11/18/20 19:32	11/21/20 17:58	1
Perfluorononanoic acid	ND		1.7	0.23	ng/L		11/18/20 19:32	11/21/20 17:58	1
Perfluorobutanesulfonic acid	14		1.7	0.17	ng/L		11/18/20 19:32	11/21/20 17:58	1
Perfluorohexanesulfonic acid	2.6		1.7	0.48	ng/L		11/18/20 19:32	11/21/20 17:58	1
Perfluorooctanesulfonic acid	1.7		1.7	0.46	ng/L		11/18/20 19:32	11/21/20 17:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*95*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:58*	*1*
13C5 PFNA	*90*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:58*	*1*
13C3 PFBS	*78*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:58*	*1*
18O2 PFHxS	*90*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:58*	*1*
13C4 PFOS	*88*		*50 - 150*	*11/18/20 19:32*	*11/21/20 17:58*	*1*

Method: 537(Modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	1800		42	20	ng/L		11/18/20 19:32	11/26/20 06:45	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*79*		*50 - 150*	*11/18/20 19:32*	*11/26/20 06:45*	*10*

Client Sample ID: COIL-GW-[redacted]-0-201111

Lab Sample ID: 320-66718-24
Date Collected: 11/11/20 15:35
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid	0.78	J	1.7	0.74	ng/L		11/18/20 19:32	11/21/20 18:27	1
Perfluorononanoic acid	ND		1.7	0.24	ng/L		11/18/20 19:32	11/21/20 18:27	1
Perfluorobutanesulfonic acid	3.0		1.7	0.17	ng/L		11/18/20 19:32	11/21/20 18:27	1
Perfluorohexanesulfonic acid	1.1	J	1.7	0.50	ng/L		11/18/20 19:32	11/21/20 18:27	1
Perfluorooctanesulfonic acid	0.72	J	1.7	0.47	ng/L		11/18/20 19:32	11/21/20 18:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*96*		*50 - 150*	*11/18/20 19:32*	*11/21/20 18:27*	*1*
13C5 PFNA	*94*		*50 - 150*	*11/18/20 19:32*	*11/21/20 18:27*	*1*
13C3 PFBS	*81*		*50 - 150*	*11/18/20 19:32*	*11/21/20 18:27*	*1*
18O2 PFHxS	*94*		*50 - 150*	*11/18/20 19:32*	*11/21/20 18:27*	*1*
13C4 PFOS	*90*		*50 - 150*	*11/18/20 19:32*	*11/21/20 18:27*	*1*

Method: 537(Modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	610		22	10	ng/L		11/18/20 19:32	11/26/20 05:39	5

Client Sample ID: COIL-GW-[redacted]-0-201111

Lab Sample ID: 320-66718-24
Date Collected: 11/11/20 15:35
Matrix: Water
Date Received: 11/13/20 10:00

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	84		50 - 150	11/18/20 19:32	11/26/20 05:39	5

Client Sample ID: COIL-GW-[redacted]-0-201111

Lab Sample ID: 320-66718-25
Date Collected: 11/11/20 15:55
Matrix: Water
Date Received: 11/13/20 10:00

6

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	1500		44	21	ng/L		11/19/20 21:00	11/26/20 02:41	10
Perfluorooctanoic acid	ND		17	7.4	ng/L		11/19/20 21:00	11/26/20 02:41	10
Perfluorononanoic acid	ND		17	2.3	ng/L		11/19/20 21:00	11/26/20 02:41	10
Perfluorobutanesulfonic acid	11	J	17	1.7	ng/L		11/19/20 21:00	11/26/20 02:41	10
Perfluorohexanesulfonic acid	8.2	J	17	5.0	ng/L		11/19/20 21:00	11/26/20 02:41	10
Perfluorooctanesulfonic acid	ND		17	4.7	ng/L		11/19/20 21:00	11/26/20 02:41	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	89		50 - 150	11/19/20 21:00	11/26/20 02:41	10
13C4 PFOA	106		50 - 150	11/19/20 21:00	11/26/20 02:41	10
13C5 PFNA	102		50 - 150	11/19/20 21:00	11/26/20 02:41	10
13C3 PFBS	95		50 - 150	11/19/20 21:00	11/26/20 02:41	10
18O2 PFHxS	94		50 - 150	11/19/20 21:00	11/26/20 02:41	10
13C4 PFOS	100		50 - 150	11/19/20 21:00	11/26/20 02:41	10

Client Sample ID: COIL-GW-[redacted]-DB-201111

Lab Sample ID: 320-66718-26
Date Collected: 11/11/20 15:55
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	1500		45	21	ng/L		11/19/20 21:00	11/26/20 02:50	10
Perfluorooctanoic acid	ND		18	7.6	ng/L		11/19/20 21:00	11/26/20 02:50	10
Perfluorononanoic acid	ND		18	2.4	ng/L		11/19/20 21:00	11/26/20 02:50	10
Perfluorobutanesulfonic acid	12	J	18	1.8	ng/L		11/19/20 21:00	11/26/20 02:50	10
Perfluorohexanesulfonic acid	8.0	J	18	5.1	ng/L		11/19/20 21:00	11/26/20 02:50	10
Perfluorooctanesulfonic acid	ND		18	4.8	ng/L		11/19/20 21:00	11/26/20 02:50	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	90		50 - 150	11/19/20 21:00	11/26/20 02:50	10
13C4 PFOA	109		50 - 150	11/19/20 21:00	11/26/20 02:50	10
13C5 PFNA	108		50 - 150	11/19/20 21:00	11/26/20 02:50	10
13C3 PFBS	91		50 - 150	11/19/20 21:00	11/26/20 02:50	10
18O2 PFHxS	99		50 - 150	11/19/20 21:00	11/26/20 02:50	10
13C4 PFOS	103		50 - 150	11/19/20 21:00	11/26/20 02:50	10

Client Sample ID: COIL-GW-[redacted]-0-201111

Lab Sample ID: 320-66718-27
Date Collected: 11/11/20 15:45
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	1700		44	21	ng/L		11/19/20 21:00	11/26/20 02:59	10
Perfluorooctanoic acid	ND		17	7.4	ng/L		11/19/20 21:00	11/26/20 02:59	10
Perfluorononanoic acid	ND		17	2.4	ng/L		11/19/20 21:00	11/26/20 02:59	10

Client Sample ID: COIL-GW-[redacted]-0-201111

Lab Sample ID: 320-66718-27

Date Collected: 11/11/20 15:45
Date Received: 11/13/20 10:00
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid	14	J	17	1.7	ng/L		11/19/20 21:00	11/26/20 02:59	10
Perfluorohexanesulfonic acid	11	J	17	5.0	ng/L		11/19/20 21:00	11/26/20 02:59	10
Perfluorooctanesulfonic acid	ND		17	4.7	ng/L		11/19/20 21:00	11/26/20 02:59	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:59*	*10*
13C4 PFOA	*104*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:59*	*10*
13C5 PFNA	*101*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:59*	*10*
13C3 PFBS	*89*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:59*	*10*
18O2 PFHxS	*95*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:59*	*10*
13C4 PFOS	*96*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:59*	*10*

Client Sample ID: COIL-GW-[redacted]-0-201111

Lab Sample ID: 320-66718-28

Date Collected: 11/11/20 14:50
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	1700		43	21	ng/L		11/19/20 21:00	11/26/20 03:09	10
Perfluorooctanoic acid	ND		17	7.3	ng/L		11/19/20 21:00	11/26/20 03:09	10
Perfluorononanoic acid	ND		17	2.3	ng/L		11/19/20 21:00	11/26/20 03:09	10
Perfluorobutanesulfonic acid	30		17	1.7	ng/L		11/19/20 21:00	11/26/20 03:09	10
Perfluorohexanesulfonic acid	ND		17	4.9	ng/L		11/19/20 21:00	11/26/20 03:09	10
Perfluorooctanesulfonic acid	ND		17	4.6	ng/L		11/19/20 21:00	11/26/20 03:09	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:09*	*10*
13C4 PFOA	*106*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:09*	*10*
13C5 PFNA	*100*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:09*	*10*
13C3 PFBS	*90*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:09*	*10*
18O2 PFHxS	*94*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:09*	*10*
13C4 PFOS	*100*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:09*	*10*

Client Sample ID: COIL-GW-PW-11-0-201112

Lab Sample ID: 320-66718-29

Date Collected: 11/12/20 09:05
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	990		43	20	ng/L		11/19/20 21:00	11/26/20 03:18	10
Perfluorooctanoic acid	ND		17	7.2	ng/L		11/19/20 21:00	11/26/20 03:18	10
Perfluorononanoic acid	ND		17	2.3	ng/L		11/19/20 21:00	11/26/20 03:18	10
Perfluorobutanesulfonic acid	5.8	J	17	1.7	ng/L		11/19/20 21:00	11/26/20 03:18	10
Perfluorohexanesulfonic acid	4.8	J	17	4.8	ng/L		11/19/20 21:00	11/26/20 03:18	10
Perfluorooctanesulfonic acid	ND		17	4.6	ng/L		11/19/20 21:00	11/26/20 03:18	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:18*	*10*
13C4 PFOA	*107*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:18*	*10*
13C5 PFNA	*105*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:18*	*10*
13C3 PFBS	*92*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:18*	*10*
18O2 PFHxS	*86*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:18*	*10*
13C4 PFOS	*96*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:18*	*10*

Client Sample Results

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Client Sample ID: COIL-GW-PW-112-0-201112

Lab Sample ID: 320-66718-30
Matrix: Water

Date Collected: 11/12/20 09:15
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	1200	J	1300	600	ng/L		11/21/20 04:23	11/28/20 09:08	1
Perfluorooctanoic acid	ND		500	210	ng/L		11/21/20 04:23	11/28/20 09:08	1
Perfluorononanoic acid	230	J	500	68	ng/L		11/21/20 04:23	11/28/20 09:08	1
Perfluorobutanesulfonic acid	ND		500	50	ng/L		11/21/20 04:23	11/28/20 09:08	1
Perfluorohexanesulfonic acid	300	J	500	140	ng/L		11/21/20 04:23	11/28/20 09:08	1
Perfluorooctanesulfonic acid	6000		500	140	ng/L		11/21/20 04:23	11/28/20 09:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:08*	*1*
13C4 PFOA	*113*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:08*	*1*
13C5 PFNA	*111*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:08*	*1*
13C3 PFBS	*106*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:08*	*1*
18O2 PFHxS	*107*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:08*	*1*
13C4 PFOS	*112*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:08*	*1*

Client Sample ID: COIL-GW-PW-113-0-201112

Lab Sample ID: 320-66718-31
Matrix: Water

Date Collected: 11/12/20 08:55
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	26000		1300	600	ng/L		11/21/20 04:23	11/28/20 09:17	1
Perfluorooctanoic acid	1400		500	210	ng/L		11/21/20 04:23	11/28/20 09:17	1
Perfluorononanoic acid	1400		500	68	ng/L		11/21/20 04:23	11/28/20 09:17	1
Perfluorobutanesulfonic acid	2300		500	50	ng/L		11/21/20 04:23	11/28/20 09:17	1
Perfluorohexanesulfonic acid	2600		500	140	ng/L		11/21/20 04:23	11/28/20 09:17	1
Perfluorooctanesulfonic acid	44000		500	140	ng/L		11/21/20 04:23	11/28/20 09:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*103*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:17*	*1*
13C4 PFOA	*119*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:17*	*1*
13C5 PFNA	*115*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:17*	*1*
13C3 PFBS	*101*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:17*	*1*
18O2 PFHxS	*111*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:17*	*1*
13C4 PFOS	*106*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:17*	*1*

Client Sample ID: COIL-GW-PW-124-0-201112

Lab Sample ID: 320-66718-32
Matrix: Water

Date Collected: 11/12/20 09:20
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	570		42	20	ng/L		11/19/20 21:00	11/26/20 03:37	10
Perfluorooctanoic acid	54		17	7.2	ng/L		11/19/20 21:00	11/26/20 03:37	10
Perfluorononanoic acid	24		17	2.3	ng/L		11/19/20 21:00	11/26/20 03:37	10
Perfluorobutanesulfonic acid	9.4	J	17	1.7	ng/L		11/19/20 21:00	11/26/20 03:37	10
Perfluorohexanesulfonic acid	110		17	4.8	ng/L		11/19/20 21:00	11/26/20 03:37	10
Perfluorooctanesulfonic acid	1500		17	4.6	ng/L		11/19/20 21:00	11/26/20 03:37	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*72*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:37*	*10*
13C4 PFOA	*86*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:37*	*10*
13C5 PFNA	*83*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:37*	*10*

Client Sample ID: COIL-GW-PW-124-0-201112 — Lab Sample ID: 320-66718-32

Date Collected: 11/12/20 09:20
Date Received: 11/13/20 10:00
Matrix: Water

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*72*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:37*	*10*
18O2 PFHxS	*72*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:37*	*10*
13C4 PFOS	*74*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:37*	*10*

Client Sample ID: COIL-GW-PW-37-0-201112 — Lab Sample ID: 320-66718-33

Date Collected: 11/12/20 09:30
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	88		4.3	2.1	ng/L		11/19/20 21:00	11/26/20 01:53	1
Perfluorooctanoic acid	12		1.7	0.73	ng/L		11/19/20 21:00	11/26/20 01:53	1
Perfluorononanoic acid	1.0	J	1.7	0.23	ng/L		11/19/20 21:00	11/26/20 01:53	1
Perfluorobutanesulfonic acid	4.8		1.7	0.17	ng/L		11/19/20 21:00	11/26/20 01:53	1
Perfluorohexanesulfonic acid	10		1.7	0.49	ng/L		11/19/20 21:00	11/26/20 01:53	1
Perfluorooctanesulfonic acid	72		1.7	0.47	ng/L		11/19/20 21:00	11/26/20 01:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*50 - 150*	*11/19/20 21:00*	*11/26/20 01:53*	*1*
13C4 PFOA	*104*		*50 - 150*	*11/19/20 21:00*	*11/26/20 01:53*	*1*
13C5 PFNA	*97*		*50 - 150*	*11/19/20 21:00*	*11/26/20 01:53*	*1*
13C3 PFBS	*85*		*50 - 150*	*11/19/20 21:00*	*11/26/20 01:53*	*1*
18O2 PFHxS	*94*		*50 - 150*	*11/19/20 21:00*	*11/26/20 01:53*	*1*
13C4 PFOS	*97*		*50 - 150*	*11/19/20 21:00*	*11/26/20 01:53*	*1*

Client Sample ID: COIL-GW-PW-91-0-201112 — Lab Sample ID: 320-66718-34

Date Collected: 11/12/20 08:30
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	1600		48	23	ng/L		11/19/20 21:00	11/26/20 03:46	10
Perfluorooctanoic acid	ND		19	8.1	ng/L		11/19/20 21:00	11/26/20 03:46	10
Perfluorononanoic acid	ND		19	2.6	ng/L		11/19/20 21:00	11/26/20 03:46	10
Perfluorobutanesulfonic acid	12	J	19	1.9	ng/L		11/19/20 21:00	11/26/20 03:46	10
Perfluorohexanesulfonic acid	ND		19	5.4	ng/L		11/19/20 21:00	11/26/20 03:46	10
Perfluorooctanesulfonic acid	ND		19	5.1	ng/L		11/19/20 21:00	11/26/20 03:46	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:46*	*10*
13C4 PFOA	*106*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:46*	*10*
13C5 PFNA	*102*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:46*	*10*
13C3 PFBS	*95*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:46*	*10*
18O2 PFHxS	*93*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:46*	*10*
13C4 PFOS	*97*		*50 - 150*	*11/19/20 21:00*	*11/26/20 03:46*	*10*

Client Sample ID: COIL-GW-PW-94-0-201112

Lab Sample ID: 320-66718-35
Date Collected: 11/12/20 08:15
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	5800		450	220	ng/L		11/19/20 21:00	11/21/20 10:55	100
Perfluorooctanoic acid	ND		180	76	ng/L		11/19/20 21:00	11/21/20 10:55	100
Perfluorononanoic acid	ND		180	24	ng/L		11/19/20 21:00	11/21/20 10:55	100
Perfluorobutanesulfonic acid	110	J	180	18	ng/L		11/19/20 21:00	11/21/20 10:55	100
Perfluorohexanesulfonic acid	ND		180	51	ng/L		11/19/20 21:00	11/21/20 10:55	100
Perfluorooctanesulfonic acid	190		180	48	ng/L		11/19/20 21:00	11/21/20 10:55	100

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92*		*50 - 150*	*11/19/20 21:00*	*11/21/20 10:55*	*100*
13C4 PFOA	*111*		*50 - 150*	*11/19/20 21:00*	*11/21/20 10:55*	*100*
13C5 PFNA	*101*		*50 - 150*	*11/19/20 21:00*	*11/21/20 10:55*	*100*
13C3 PFBS	*91*		*50 - 150*	*11/19/20 21:00*	*11/21/20 10:55*	*100*
18O2 PFHxS	*88*		*50 - 150*	*11/19/20 21:00*	*11/21/20 10:55*	*100*
13C4 PFOS	*98*		*50 - 150*	*11/19/20 21:00*	*11/21/20 10:55*	*100*

Client Sample ID: COIL-GW-Bldg 1 Coffee Sink-0-201112

Lab Sample ID: 320-66718-36
Date Collected: 11/12/20 10:20
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		1300	600	ng/L		11/21/20 04:23	11/28/20 09:36	1
Perfluorooctanoic acid	ND		500	210	ng/L		11/21/20 04:23	11/28/20 09:36	1
Perfluorononanoic acid	ND		500	68	ng/L		11/21/20 04:23	11/28/20 09:36	1
Perfluorobutanesulfonic acid	ND		500	50	ng/L		11/21/20 04:23	11/28/20 09:36	1
Perfluorohexanesulfonic acid	ND		500	140	ng/L		11/21/20 04:23	11/28/20 09:36	1
Perfluorooctanesulfonic acid	ND		500	140	ng/L		11/21/20 04:23	11/28/20 09:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*105*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:36*	*1*
13C4 PFOA	*116*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:36*	*1*
13C5 PFNA	*115*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:36*	*1*
13C3 PFBS	*105*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:36*	*1*
18O2 PFHxS	*108*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:36*	*1*
13C4 PFOS	*113*		*50 - 150*	*11/21/20 04:23*	*11/28/20 09:36*	*1*

Client Sample ID: COIL-GW-TRIP-0-201109

Lab Sample ID: 320-66718-37
Date Collected: 11/12/20 07:00
Matrix: Water
Date Received: 11/13/20 10:00

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		4.1	2.0	ng/L		11/19/20 21:00	11/26/20 02:03	1
Perfluorooctanoic acid	ND		1.6	0.70	ng/L		11/19/20 21:00	11/26/20 02:03	1
Perfluorononanoic acid	ND		1.6	0.22	ng/L		11/19/20 21:00	11/26/20 02:03	1
Perfluorobutanesulfonic acid	ND		1.6	0.16	ng/L		11/19/20 21:00	11/26/20 02:03	1
Perfluorohexanesulfonic acid	ND		1.6	0.47	ng/L		11/19/20 21:00	11/26/20 02:03	1
Perfluorooctanesulfonic acid	ND		1.6	0.44	ng/L		11/19/20 21:00	11/26/20 02:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:03*	*1*
13C4 PFOA	*108*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:03*	*1*
13C5 PFNA	*101*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:03*	*1*

Client Sample ID: COIL-GW-TRIP-0-201109 — Lab Sample ID: 320-66718-37

Date Collected: 11/12/20 07:00
Date Received: 11/13/20 10:00
Matrix: Water

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*97*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:03*	*1*
18O2 PFHxS	*92*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:03*	*1*
13C4 PFOS	*102*		*50 - 150*	*11/19/20 21:00*	*11/26/20 02:03*	*1*

Client Sample ID: COIL-GW-FB01-0-201111 — Lab Sample ID: 320-66718-38

Date Collected: 11/09/20 11:40
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		4.3	2.1	ng/L		11/19/20 21:00	11/21/20 07:19	1
Perfluorooctanoic acid	ND		1.7	0.73	ng/L		11/19/20 21:00	11/21/20 07:19	1
Perfluorononanoic acid	ND		1.7	0.23	ng/L		11/19/20 21:00	11/21/20 07:19	1
Perfluorobutanesulfonic acid	ND		1.7	0.17	ng/L		11/19/20 21:00	11/21/20 07:19	1
Perfluorohexanesulfonic acid	ND		1.7	0.49	ng/L		11/19/20 21:00	11/21/20 07:19	1
Perfluorooctanesulfonic acid	ND		1.7	0.46	ng/L		11/19/20 21:00	11/21/20 07:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:19*	*1*
13C4 PFOA	*107*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:19*	*1*
13C5 PFNA	*98*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:19*	*1*
13C3 PFBS	*95*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:19*	*1*
18O2 PFHxS	*95*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:19*	*1*
13C4 PFOS	*97*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:19*	*1*

Client Sample ID: COIL-GW-MW-7-94-EB01-0-201110 — Lab Sample ID: 320-66718-39

Date Collected: 11/10/20 08:10
Date Received: 11/13/20 10:00
Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		4.6	2.2	ng/L		11/19/20 21:00	11/30/20 12:12	1
Perfluorooctanoic acid	ND		1.8	0.78	ng/L		11/19/20 21:00	11/30/20 12:12	1
Perfluorononanoic acid	ND		1.8	0.25	ng/L		11/19/20 21:00	11/30/20 12:12	1
Perfluorobutanesulfonic acid	ND		1.8	0.18	ng/L		11/19/20 21:00	11/30/20 12:12	1
Perfluorohexanesulfonic acid	ND		1.8	0.52	ng/L		11/19/20 21:00	11/30/20 12:12	1
Perfluorooctanesulfonic acid	2.8		1.8	0.50	ng/L		11/19/20 21:00	11/30/20 12:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*50 - 150*	*11/19/20 21:00*	*11/30/20 12:12*	*1*
13C4 PFOA	*105*		*50 - 150*	*11/19/20 21:00*	*11/30/20 12:12*	*1*
13C5 PFNA	*102*		*50 - 150*	*11/19/20 21:00*	*11/30/20 12:12*	*1*
13C3 PFBS	*92*		*50 - 150*	*11/19/20 21:00*	*11/30/20 12:12*	*1*
18O2 PFHxS	*93*		*50 - 150*	*11/19/20 21:00*	*11/30/20 12:12*	*1*
13C4 PFOS	*96*		*50 - 150*	*11/19/20 21:00*	*11/30/20 12:12*	*1*

Method: 537(Modified) - Fluorinated Alkyl Substances - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid	ND	H	2.0	0.55	ng/L		11/30/20 12:05	12/02/20 10:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOS	*111*		*50 - 150*	*11/30/20 12:05*	*12/02/20 10:48*	*1*

Client Sample Results

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Client Sample ID: COIL-GW-MW-1-79-EB02-0-201111

Lab Sample ID: 320-66718-40

Date Collected: 11/10/20 13:20
Date Received: 11/13/20 10:00

Matrix: Water

Method: 537(Modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		4.7	2.2	ng/L		11/19/20 21:00	11/21/20 07:37	1
Perfluorooctanoic acid	ND		1.9	0.79	ng/L		11/19/20 21:00	11/21/20 07:37	1
Perfluorononanoic acid	ND		1.9	0.25	ng/L		11/19/20 21:00	11/21/20 07:37	1
Perfluorobutanesulfonic acid	ND		1.9	0.19	ng/L		11/19/20 21:00	11/21/20 07:37	1
Perfluorohexanesulfonic acid	ND		1.9	0.53	ng/L		11/19/20 21:00	11/21/20 07:37	1
Perfluorooctanesulfonic acid	0.53	J	1.9	0.50	ng/L		11/19/20 21:00	11/21/20 07:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*94*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:37*	*1*
13C4 PFOA	*108*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:37*	*1*
13C5 PFNA	*96*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:37*	*1*
13C3 PFBS	*98*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:37*	*1*
18O2 PFHxS	*101*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:37*	*1*
13C4 PFOS	*103*		*50 - 150*	*11/19/20 21:00*	*11/21/20 07:37*	*1*

Isotope Dilution Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Method: 537(Modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)					
		PFBA	PFOA	PFNA	C3PFBS	PFHxS	PFOS
Lab Sample ID	Client Sample ID	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
320-66718-1	COIL-GW-MW-1-79-0-201111		113	106	100	103	103
320-66718-1 - DL	COIL-GW-MW-1-79-0-201111	103					
320-66718-1 MS	COIL-GW-MW-1-79-0-201111		114	107	110	113	108
320-66718-1 MS - DL	COIL-GW-MW-1-79-0-201111	103					
320-66718-1 MSD	COIL-GW-MW-1-79-0-201111		109	106	103	106	104
320-66718-1 MSD - DL	COIL-GW-MW-1-79-0-201111	94					
320-66718-2	COIL-GW-MW-3-79-0-201109	128	140	134	129	131	135
320-66718-3	COIL-GW-MW-4-79-0-201109		96	97	74	85	89
320-66718-3 - DL	COIL-GW-MW-4-79-0-201109	84					
320-66718-4	COIL-GW-MW-5-79-0-201109	72	96	94	74	90	89
320-66718-5	COIL-GW-MW-1-81-0-201110	73	92	92	69	86	89
320-66718-6	COIL-GW-MW-1-81-DB-201110	76	95	91	78	86	87
320-66718-7	COIL-GW-MW-3-81-0-201110	97	110	102	100	103	104
320-66718-8	COIL-GW-MW-1-88-0-201110	97	109	107	105	104	104
320-66718-9	COIL-GW-MW-2-90-0-201110	103	119	113	105	119	111
320-66718-10	COIL-GW-MW-7-90-0-201111	105	120	110	109	113	118
320-66718-11	COIL-GW-MW-9-90R-0-201111		112	105	105	106	107
320-66718-11 - DL	COIL-GW-MW-9-90R-0-201111	101					
320-66718-12	COIL-GW-MW-1-93-0-201110	103	123	113	110	117	113
320-66718-13	COIL-GW-MW-3-94-0-201111		110	104		108	
320-66718-13 - DL	COIL-GW-MW-3-94-0-201111	93			93		96
320-66718-14	COIL-GW-MW-4-94-0-201111	106	117	112	110	116	116
320-66718-15	COIL-GW-MW-7-94-0-201110	99	115	110	107	111	105
320-66718-16	COIL-GW-MW-8-94-0-201110	99	116	111	104	109	108
320-66718-17	COIL-GW-MW-9-94-0-201109	101	114	112	99	109	114
320-66718-18	COIL-GW-MW-2-81-0-201109		93	94	76	85	82
320-66718-18 - DL	COIL-GW-MW-2-81-0-201109	77					
320-66718-19	COIL-GW-MW-4-81-0-201110		116	117	106	108	112
320-66718-19 - DL	COIL-GW-MW-4-81-0-201110	98					
320-66718-20	COIL-GW-MW-5-81-0-201109	72	99	98	75	89	90
320-66718-21	COIL-GW[redacted]-0-201111		98	96	79	93	91
320-66718-21 - DL	COIL-GW[redacted]-0-201111	83					
320-66718-22	COIL-GW[redacted]-0-201111	74	92	93	72	89	89
320-66718-23	COIL-GW[redacted]-0-201111		95	90	78	90	88
320-66718-23 - DL	COIL-GW[redacted]-0-201111	79					
320-66718-23 MS	COIL-GW[redacted]-0-201111		92	83	77	86	84
320-66718-23 MS - DL	COIL-GW[redacted]-0-201111	80					
320-66718-23 MSD	COIL-GW[redacted]-0-201111		94	97	80	93	93
320-66718-23 MSD - DL	COIL-GW[redacted]-0-201111	77					
320-66718-24	COIL-GW[redacted]-0-201111		96	94	81	94	90
320-66718-24 - DL	COIL-GW[redacted]-0-201111	84					
320-66718-25	COIL-GW[redacted]-0-201111	89	106	102	95	94	100
320-66718-26	COIL-GW[redacted]DB-201111	90	109	108	91	99	103
320-66718-27	COIL-GW[redacted]-0-201111	89	104	101	89	95	96
320-66718-28	COIL-GW[redacted]-0-201111	88	106	100	90	94	100
320-66718-29	COIL-GW-PW-11-0-201112	89	107	105	92	86	96
320-66718-30	COIL-GW-PW-112-0-201112	102	113	111	106	107	112
320-66718-31	COIL-GW-PW-113-0-201112	103	119	115	101	111	106
320-66718-32	COIL-GW-PW-124-0-201112	72	86	83	72	72	74

Isotope Dilution Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

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

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)					
		PFBA	PFOA	PFNA	C3PFBS	PFHxS	PFOS
Lab Sample ID	**Client Sample ID**	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)	(50-150)
320-66718-33	COIL-GW-PW-37-0-201112	76	104	97	85	94	97
320-66718-34	COIL-GW-PW-91-0-201112	91	106	102	95	93	97
320-66718-34 MS	COIL-GW-PW-91-0-201112	91	104	100	91	90	96
320-66718-34 MSD	COIL-GW-PW-91-0-201112	89	106	99	92	91	97
320-66718-35	COIL-GW-PW-94-0-201112	92	111	101	91	88	98
320-66718-36	COIL-GW-Bldg 1 Coffee Sink-0-201112	105	116	115	105	108	113
320-66718-37	COIL-GW-TRIP-0-201109	92	108	101	97	92	102
320-66718-38	COIL-GW-FB01-0-201111	92	107	98	95	95	97
320-66718-39	COIL-GW-MW-7-94-EB01-0-201110	91	105	102	92	93	96
320-66718-39 - RE	COIL-GW-MW-7-94-EB01-0-201110						111
320-66718-40	COIL-GW-MW-1-79-EB02-0-201111	94	108	96	98	101	103
320-67142-C-1-A MS	Matrix Spike		86	52			
320-67142-E-1-A MSD	Matrix Spike Duplicate		104	70			
HLCSSD 320-433240/6-A	Lab Control Sample Dup	87	95	94	85	92	93
HLCSSD 320-433783/6-A	Lab Control Sample Dup	101	109	106	105	104	110
HLCSSD 320-434277/6-A	Lab Control Sample Dup	102	108	105	104	102	106
HLCSSD 320-436772/6-A	Lab Control Sample Dup	99	108	104	97	94	99
LLCSSD 320-433240/4-A	Lab Control Sample	88	95	92	83	89	93
LLCSSD 320-433783/4-A	Lab Control Sample	91	105	98	98	96	100
LLCSSD 320-434277/4-A	Lab Control Sample	101	112	104	103	104	105
LLCSSD 320-436772/4-A	Lab Control Sample	84	96	90	86	88	91
MB 320-433240/1-A	Method Blank	88	93	95	88	92	90
MB 320-433240/2-A	Method Blank	84	95	88	81	90	84
MB 320-433240/3-A	Method Blank	88	99	90	81	93	90
MB 320-433783/1-A	Method Blank	92	102	100	95	101	100
MB 320-433783/2-A	Method Blank	89	102	96	96	99	99
MB 320-433783/3-A	Method Blank	91	105	93	89	97	106
MB 320-434277/1-A	Method Blank	101	109	102	103	104	109
MB 320-434277/2-A	Method Blank	99	111	104	102	102	105
MB 320-434277/3-A	Method Blank	106	116	107	105	108	104
MB 320-436772/1-A	Method Blank	115	134	123	117	113	117
MB 320-436772/2-A	Method Blank	91	105	96	89	93	90
MB 320-436772/3-A	Method Blank	112	126	119	110	116	118
MLCSSD 320-433240/5-A	Lab Control Sample	85	96	88	81	89	87
MLCSSD 320-433783/5-A	Lab Control Sample	94	101	103	94	96	101
MLCSSD 320-434277/5-A	Lab Control Sample	100	109	102	108	101	102
MLCSSD 320-436772/5-A	Lab Control Sample	71	81	74	70	70	71

Surrogate Legend

PFBA = 13C4 PFBA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS

Method: 537(Modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-433240/1-A
Matrix: Water
Analysis Batch: 434230

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433240

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/18/20 19:32	11/21/20 13:35	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/18/20 19:32	11/21/20 13:35	1
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/18/20 19:32	11/21/20 13:35	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/18/20 19:32	11/21/20 13:35	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/18/20 19:32	11/21/20 13:35	1
Perfluorooctanesulfonic acid	ND		2.0	0.54	ng/L		11/18/20 19:32	11/21/20 13:35	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:35*	*1*
13C4 PFOA	*93*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:35*	*1*
13C5 PFNA	*95*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:35*	*1*
13C3 PFBS	*88*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:35*	*1*
18O2 PFHxS	*92*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:35*	*1*
13C4 PFOS	*90*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:35*	*1*

Lab Sample ID: MB 320-433240/2-A
Matrix: Water
Analysis Batch: 434230

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433240

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/18/20 19:32	11/21/20 13:44	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/18/20 19:32	11/21/20 13:44	1
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/18/20 19:32	11/21/20 13:44	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/18/20 19:32	11/21/20 13:44	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/18/20 19:32	11/21/20 13:44	1
Perfluorooctanesulfonic acid	ND		2.0	0.54	ng/L		11/18/20 19:32	11/21/20 13:44	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:44*	*1*
13C4 PFOA	*95*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:44*	*1*
13C5 PFNA	*88*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:44*	*1*
13C3 PFBS	*81*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:44*	*1*
18O2 PFHxS	*90*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:44*	*1*
13C4 PFOS	*84*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:44*	*1*

Lab Sample ID: MB 320-433240/3-A
Matrix: Water
Analysis Batch: 434230

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433240

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/18/20 19:32	11/21/20 13:54	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/18/20 19:32	11/21/20 13:54	1
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/18/20 19:32	11/21/20 13:54	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/18/20 19:32	11/21/20 13:54	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/18/20 19:32	11/21/20 13:54	1
Perfluorooctanesulfonic acid	ND		2.0	0.54	ng/L		11/18/20 19:32	11/21/20 13:54	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*88*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:54*	*1*

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

Lab Sample ID: MB 320-433240/3-A
Matrix: Water
Analysis Batch: 434230

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433240

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*99*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:54*	*1*
13C5 PFNA	*90*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:54*	*1*
13C3 PFBS	*81*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:54*	*1*
18O2 PFHxS	*93*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:54*	*1*
13C4 PFOS	*90*		*50 - 150*	*11/18/20 19:32*	*11/21/20 13:54*	*1*

Lab Sample ID: LLCSSD 320-433240/4-A
Matrix: Water
Analysis Batch: 434230

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433240

Analyte	Spike Added	LLCSSD Result	LLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid	8.00	9.01		ng/L		113	80 - 120
Perfluorooctanoic acid	8.00	7.83		ng/L		98	80 - 120
Perfluorononanoic acid	8.00	8.70		ng/L		109	80 - 120
Perfluorobutanesulfonic acid	7.07	7.68		ng/L		109	80 - 120
Perfluorohexanesulfonic acid	7.28	8.07		ng/L		111	80 - 120
Perfluorooctanesulfonic acid	7.42	8.02		ng/L		108	80 - 120

Isotope Dilution	*LLCSSD %Recovery*	*LLCSSD Qualifier*	*Limits*
13C4 PFBA	*88*		*50 - 150*
13C4 PFOA	*95*		*50 - 150*
13C5 PFNA	*92*		*50 - 150*
13C3 PFBS	*83*		*50 - 150*
18O2 PFHxS	*89*		*50 - 150*
13C4 PFOS	*93*		*50 - 150*

Lab Sample ID: MLCSSD 320-433240/5-A
Matrix: Water
Analysis Batch: 434230

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433240

Analyte	Spike Added	MLCSSD Result	MLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid	40.0	45.0		ng/L		112	80 - 120
Perfluorooctanoic acid	40.0	39.4		ng/L		98	80 - 120
Perfluorononanoic acid	40.0	44.2		ng/L		111	80 - 120
Perfluorobutanesulfonic acid	35.4	38.7		ng/L		110	80 - 120
Perfluorohexanesulfonic acid	36.4	36.0		ng/L		99	80 - 120
Perfluorooctanesulfonic acid	37.1	39.5		ng/L		106	80 - 120

Isotope Dilution	*MLCSSD %Recovery*	*MLCSSD Qualifier*	*Limits*
13C4 PFBA	*85*		*50 - 150*
13C4 PFOA	*96*		*50 - 150*
13C5 PFNA	*88*		*50 - 150*
13C3 PFBS	*81*		*50 - 150*
18O2 PFHxS	*89*		*50 - 150*
13C4 PFOS	*87*		*50 - 150*

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

Lab Sample ID: HLCSSD 320-433240/6-A
Matrix: Water
Analysis Batch: 435692

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 433240

Analyte			Spike Added	HLCSSD Result	HLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits	RSD	RSD Limit
Perfluorobutanoic acid			80.0	93.3		ng/L		117	80 - 120	2	20
Perfluorooctanoic acid			80.0	82.5		ng/L		103	80 - 120	3	20
Perfluorononanoic acid			80.0	89.9		ng/L		112	80 - 120	2	20
Perfluorobutanesulfonic acid			70.7	82.2		ng/L		116	80 - 120	4	20
Perfluorohexanesulfonic acid			72.8	74.6		ng/L		103	80 - 120	6	20
Perfluorooctanesulfonic acid			74.2	81.8		ng/L		110	80 - 120	2	20

Isotope Dilution	*HLCSSD %Recovery*	*HLCSSD Qualifier*	*Limits*
13C4 PFBA	*87*		*50 - 150*
13C4 PFOA	*95*		*50 - 150*
13C5 PFNA	*94*		*50 - 150*
13C3 PFBS	*85*		*50 - 150*
18O2 PFHxS	*92*		*50 - 150*
13C4 PFOS	*93*		*50 - 150*

Lab Sample ID: 320-66718-23 MS
Matrix: Water
Analysis Batch: 434230

Client Sample ID: COIL-GW-[redacted]-0-201111
Prep Type: Total/NA
Prep Batch: 433240

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perfluorooctanoic acid	2.0		34.6	37.1		ng/L		101	70 - 130		
Perfluorononanoic acid	ND		34.6	43.2		ng/L		125	70 - 130		
Perfluorobutanesulfonic acid	14		30.6	48.4		ng/L		111	70 - 130		
Perfluorohexanesulfonic acid	2.6		31.5	33.4		ng/L		98	70 - 130		
Perfluorooctanesulfonic acid	1.7		32.1	36.2		ng/L		108	70 - 130		

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFOA	*92*		*50 - 150*
13C5 PFNA	*83*		*50 - 150*
13C3 PFBS	*77*		*50 - 150*
18O2 PFHxS	*86*		*50 - 150*
13C4 PFOS	*84*		*50 - 150*

Lab Sample ID: 320-66718-23 MSD
Matrix: Water
Analysis Batch: 434230

Client Sample ID: COIL-GW-[redacted]-0-201111
Prep Type: Total/NA
Prep Batch: 433240

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanoic acid	2.0		34.4	36.3		ng/L		100	70 - 130	2	30
Perfluorononanoic acid	ND		34.4	38.9		ng/L		113	70 - 130	10	30
Perfluorobutanesulfonic acid	14		30.4	51.5		ng/L		122	70 - 130	6	30
Perfluorohexanesulfonic acid	2.6		31.3	33.2		ng/L		98	70 - 130	1	30
Perfluorooctanesulfonic acid	1.7		31.9	34.1		ng/L		102	70 - 130	6	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFOA	*94*		*50 - 150*
13C5 PFNA	*97*		*50 - 150*
13C3 PFBS	*80*		*50 - 150*
18O2 PFHxS	*93*		*50 - 150*

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

Lab Sample ID: 320-66718-23 MSD
Matrix: Water
Analysis Batch: 434230

Client Sample ID: COIL-GW-[redacted]0-201111
Prep Type: Total/NA
Prep Batch: 433240

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C4 PFOS	93		50 - 150

Lab Sample ID: MB 320-433783/1-A
Matrix: Water
Analysis Batch: 434206

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/19/20 21:00	11/21/20 06:22	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/19/20 21:00	11/21/20 06:22	1
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/19/20 21:00	11/21/20 06:22	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/19/20 21:00	11/21/20 06:22	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/19/20 21:00	11/21/20 06:22	1
Perfluorooctanesulfonic acid	ND		2.0	0.54	ng/L		11/19/20 21:00	11/21/20 06:22	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92		50 - 150	11/19/20 21:00	11/21/20 06:22	1
13C4 PFOA	102		50 - 150	11/19/20 21:00	11/21/20 06:22	1
13C5 PFNA	100		50 - 150	11/19/20 21:00	11/21/20 06:22	1
13C3 PFBS	95		50 - 150	11/19/20 21:00	11/21/20 06:22	1
18O2 PFHxS	101		50 - 150	11/19/20 21:00	11/21/20 06:22	1
13C4 PFOS	100		50 - 150	11/19/20 21:00	11/21/20 06:22	1

Lab Sample ID: MB 320-433783/2-A
Matrix: Water
Analysis Batch: 434206

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/19/20 21:00	11/21/20 06:32	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/19/20 21:00	11/21/20 06:32	1
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/19/20 21:00	11/21/20 06:32	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/19/20 21:00	11/21/20 06:32	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/19/20 21:00	11/21/20 06:32	1
Perfluorooctanesulfonic acid	ND		2.0	0.54	ng/L		11/19/20 21:00	11/21/20 06:32	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	89		50 - 150	11/19/20 21:00	11/21/20 06:32	1
13C4 PFOA	102		50 - 150	11/19/20 21:00	11/21/20 06:32	1
13C5 PFNA	96		50 - 150	11/19/20 21:00	11/21/20 06:32	1
13C3 PFBS	96		50 - 150	11/19/20 21:00	11/21/20 06:32	1
18O2 PFHxS	99		50 - 150	11/19/20 21:00	11/21/20 06:32	1
13C4 PFOS	99		50 - 150	11/19/20 21:00	11/21/20 06:32	1

Lab Sample ID: MB 320-433783/3-A
Matrix: Water
Analysis Batch: 434206

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/19/20 21:00	11/21/20 06:41	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/19/20 21:00	11/21/20 06:41	1

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

Lab Sample ID: MB 320-433783/3-A
Matrix: Water
Analysis Batch: 434206

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 433783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/19/20 21:00	11/21/20 06:41	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/19/20 21:00	11/21/20 06:41	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/19/20 21:00	11/21/20 06:41	1
Perfluorooctanesulfonic acid	ND		2.0	0.54	ng/L		11/19/20 21:00	11/21/20 06:41	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*50 - 150*	*11/19/20 21:00*	*11/21/20 06:41*	*1*
13C4 PFOA	*105*		*50 - 150*	*11/19/20 21:00*	*11/21/20 06:41*	*1*
13C5 PFNA	*93*		*50 - 150*	*11/19/20 21:00*	*11/21/20 06:41*	*1*
13C3 PFBS	*89*		*50 - 150*	*11/19/20 21:00*	*11/21/20 06:41*	*1*
18O2 PFHxS	*97*		*50 - 150*	*11/19/20 21:00*	*11/21/20 06:41*	*1*
13C4 PFOS	*106*		*50 - 150*	*11/19/20 21:00*	*11/21/20 06:41*	*1*

Lab Sample ID: LLCSSD 320-433783/4-A
Matrix: Water
Analysis Batch: 434206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433783

Analyte	Spike Added	LLCSSD Result	LLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid	8.00	8.99		ng/L		112	80 - 120
Perfluorooctanoic acid	8.00	8.04		ng/L		100	80 - 120
Perfluorononanoic acid	8.00	8.87		ng/L		111	80 - 120
Perfluorobutanesulfonic acid	7.07	7.31		ng/L		103	80 - 120
Perfluorohexanesulfonic acid	7.28	7.79		ng/L		107	80 - 120
Perfluorooctanesulfonic acid	7.42	7.90		ng/L		106	80 - 120

Isotope Dilution	*LLCSSD %Recovery*	*LLCSSD Qualifier*	*Limits*
13C4 PFBA	*91*		*50 - 150*
13C4 PFOA	*105*		*50 - 150*
13C5 PFNA	*98*		*50 - 150*
13C3 PFBS	*98*		*50 - 150*
18O2 PFHxS	*96*		*50 - 150*
13C4 PFOS	*100*		*50 - 150*

Lab Sample ID: MLCSSD 320-433783/5-A
Matrix: Water
Analysis Batch: 434206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433783

Analyte	Spike Added	MLCSSD Result	MLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid	40.0	41.3		ng/L		103	80 - 120
Perfluorooctanoic acid	40.0	39.3		ng/L		98	80 - 120
Perfluorononanoic acid	40.0	40.3		ng/L		101	80 - 120
Perfluorobutanesulfonic acid	35.4	35.6		ng/L		101	80 - 120
Perfluorohexanesulfonic acid	36.4	35.5		ng/L		98	80 - 120
Perfluorooctanesulfonic acid	37.1	38.0		ng/L		102	80 - 120

Isotope Dilution	*MLCSSD %Recovery*	*MLCSSD Qualifier*	*Limits*
13C4 PFBA	*94*		*50 - 150*
13C4 PFOA	*101*		*50 - 150*
13C5 PFNA	*103*		*50 - 150*

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

Lab Sample ID: MLCSSD 320-433783/5-A
Matrix: Water
Analysis Batch: 434206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 433783

Isotope Dilution	*MLCSSD %Recovery*	*MLCSSD Qualifier*	*Limits*
13C3 PFBS	*94*		*50 - 150*
18O2 PFHxS	*96*		*50 - 150*
13C4 PFOS	*101*		*50 - 150*

Lab Sample ID: HLCSSD 320-433783/6-A
Matrix: Water
Analysis Batch: 434206

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 433783

Analyte			Spike Added	HLCSSD Result	HLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits	RSD	RSD Limit
Perfluorobutanoic acid			80.0	86.7		ng/L		108	80 - 120	4	20
Perfluorooctanoic acid			80.0	79.3		ng/L		99	80 - 120	1	20
Perfluorononanoic acid			80.0	87.1		ng/L		109	80 - 120	5	20
Perfluorobutanesulfonic acid			70.7	74.2		ng/L		105	80 - 120	2	20
Perfluorohexanesulfonic acid			72.8	76.2		ng/L		105	80 - 120	5	20
Perfluorooctanesulfonic acid			74.2	76.6		ng/L		103	80 - 120	2	20

Isotope Dilution	*HLCSSD %Recovery*	*HLCSSD Qualifier*	*Limits*
13C4 PFBA	*101*		*50 - 150*
13C4 PFOA	*109*		*50 - 150*
13C5 PFNA	*106*		*50 - 150*
13C3 PFBS	*105*		*50 - 150*
18O2 PFHxS	*104*		*50 - 150*
13C4 PFOS	*110*		*50 - 150*

Lab Sample ID: 320-66718-34 MS
Matrix: Water
Analysis Batch: 435699

Client Sample ID: COIL-GW-PW-91-0-201112
Prep Type: Total/NA
Prep Batch: 433783

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perfluorobutanoic acid	1600		38.0	1660	4	ng/L		81	70 - 130		
Perfluorooctanoic acid	ND		38.0	37.8		ng/L		99	70 - 130		
Perfluorononanoic acid	ND		38.0	40.7		ng/L		107	70 - 130		
Perfluorobutanesulfonic acid	12	J	33.6	46.5		ng/L		103	70 - 130		
Perfluorohexanesulfonic acid	ND		34.6	36.6		ng/L		106	70 - 130		
Perfluorooctanesulfonic acid	ND		35.3	38.2		ng/L		108	70 - 130		

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA	*91*		*50 - 150*
13C4 PFOA	*104*		*50 - 150*
13C5 PFNA	*100*		*50 - 150*
13C3 PFBS	*91*		*50 - 150*
18O2 PFHxS	*90*		*50 - 150*
13C4 PFOS	*96*		*50 - 150*

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

Lab Sample ID: 320-66718-34 MSD — **Client Sample ID: COIL-GW-PW-91-0-201112**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 435699 — **Prep Batch: 433783**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid	1600		38.0	1700	4	ng/L		206	70 - 130	3	30
Perfluorooctanoic acid	ND		38.0	37.1		ng/L		97	70 - 130	2	30
Perfluorononanoic acid	ND		38.0	42.2		ng/L		111	70 - 130	4	30
Perfluorobutanesulfonic acid	12	J	33.6	46.3		ng/L		103	70 - 130	0	30
Perfluorohexanesulfonic acid	ND		34.6	36.6		ng/L		106	70 - 130	0	30
Perfluorooctanesulfonic acid	ND		35.3	38.0		ng/L		108	70 - 130	1	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*89*		*50 - 150*
13C4 PFOA	*106*		*50 - 150*
13C5 PFNA	*99*		*50 - 150*
13C3 PFBS	*92*		*50 - 150*
18O2 PFHxS	*91*		*50 - 150*
13C4 PFOS	*97*		*50 - 150*

Lab Sample ID: MB 320-434277/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436053 — **Prep Batch: 434277**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/21/20 04:23	11/28/20 01:52	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/21/20 04:23	11/28/20 01:52	1
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/21/20 04:23	11/28/20 01:52	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/21/20 04:23	11/28/20 01:52	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/21/20 04:23	11/28/20 01:52	1
Perfluorooctanesulfonic acid	ND		2.0	0.54	ng/L		11/21/20 04:23	11/28/20 01:52	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*50 - 150*	*11/21/20 04:23*	*11/28/20 01:52*	*1*
13C4 PFOA	*109*		*50 - 150*	*11/21/20 04:23*	*11/28/20 01:52*	*1*
13C5 PFNA	*102*		*50 - 150*	*11/21/20 04:23*	*11/28/20 01:52*	*1*
13C3 PFBS	*103*		*50 - 150*	*11/21/20 04:23*	*11/28/20 01:52*	*1*
18O2 PFHxS	*104*		*50 - 150*	*11/21/20 04:23*	*11/28/20 01:52*	*1*
13C4 PFOS	*109*		*50 - 150*	*11/21/20 04:23*	*11/28/20 01:52*	*1*

Lab Sample ID: MB 320-434277/2-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436053 — **Prep Batch: 434277**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/21/20 04:23	11/28/20 02:01	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/21/20 04:23	11/28/20 02:01	1
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/21/20 04:23	11/28/20 02:01	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/21/20 04:23	11/28/20 02:01	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/21/20 04:23	11/28/20 02:01	1
Perfluorooctanesulfonic acid	ND		2.0	0.54	ng/L		11/21/20 04:23	11/28/20 02:01	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:01*	*1*

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

Lab Sample ID: MB 320-434277/2-A
Matrix: Water
Analysis Batch: 436053

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 434277

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFOA	*111*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:01*	*1*
13C5 PFNA	*104*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:01*	*1*
13C3 PFBS	*102*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:01*	*1*
18O2 PFHxS	*102*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:01*	*1*
13C4 PFOS	*105*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:01*	*1*

Lab Sample ID: MB 320-434277/3-A
Matrix: Water
Analysis Batch: 436053

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 434277

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/21/20 04:23	11/28/20 02:10	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/21/20 04:23	11/28/20 02:10	1
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/21/20 04:23	11/28/20 02:10	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/21/20 04:23	11/28/20 02:10	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/21/20 04:23	11/28/20 02:10	1
Perfluorooctanesulfonic acid	ND		2.0	0.54	ng/L		11/21/20 04:23	11/28/20 02:10	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*106*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:10*	*1*
13C4 PFOA	*116*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:10*	*1*
13C5 PFNA	*107*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:10*	*1*
13C3 PFBS	*105*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:10*	*1*
18O2 PFHxS	*108*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:10*	*1*
13C4 PFOS	*104*		*50 - 150*	*11/21/20 04:23*	*11/28/20 02:10*	*1*

Lab Sample ID: LLCSSD 320-434277/4-A
Matrix: Water
Analysis Batch: 436053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 434277

Analyte	Spike Added	LLCSSD Result	LLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid	8.00	8.51		ng/L		106	80 - 120
Perfluorooctanoic acid	8.00	7.87		ng/L		98	80 - 120
Perfluorononanoic acid	8.00	8.52		ng/L		107	80 - 120
Perfluorobutanesulfonic acid	7.07	7.31		ng/L		103	80 - 120
Perfluorohexanesulfonic acid	7.28	7.43		ng/L		102	80 - 120
Perfluorooctanesulfonic acid	7.42	7.69		ng/L		104	80 - 120

Isotope Dilution	*LLCSSD %Recovery*	*LLCSSD Qualifier*	*Limits*
13C4 PFBA	*101*		*50 - 150*
13C4 PFOA	*112*		*50 - 150*
13C5 PFNA	*104*		*50 - 150*
13C3 PFBS	*103*		*50 - 150*
18O2 PFHxS	*104*		*50 - 150*
13C4 PFOS	*105*		*50 - 150*

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

Lab Sample ID: MLCSSD 320-434277/5-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436053 — **Prep Batch: 434277**

Analyte	Spike Added	MLCSSD Result	MLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid	40.0	41.4		ng/L		103	80 - 120
Perfluorooctanoic acid	40.0	37.1		ng/L		93	80 - 120
Perfluorononanoic acid	40.0	40.5		ng/L		101	80 - 120
Perfluorobutanesulfonic acid	35.4	35.1		ng/L		99	80 - 120
Perfluorohexanesulfonic acid	36.4	36.1		ng/L		99	80 - 120
Perfluorooctanesulfonic acid	37.1	39.2		ng/L		106	80 - 120

Isotope Dilution	*MLCSSD %Recovery*	*MLCSSD Qualifier*	*Limits*
13C4 PFBA	*100*		*50 - 150*
13C4 PFOA	*109*		*50 - 150*
13C5 PFNA	*102*		*50 - 150*
13C3 PFBS	*108*		*50 - 150*
18O2 PFHxS	*101*		*50 - 150*
13C4 PFOS	*102*		*50 - 150*

Lab Sample ID: HLCSSD 320-434277/6-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436053 — **Prep Batch: 434277**

Analyte	Spike Added	HLCSSD Result	HLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits	RSD	RSD Limit
Perfluorobutanoic acid	80.0	84.5		ng/L		106	80 - 120	1	20
Perfluorooctanoic acid	80.0	75.9		ng/L		95	80 - 120	3	20
Perfluorononanoic acid	80.0	85.4		ng/L		107	80 - 120	3	20
Perfluorobutanesulfonic acid	70.7	73.2		ng/L		104	80 - 120	2	20
Perfluorohexanesulfonic acid	72.8	72.8		ng/L		100	80 - 120	1	20
Perfluorooctanesulfonic acid	74.2	77.3		ng/L		104	80 - 120	1	20

Isotope Dilution	*HLCSSD %Recovery*	*HLCSSD Qualifier*	*Limits*
13C4 PFBA	*102*		*50 - 150*
13C4 PFOA	*108*		*50 - 150*
13C5 PFNA	*105*		*50 - 150*
13C3 PFBS	*104*		*50 - 150*
18O2 PFHxS	*102*		*50 - 150*
13C4 PFOS	*106*		*50 - 150*

Lab Sample ID: 320-66718-1 MS — **Client Sample ID: COIL-GW-MW-1-79-0-201111**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436053 — **Prep Batch: 434277**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanoic acid	2200		10000	11700		ng/L		94	70 - 130
Perfluorononanoic acid	1000		10000	11300		ng/L		102	70 - 130
Perfluorobutanesulfonic acid	13000		8840	21400		ng/L		90	70 - 130
Perfluorohexanesulfonic acid	3300		9100	11300		ng/L		88	70 - 130
Perfluorooctanesulfonic acid	40000		9280	48700	4	ng/L		89	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFOA	*114*		*50 - 150*
13C5 PFNA	*107*		*50 - 150*

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

Lab Sample ID: 320-66718-1 MS — **Client Sample ID: COIL-GW-MW-1-79-0-201111**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436053 — **Prep Batch: 434277**

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C3 PFBS	*110*		*50 - 150*
18O2 PFHxS	*113*		*50 - 150*
13C4 PFOS	*108*		*50 - 150*

Lab Sample ID: 320-66718-1 MSD — **Client Sample ID: COIL-GW-MW-1-79-0-201111**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436053 — **Prep Batch: 434277**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanoic acid	2200		10000	11400		ng/L		92	70 - 130	2	30
Perfluorononanoic acid	1000		10000	10800		ng/L		98	70 - 130	4	30
Perfluorobutanesulfonic acid	13000		8840	22500		ng/L		103	70 - 130	5	30
Perfluorohexanesulfonic acid	3300		9100	11300		ng/L		88	70 - 130	0	30
Perfluorooctanesulfonic acid	40000		9280	48900	4	ng/L		91	70 - 130	0	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFOA	*109*		*50 - 150*
13C5 PFNA	*106*		*50 - 150*
13C3 PFBS	*103*		*50 - 150*
18O2 PFHxS	*106*		*50 - 150*
13C4 PFOS	*104*		*50 - 150*

Lab Sample ID: MB 320-436772/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 437412 — **Prep Batch: 436772**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/30/20 12:05	12/02/20 01:34	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/30/20 12:05	12/02/20 01:34	1
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/30/20 12:05	12/02/20 01:34	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/30/20 12:05	12/02/20 01:34	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/30/20 12:05	12/02/20 01:34	1
Perfluorooctanesulfonic acid	ND		2.0	0.54	ng/L		11/30/20 12:05	12/02/20 01:34	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*115*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:34*	*1*
13C4 PFOA	*134*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:34*	*1*
13C5 PFNA	*123*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:34*	*1*
13C3 PFBS	*117*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:34*	*1*
18O2 PFHxS	*113*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:34*	*1*
13C4 PFOS	*117*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:34*	*1*

Lab Sample ID: MB 320-436772/2-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 437412 — **Prep Batch: 436772**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/30/20 12:05	12/02/20 01:44	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/30/20 12:05	12/02/20 01:44	1

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

Lab Sample ID: MB 320-436772/2-A
Matrix: Water
Analysis Batch: 437412

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/30/20 12:05	12/02/20 01:44	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/30/20 12:05	12/02/20 01:44	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/30/20 12:05	12/02/20 01:44	1
Perfluorooctanesulfonic acid	1.06	J	2.0	0.54	ng/L		11/30/20 12:05	12/02/20 01:44	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:44*	*1*
13C4 PFOA	*105*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:44*	*1*
13C5 PFNA	*96*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:44*	*1*
13C3 PFBS	*89*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:44*	*1*
18O2 PFHxS	*93*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:44*	*1*
13C4 PFOS	*90*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:44*	*1*

Lab Sample ID: MB 320-436772/3-A
Matrix: Water
Analysis Batch: 437412

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid	ND		5.0	2.4	ng/L		11/30/20 12:05	12/02/20 01:53	1
Perfluorooctanoic acid	ND		2.0	0.85	ng/L		11/30/20 12:05	12/02/20 01:53	1
Perfluorononanoic acid	ND		2.0	0.27	ng/L		11/30/20 12:05	12/02/20 01:53	1
Perfluorobutanesulfonic acid	ND		2.0	0.20	ng/L		11/30/20 12:05	12/02/20 01:53	1
Perfluorohexanesulfonic acid	ND		2.0	0.57	ng/L		11/30/20 12:05	12/02/20 01:53	1
Perfluorooctanesulfonic acid	ND		2.0	0.54	ng/L		11/30/20 12:05	12/02/20 01:53	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*112*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:53*	*1*
13C4 PFOA	*126*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:53*	*1*
13C5 PFNA	*119*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:53*	*1*
13C3 PFBS	*110*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:53*	*1*
18O2 PFHxS	*116*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:53*	*1*
13C4 PFOS	*118*		*50 - 150*	*11/30/20 12:05*	*12/02/20 01:53*	*1*

Lab Sample ID: LLCSSD 320-436772/4-A
Matrix: Water
Analysis Batch: 437412

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436772

Analyte	Spike Added	LLCSSD Result	LLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid	8.00	7.84		ng/L		98	80 - 120
Perfluorooctanoic acid	8.00	6.94		ng/L		87	80 - 120
Perfluorononanoic acid	8.00	7.67		ng/L		96	80 - 120
Perfluorobutanesulfonic acid	7.07	6.30		ng/L		89	80 - 120
Perfluorohexanesulfonic acid	7.28	6.90		ng/L		95	80 - 120
Perfluorooctanesulfonic acid	7.42	6.52		ng/L		88	80 - 120

Isotope Dilution	*LLCSSD %Recovery*	*LLCSSD Qualifier*	*Limits*
13C4 PFBA	*84*		*50 - 150*
13C4 PFOA	*96*		*50 - 150*
13C5 PFNA	*90*		*50 - 150*

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

Lab Sample ID: LLCSSD 320-436772/4-A
Matrix: Water
Analysis Batch: 437412

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436772

Isotope Dilution	*LLCSSD %Recovery*	*LLCSSD Qualifier*	*Limits*
13C3 PFBS	*86*		*50 - 150*
18O2 PFHxS	*88*		*50 - 150*
13C4 PFOS	*91*		*50 - 150*

Lab Sample ID: MLCSSD 320-436772/5-A
Matrix: Water
Analysis Batch: 437412

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436772

Analyte	Spike Added	MLCSSD Result	MLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid	40.0	38.4		ng/L		96	80 - 120
Perfluorooctanoic acid	40.0	35.7		ng/L		89	80 - 120
Perfluorononanoic acid	40.0	37.2		ng/L		93	80 - 120
Perfluorobutanesulfonic acid	35.4	32.5		ng/L		92	80 - 120
Perfluorohexanesulfonic acid	36.4	32.4		ng/L		89	80 - 120
Perfluorooctanesulfonic acid	37.1	34.1		ng/L		92	80 - 120

Isotope Dilution	*MLCSSD %Recovery*	*MLCSSD Qualifier*	*Limits*
13C4 PFBA	*71*		*50 - 150*
13C4 PFOA	*81*		*50 - 150*
13C5 PFNA	*74*		*50 - 150*
13C3 PFBS	*70*		*50 - 150*
18O2 PFHxS	*70*		*50 - 150*
13C4 PFOS	*71*		*50 - 150*

Lab Sample ID: HLCSSD 320-436772/6-A
Matrix: Water
Analysis Batch: 437412

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 436772

Analyte	Spike Added	HLCSSD Result	HLCSSD Qualifier	Unit	D	%Rec	%Rec. Limits	RSD	RSD Limit
Perfluorobutanoic acid	80.0	82.5		ng/L		103	80 - 120	4	20
Perfluorooctanoic acid	80.0	76.5		ng/L		96	80 - 120	5	20
Perfluorononanoic acid	80.0	79.2		ng/L		99	80 - 120	3	20
Perfluorobutanesulfonic acid	70.7	71.3		ng/L		101	80 - 120	7	20
Perfluorohexanesulfonic acid	72.8	74.3		ng/L		102	80 - 120	7	20
Perfluorooctanesulfonic acid	74.2	73.3		ng/L		99	80 - 120	6	20

Isotope Dilution	*HLCSSD %Recovery*	*HLCSSD Qualifier*	*Limits*
13C4 PFBA	*99*		*50 - 150*
13C4 PFOA	*108*		*50 - 150*
13C5 PFNA	*104*		*50 - 150*
13C3 PFBS	*97*		*50 - 150*
18O2 PFHxS	*94*		*50 - 150*
13C4 PFOS	*99*		*50 - 150*

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

Lab Sample ID: 320-67142-C-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 437412 — **Prep Batch: 436772**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanoic acid	220		36.7	240	4	ng/L		67	70 - 130
Perfluorononanoic acid	190		36.7	250	4	ng/L		160	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFOA	*86*		*50 - 150*
13C5 PFNA	*52*		*50 - 150*

Lab Sample ID: 320-67142-E-1-A MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 437412 — **Prep Batch: 436772**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanoic acid	220		36.0	240	4	ng/L		67	70 - 130	0	30
Perfluorononanoic acid	190		36.0	231	4	ng/L		110	70 - 130	8	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFOA	*104*		*50 - 150*
13C5 PFNA	*70*		*50 - 150*

Method: 537(Modified) - Fluorinated Alkyl Substances - DL

Lab Sample ID: 320-66718-23 MS — **Client Sample ID: COIL-GW-[redacted]-0-201111**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 435692 — **Prep Batch: 433240**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid - DL	1800		34.6	1840	4	ng/L		8	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA - DL	*80*		*50 - 150*

Lab Sample ID: 320-66718-23 MSD — **Client Sample ID: COIL-GW-[redacted]-0-201111**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 435692 — **Prep Batch: 433240**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid - DL	1800		34.4	1850	4	ng/L		52	70 - 130	1	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA - DL	*77*		*50 - 150*

Lab Sample ID: 320-66718-1 MS — **Client Sample ID: COIL-GW-MW-1-79-0-201111**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436921 — **Prep Batch: 434277**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid - DL	110000		10000	121000	4	ng/L		67	70 - 130

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA - DL	*103*		*50 - 150*

QC Sample Results

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Method: 537(Modified) - Fluorinated Alkyl Substances - DL

Lab Sample ID: 320-66718-1 MSD
Matrix: Water
Analysis Batch: 436921

Client Sample ID: COIL-GW-MW-1-79-0-201111
Prep Type: Total/NA
Prep Batch: 434277

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid - DL	110000		10000	124000	4	ng/L		96	70 - 130	2	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA - DL	*94*		*50 - 150*

QC Association Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

LCMS

Prep Batch: 433240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-3 - DL	COIL-GW-MW-4-79-0-201109	Total/NA	Water	3535	
320-66718-3	COIL-GW-MW-4-79-0-201109	Total/NA	Water	3535	
320-66718-4	COIL-GW-MW-5-79-0-201109	Total/NA	Water	3535	
320-66718-5	COIL-GW-MW-1-81-0-201110	Total/NA	Water	3535	
320-66718-6	COIL-GW-MW-1-81-DB-201110	Total/NA	Water	3535	
320-66718-18 - DL	COIL-GW-MW-2-81-0-201109	Total/NA	Water	3535	
320-66718-18	COIL-GW-MW-2-81-0-201109	Total/NA	Water	3535	
320-66718-20	COIL-GW-MW-5-81-0-201109	Total/NA	Water	3535	
320-66718-21 - DL	COIL-GW[redacted]-0-201111	Total/NA	Water	3535	
320-66718-21	COIL-GW[redacted]-0-201111	Total/NA	Water	3535	
320-66718-22	COIL-GW-[redacted]-0-201111	Total/NA	Water	3535	
320-66718-23 - DL	COIL-GW-[redacted]-0-201111	Total/NA	Water	3535	
320-66718-23	COIL-GW[redacted]-0-201111	Total/NA	Water	3535	
320-66718-24 - DL	COIL-GW[redacted]-0-201111	Total/NA	Water	3535	
320-66718-24	COIL-GW-[redacted]-0-201111	Total/NA	Water	3535	
MB 320-433240/1-A	Method Blank	Total/NA	Water	3535	
MB 320-433240/2-A	Method Blank	Total/NA	Water	3535	
MB 320-433240/3-A	Method Blank	Total/NA	Water	3535	
HLCSSD 320-433240/6-A	Lab Control Sample Dup	Total/NA	Water	3535	
LLCSSD 320-433240/4-A	Lab Control Sample	Total/NA	Water	3535	
MLCSSD 320-433240/5-A	Lab Control Sample	Total/NA	Water	3535	
320-66718-23 MS - DL	COIL-GW-[redacted]-0-201111	Total/NA	Water	3535	
320-66718-23 MS	COIL-GW-[redacted]-0-201111	Total/NA	Water	3535	
320-66718-23 MSD - DL	COIL-GW-[redacted]-0-201111	Total/NA	Water	3535	
320-66718-23 MSD	COIL-GW-[redacted]-0-201111	Total/NA	Water	3535	

Prep Batch: 433783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-25	COIL-GW-[redacted]-0-201111	Total/NA	Water	3535	
320-66718-26	COIL-GW-[redacted]-DB-201111	Total/NA	Water	3535	
320-66718-27	COIL-GW-[redacted]0-201111	Total/NA	Water	3535	
320-66718-28	COIL-GW-[redacted]-0-201111	Total/NA	Water	3535	
320-66718-29	COIL-GW-PW-11-0-201112	Total/NA	Water	3535	
320-66718-32	COIL-GW-PW-124-0-201112	Total/NA	Water	3535	
320-66718-33	COIL-GW-PW-37-0-201112	Total/NA	Water	3535	
320-66718-34	COIL-GW-PW-91-0-201112	Total/NA	Water	3535	
320-66718-35	COIL-GW-PW-94-0-201112	Total/NA	Water	3535	
320-66718-37	COIL-GW-TRIP-0-201109	Total/NA	Water	3535	
320-66718-38	COIL-GW-FB01-0-201111	Total/NA	Water	3535	
320-66718-39	COIL-GW-MW-7-94-EB01-0-201110	Total/NA	Water	3535	
320-66718-40	COIL-GW-MW-1-79-EB02-0-201111	Total/NA	Water	3535	
MB 320-433783/1-A	Method Blank	Total/NA	Water	3535	
MB 320-433783/2-A	Method Blank	Total/NA	Water	3535	
MB 320-433783/3-A	Method Blank	Total/NA	Water	3535	
HLCSSD 320-433783/6-A	Lab Control Sample Dup	Total/NA	Water	3535	
LLCSSD 320-433783/4-A	Lab Control Sample	Total/NA	Water	3535	
MLCSSD 320-433783/5-A	Lab Control Sample	Total/NA	Water	3535	
320-66718-34 MS	COIL-GW-PW-91-0-201112	Total/NA	Water	3535	
320-66718-34 MSD	COIL-GW-PW-91-0-201112	Total/NA	Water	3535	

QC Association Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

LCMS

Analysis Batch: 434206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-35	COIL-GW-PW-94-0-201112	Total/NA	Water	537(Modified)	433783
320-66718-38	COIL-GW-FB01-0-201111	Total/NA	Water	537(Modified)	433783
320-66718-40	COIL-GW-MW-1-79-EB02-0-201111	Total/NA	Water	537(Modified)	433783
MB 320-433783/1-A	Method Blank	Total/NA	Water	537(Modified)	433783
MB 320-433783/2-A	Method Blank	Total/NA	Water	537(Modified)	433783
MB 320-433783/3-A	Method Blank	Total/NA	Water	537(Modified)	433783
HLCSSD 320-433783/6-A	Lab Control Sample Dup	Total/NA	Water	537(Modified)	433783
LLCSSD 320-433783/4-A	Lab Control Sample	Total/NA	Water	537(Modified)	433783
MLCSSD 320-433783/5-A	Lab Control Sample	Total/NA	Water	537(Modified)	433783

Analysis Batch: 434230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-3	COIL-GW-MW-4-79-0-201109	Total/NA	Water	537(Modified)	433240
320-66718-4	COIL-GW-MW-5-79-0-201109	Total/NA	Water	537(Modified)	433240
320-66718-5	COIL-GW-MW-1-81-0-201110	Total/NA	Water	537(Modified)	433240
320-66718-6	COIL-GW-MW-1-81-DB-201110	Total/NA	Water	537(Modified)	433240
320-66718-18	COIL-GW-MW-2-81-0-201109	Total/NA	Water	537(Modified)	433240
320-66718-20	COIL-GW-MW-5-81-0-201109	Total/NA	Water	537(Modified)	433240
320-66718-21	COIL-GW-23321-0-201111	Total/NA	Water	537(Modified)	433240
320-66718-22	COIL-GW-22610-0-201111	Total/NA	Water	537(Modified)	433240
320-66718-23	COIL-GW-22703-0-201111	Total/NA	Water	537(Modified)	433240
320-66718-24	COIL-GW-22414-0-201111	Total/NA	Water	537(Modified)	433240
MB 320-433240/1-A	Method Blank	Total/NA	Water	537(Modified)	433240
MB 320-433240/2-A	Method Blank	Total/NA	Water	537(Modified)	433240
MB 320-433240/3-A	Method Blank	Total/NA	Water	537(Modified)	433240
LLCSSD 320-433240/4-A	Lab Control Sample	Total/NA	Water	537(Modified)	433240
MLCSSD 320-433240/5-A	Lab Control Sample	Total/NA	Water	537(Modified)	433240
320-66718-23 MS	COIL-GW-[redacted]0-201111	Total/NA	Water	537(Modified)	433240
320-66718-23 MSD	COIL-GW-[redacted]0-201111	Total/NA	Water	537(Modified)	433240

Prep Batch: 434277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-1	COIL-GW-MW-1-79-0-201111	Total/NA	Water	3535	
320-66718-1 - DL	COIL-GW-MW-1-79-0-201111	Total/NA	Water	3535	
320-66718-2	COIL-GW-MW-3-79-0-201109	Total/NA	Water	3535	
320-66718-7	COIL-GW-MW-3-81-0-201110	Total/NA	Water	3535	
320-66718-8	COIL-GW-MW-1-88-0-201110	Total/NA	Water	3535	
320-66718-9	COIL-GW-MW-2-90-0-201110	Total/NA	Water	3535	
320-66718-10	COIL-GW-MW-7-90-0-201111	Total/NA	Water	3535	
320-66718-11 - DL	COIL-GW-MW-9-90R-0-201111	Total/NA	Water	3535	
320-66718-11	COIL-GW-MW-9-90R-0-201111	Total/NA	Water	3535	
320-66718-12	COIL-GW-MW-1-93-0-201110	Total/NA	Water	3535	
320-66718-13 - DL	COIL-GW-MW-3-94-0-201111	Total/NA	Water	3535	
320-66718-13	COIL-GW-MW-3-94-0-201111	Total/NA	Water	3535	
320-66718-14	COIL-GW-MW-4-94-0-201111	Total/NA	Water	3535	
320-66718-15	COIL-GW-MW-7-94-0-201110	Total/NA	Water	3535	
320-66718-16	COIL-GW-MW-8-94-0-201110	Total/NA	Water	3535	
320-66718-17	COIL-GW-MW-9-94-0-201109	Total/NA	Water	3535	
320-66718-19	COIL-GW-MW-4-81-0-201110	Total/NA	Water	3535	
320-66718-19 - DL	COIL-GW-MW-4-81-0-201110	Total/NA	Water	3535	
320-66718-30	COIL-GW-PW-112-0-201112	Total/NA	Water	3535	

LCMS (Continued)

Prep Batch: 434277 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-31	COIL-GW-PW-113-0-201112	Total/NA	Water	3535	
320-66718-36	COIL-GW-Bldg 1 Coffee Sink-0-201112	Total/NA	Water	3535	
MB 320-434277/1-A	Method Blank	Total/NA	Water	3535	
MB 320-434277/2-A	Method Blank	Total/NA	Water	3535	
MB 320-434277/3-A	Method Blank	Total/NA	Water	3535	
HLCSSD 320-434277/6-A	Lab Control Sample Dup	Total/NA	Water	3535	
LLCSSD 320-434277/4-A	Lab Control Sample	Total/NA	Water	3535	
MLCSSD 320-434277/5-A	Lab Control Sample	Total/NA	Water	3535	
320-66718-1 MS	COIL-GW-MW-1-79-0-201111	Total/NA	Water	3535	
320-66718-1 MS - DL	COIL-GW-MW-1-79-0-201111	Total/NA	Water	3535	
320-66718-1 MSD - DL	COIL-GW-MW-1-79-0-201111	Total/NA	Water	3535	
320-66718-1 MSD	COIL-GW-MW-1-79-0-201111	Total/NA	Water	3535	

Analysis Batch: 435692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-3 - DL	COIL-GW-MW-4-79-0-201109	Total/NA	Water	537(Modified)	433240
320-66718-18 - DL	COIL-GW-MW-2-81-0-201109	Total/NA	Water	537(Modified)	433240
320-66718-21 - DL	COIL-GW[redacted]-0-201111	Total/NA	Water	537(Modified)	433240
320-66718-23 - DL	COIL-GW-[redacted]-0-201111	Total/NA	Water	537(Modified)	433240
320-66718-24 - DL	COIL-GW-[redacted]0-201111	Total/NA	Water	537(Modified)	433240
HLCSSD 320-433240/6-A	Lab Control Sample Dup	Total/NA	Water	537(Modified)	433240
320-66718-23 MS - DL	COIL-GW-22703-0-201111	Total/NA	Water	537(Modified)	433240
320-66718-23 MSD - DL	COIL-GW-22703-0-201111	Total/NA	Water	537(Modified)	433240

Analysis Batch: 435699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-25	COIL-GW-[redacted]0-201111	Total/NA	Water	537(Modified)	433783
320-66718-26	COIL-GW-[redacted]DB-201111	Total/NA	Water	537(Modified)	433783
320-66718-27	COIL-GW-[redacted]0-201111	Total/NA	Water	537(Modified)	433783
320-66718-28	COIL-GW-[redacted]-0-201111	Total/NA	Water	537(Modified)	433783
320-66718-29	COIL-GW-PW-11-0-201112	Total/NA	Water	537(Modified)	433783
320-66718-32	COIL-GW-PW-124-0-201112	Total/NA	Water	537(Modified)	433783
320-66718-33	COIL-GW-PW-37-0-201112	Total/NA	Water	537(Modified)	433783
320-66718-34	COIL-GW-PW-91-0-201112	Total/NA	Water	537(Modified)	433783
320-66718-37	COIL-GW-TRIP-0-201109	Total/NA	Water	537(Modified)	433783
320-66718-34 MS	COIL-GW-PW-91-0-201112	Total/NA	Water	537(Modified)	433783
320-66718-34 MSD	COIL-GW-PW-91-0-201112	Total/NA	Water	537(Modified)	433783

Analysis Batch: 436053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-1	COIL-GW-MW-1-79-0-201111	Total/NA	Water	537(Modified)	434277
320-66718-2	COIL-GW-MW-3-79-0-201109	Total/NA	Water	537(Modified)	434277
320-66718-7	COIL-GW-MW-3-81-0-201110	Total/NA	Water	537(Modified)	434277
320-66718-8	COIL-GW-MW-1-88-0-201110	Total/NA	Water	537(Modified)	434277
320-66718-9	COIL-GW-MW-2-90-0-201110	Total/NA	Water	537(Modified)	434277
320-66718-10	COIL-GW-MW-7-90-0-201111	Total/NA	Water	537(Modified)	434277
320-66718-11	COIL-GW-MW-9-90R-0-201111	Total/NA	Water	537(Modified)	434277
320-66718-12	COIL-GW-MW-1-93-0-201110	Total/NA	Water	537(Modified)	434277
320-66718-13	COIL-GW-MW-3-94-0-201111	Total/NA	Water	537(Modified)	434277
320-66718-14	COIL-GW-MW-4-94-0-201111	Total/NA	Water	537(Modified)	434277
320-66718-15	COIL-GW-MW-7-94-0-201110	Total/NA	Water	537(Modified)	434277

LCMS (Continued)

Analysis Batch: 436053 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-16	COIL-GW-MW-8-94-0-201110	Total/NA	Water	537(Modified)	434277
320-66718-17	COIL-GW-MW-9-94-0-201109	Total/NA	Water	537(Modified)	434277
320-66718-19	COIL-GW-MW-4-81-0-201110	Total/NA	Water	537(Modified)	434277
320-66718-30	COIL-GW-PW-112-0-201112	Total/NA	Water	537(Modified)	434277
320-66718-31	COIL-GW-PW-113-0-201112	Total/NA	Water	537(Modified)	434277
320-66718-36	COIL-GW-Bldg 1 Coffee Sink-0-201112	Total/NA	Water	537(Modified)	434277
MB 320-434277/1-A	Method Blank	Total/NA	Water	537(Modified)	434277
MB 320-434277/2-A	Method Blank	Total/NA	Water	537(Modified)	434277
MB 320-434277/3-A	Method Blank	Total/NA	Water	537(Modified)	434277
HLCSSD 320-434277/6-A	Lab Control Sample Dup	Total/NA	Water	537(Modified)	434277
LLCSSD 320-434277/4-A	Lab Control Sample	Total/NA	Water	537(Modified)	434277
MLCSSD 320-434277/5-A	Lab Control Sample	Total/NA	Water	537(Modified)	434277
320-66718-1 MS	COIL-GW-MW-1-79-0-201111	Total/NA	Water	537(Modified)	434277
320-66718-1 MSD	COIL-GW-MW-1-79-0-201111	Total/NA	Water	537(Modified)	434277

Prep Batch: 436772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-39 - RE	COIL-GW-MW-7-94-EB01-0-201110	Total/NA	Water	3535	
MB 320-436772/1-A	Method Blank	Total/NA	Water	3535	
MB 320-436772/2-A	Method Blank	Total/NA	Water	3535	
MB 320-436772/3-A	Method Blank	Total/NA	Water	3535	
HLCSSD 320-436772/6-A	Lab Control Sample Dup	Total/NA	Water	3535	
LLCSSD 320-436772/4-A	Lab Control Sample	Total/NA	Water	3535	
MLCSSD 320-436772/5-A	Lab Control Sample	Total/NA	Water	3535	
320-67142-C-1-A MS	Matrix Spike	Total/NA	Water	3535	
320-67142-E-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	3535	

Analysis Batch: 436797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-39	COIL-GW-MW-7-94-EB01-0-201110	Total/NA	Water	537(Modified)	433783

Analysis Batch: 436921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-1 - DL	COIL-GW-MW-1-79-0-201111	Total/NA	Water	537(Modified)	434277
320-66718-11 - DL	COIL-GW-MW-9-90R-0-201111	Total/NA	Water	537(Modified)	434277
320-66718-13 - DL	COIL-GW-MW-3-94-0-201111	Total/NA	Water	537(Modified)	434277
320-66718-19 - DL	COIL-GW-MW-4-81-0-201110	Total/NA	Water	537(Modified)	434277
320-66718-1 MS - DL	COIL-GW-MW-1-79-0-201111	Total/NA	Water	537(Modified)	434277
320-66718-1 MSD - DL	COIL-GW-MW-1-79-0-201111	Total/NA	Water	537(Modified)	434277

Analysis Batch: 437412

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-436772/1-A	Method Blank	Total/NA	Water	537(Modified)	436772
MB 320-436772/2-A	Method Blank	Total/NA	Water	537(Modified)	436772
MB 320-436772/3-A	Method Blank	Total/NA	Water	537(Modified)	436772
HLCSSD 320-436772/6-A	Lab Control Sample Dup	Total/NA	Water	537(Modified)	436772
LLCSSD 320-436772/4-A	Lab Control Sample	Total/NA	Water	537(Modified)	436772
MLCSSD 320-436772/5-A	Lab Control Sample	Total/NA	Water	537(Modified)	436772
320-67142-C-1-A MS	Matrix Spike	Total/NA	Water	537(Modified)	436772
320-67142-E-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	537(Modified)	436772

QC Association Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

LCMS

Analysis Batch: 437621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-66718-39 - RE	COIL-GW-MW-7-94-EB01-0-201110	Total/NA	Water	537(Modified)	436772

Client Sample ID: COIL-GW-MW-1-79-0-201111 — Lab Sample ID: 320-66718-1

Date Collected: 11/11/20 14:15 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 03:54	S1M	TAL SAC
Total/NA	Prep	3535	DL		1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)	DL	5			436921	11/30/20 14:05	JY1	TAL SAC

Client Sample ID: COIL-GW-MW-3-79-0-201109 — Lab Sample ID: 320-66718-2

Date Collected: 11/09/20 14:20 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 04:22	S1M	TAL SAC

Client Sample ID: COIL-GW-MW-4-79-0-201109 — Lab Sample ID: 320-66718-3

Date Collected: 11/09/20 12:45 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			280.8 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434230	11/21/20 16:24	MNV	TAL SAC
Total/NA	Prep	3535	DL		280.8 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)	DL	10			435692	11/26/20 06:08	JRB	TAL SAC

Client Sample ID: COIL-GW-MW-5-79-0-201109 — Lab Sample ID: 320-66718-4

Date Collected: 11/09/20 10:55 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			273.1 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434230	11/21/20 16:34	MNV	TAL SAC

Client Sample ID: COIL-GW-MW-1-81-0-201110 — Lab Sample ID: 320-66718-5

Date Collected: 11/10/20 13:35 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			280.9 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434230	11/21/20 16:43	MNV	TAL SAC

Client Sample ID: COIL-GW-MW-1-81-DB-201110 — Lab Sample ID: 320-66718-6

Date Collected: 11/10/20 13:35 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			276.1 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434230	11/21/20 16:53	MNV	TAL SAC

Client Sample ID: COIL-GW-MW-3-81-0-201110 — Lab Sample ID: 320-66718-7

Date Collected: 11/10/20 11:45 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 04:31	S1M	TAL SAC

Client Sample ID: COIL-GW-MW-1-88-0-201110 — Lab Sample ID: 320-66718-8

Date Collected: 11/10/20 16:00 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 04:41	S1M	TAL SAC

Client Sample ID: COIL-GW-MW-2-90-0-201110 — Lab Sample ID: 320-66718-9

Date Collected: 11/10/20 10:45 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 04:50	S1M	TAL SAC

Client Sample ID: COIL-GW-MW-7-90-0-201111 — Lab Sample ID: 320-66718-10

Date Collected: 11/11/20 12:35 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 04:59	S1M	TAL SAC

Client Sample ID: COIL-GW-MW-9-90R-0-201111 — Lab Sample ID: 320-66718-11

Date Collected: 11/11/20 11:25 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 05:18	S1M	TAL SAC
Total/NA	Prep	3535	DL		1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)	DL	10			436921	11/30/20 14:33	JY1	TAL SAC

Client Sample ID: COIL-GW-MW-1-93-0-201110 — Lab Sample ID: 320-66718-12

Date Collected: 11/10/20 14:10 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 05:28	S1M	TAL SAC

Client Sample ID: COIL-GW-MW-3-94-0-201111 — Lab Sample ID: 320-66718-13

Date Collected: 11/11/20 13:00 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 05:37	S1M	TAL SAC
Total/NA	Prep	3535	DL		1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)	DL	20			436921	11/30/20 14:52	JY1	TAL SAC

Client Sample ID: COIL-GW-MW-4-94-0-201111 — Lab Sample ID: 320-66718-14

Date Collected: 11/11/20 12:00 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 05:46	S1M	TAL SAC

Client Sample ID: COIL-GW-MW-7-94-0-201110 — Lab Sample ID: 320-66718-15

Date Collected: 11/10/20 08:40 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 05:56	S1M	TAL SAC

Client Sample ID: COIL-GW-MW-8-94-0-201110 — Lab Sample ID: 320-66718-16

Date Collected: 11/10/20 08:00 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 06:05	S1M	TAL SAC

Client Sample ID: COIL-GW-MW-9-94-0-201109 — Lab Sample ID: 320-66718-17

Date Collected: 11/09/20 16:30 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 06:15	S1M	TAL SAC

Client Sample ID: COIL-GW-MW-2-81-0-201109 — Lab Sample ID: 320-66718-18

Date Collected: 11/09/20 15:30 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			281.7 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434230	11/21/20 17:21	MNV	TAL SAC
Total/NA	Prep	3535	DL		281.7 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)	DL	10			435692	11/26/20 06:17	JRB	TAL SAC

Lab Chronicle

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Client Sample ID: COIL-GW-MW-4-81-0-201110 — Lab Sample ID: 320-66718-19

Date Collected: 11/10/20 10:00
Date Received: 11/13/20 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 06:24	S1M	TAL SAC
Total/NA	Prep	3535	DL		1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)	DL	10			436921	11/30/20 14:42	JY1	TAL SAC

Client Sample ID: COIL-GW-MW-5-81-0-201109 — Lab Sample ID: 320-66718-20

Date Collected: 11/09/20 09:10
Date Received: 11/13/20 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			290.3 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434230	11/21/20 17:30	MNV	TAL SAC

Client Sample ID: COIL-GW[redacted]-0-201111 — Lab Sample ID: 320-66718-21

Date Collected: 11/11/20 16:05
Date Received: 11/13/20 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			292.3 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434230	11/21/20 17:40	MNV	TAL SAC
Total/NA	Prep	3535	DL		292.3 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)	DL	10			435692	11/26/20 06:36	JRB	TAL SAC

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-22

Date Collected: 11/11/20 15:05
Date Received: 11/13/20 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			276.3 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434230	11/21/20 17:49	MNV	TAL SAC

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-23

Date Collected: 11/11/20 15:25
Date Received: 11/13/20 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			295.9 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434230	11/21/20 17:58	MNV	TAL SAC
Total/NA	Prep	3535	DL		295.9 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)	DL	10			435692	11/26/20 06:45	JRB	TAL SAC

Lab Chronicle

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-24

Date Collected: 11/11/20 15:35
Date Received: 11/13/20 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			286.1 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434230	11/21/20 18:27	MNV	TAL SAC
Total/NA	Prep	3535	DL		286.1 mL	10.00 mL	433240	11/18/20 19:32	JER	TAL SAC
Total/NA	Analysis	537(Modified)	DL	5			435692	11/26/20 05:39	JRB	TAL SAC

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-25

Date Collected: 11/11/20 15:55
Date Received: 11/13/20 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287.3 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		10			435699	11/26/20 02:41	JRB	TAL SAC

Client Sample ID: COIL-GW-[redacted]-DB-201111 — Lab Sample ID: 320-66718-26

Date Collected: 11/11/20 15:55
Date Received: 11/13/20 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			279.4 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		10			435699	11/26/20 02:50	JRB	TAL SAC

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-27

Date Collected: 11/11/20 15:45
Date Received: 11/13/20 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			287 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		10			435699	11/26/20 02:59	JRB	TAL SAC

Client Sample ID: COIL-GW-[redacted]-0-201111 — Lab Sample ID: 320-66718-28

Date Collected: 11/11/20 14:50
Date Received: 11/13/20 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			291.9 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		10			435699	11/26/20 03:09	JRB	TAL SAC

Client Sample ID: COIL-GW-PW-11-0-201112 — Lab Sample ID: 320-66718-29

Date Collected: 11/12/20 09:05
Date Received: 11/13/20 10:00
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			293.9 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		10			435699	11/26/20 03:18	JRB	TAL SAC

Client Sample ID: COIL-GW-PW-112-0-201112 — Lab Sample ID: 320-66718-30

Date Collected: 11/12/20 09:15 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 09:08	S1M	TAL SAC

Client Sample ID: COIL-GW-PW-113-0-201112 — Lab Sample ID: 320-66718-31

Date Collected: 11/12/20 08:55 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 09:17	S1M	TAL SAC

Client Sample ID: COIL-GW-PW-124-0-201112 — Lab Sample ID: 320-66718-32

Date Collected: 11/12/20 09:20 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			294.2 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		10			435699	11/26/20 03:37	JRB	TAL SAC

Client Sample ID: COIL-GW-PW-37-0-201112 — Lab Sample ID: 320-66718-33

Date Collected: 11/12/20 09:30 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			289.2 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			435699	11/26/20 01:53	JRB	TAL SAC

Client Sample ID: COIL-GW-PW-91-0-201112 — Lab Sample ID: 320-66718-34

Date Collected: 11/12/20 08:30 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			263.1 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		10			435699	11/26/20 03:46	JRB	TAL SAC

Client Sample ID: COIL-GW-PW-94-0-201112 — Lab Sample ID: 320-66718-35

Date Collected: 11/12/20 08:15 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			278.4 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		100			434206	11/21/20 10:55	K1S	TAL SAC

Client Sample ID: COIL-GW-Bldg 1 Coffee Sink-0-201112 — Lab Sample ID: 320-66718-36

Date Collected: 11/12/20 10:20 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			1.00 mL	10.0 mL	434277	11/21/20 04:23	LB	TAL SAC
Total/NA	Analysis	537(Modified)		1			436053	11/28/20 09:36	S1M	TAL SAC

Client Sample ID: COIL-GW-TRIP-0-201109 — Lab Sample ID: 320-66718-37

Date Collected: 11/12/20 07:00 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			304.5 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			435699	11/26/20 02:03	JRB	TAL SAC

Client Sample ID: COIL-GW-FB01-0-201111 — Lab Sample ID: 320-66718-38

Date Collected: 11/09/20 11:40 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			290.5 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434206	11/21/20 07:19	K1S	TAL SAC

Client Sample ID: COIL-GW-MW-7-94-EB01-0-201110 — Lab Sample ID: 320-66718-39

Date Collected: 11/10/20 08:10 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			271.5 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			436797	11/30/20 12:12	S1M	TAL SAC
Total/NA	Prep	3535	RE		246.6 mL	10.00 mL	436772	11/30/20 12:05	LA	TAL SAC
Total/NA	Analysis	537(Modified)	RE	1			437621	12/02/20 10:48	MNV	TAL SAC

Client Sample ID: COIL-GW-MW-1-79-EB02-0-201111 — Lab Sample ID: 320-66718-40

Date Collected: 11/10/20 13:20 — **Matrix: Water**
Date Received: 11/13/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			268.6 mL	10.00 mL	433783	11/19/20 21:00	JER	TAL SAC
Total/NA	Analysis	537(Modified)		1			434206	11/21/20 07:37	K1S	TAL SAC

Laboratory References:

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

Accreditation/Certification Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Laboratory: Eurofins TestAmerica, Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
ANAB	Dept. of Defense ELAP	L2468	01-20-21
ANAB	Dept. of Energy	L2468.01	01-20-21
ANAB	ISO/IEC 17025	L2468	01-20-21
Arizona	State	AZ0708	08-11-21
Arkansas DEQ	State	88-0691	06-17-21
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-21
Connecticut	State	PH-0691	06-30-21
Florida	NELAP	E87570	06-30-21
Georgia	State	4040	01-30-21
Hawaii	State	<cert No.>	01-29-21
Illinois	NELAP	200060	03-17-21
Kansas	NELAP	E-10375	10-31-20 *
Louisiana	NELAP	01944	06-30-21
Maine	State	CA00004	04-14-22
Michigan	State	9947	08-03-23
Nevada	State	CA000442021-2	07-31-21
New Hampshire	NELAP	2997	04-18-21
New Jersey	NELAP	CA005	06-30-21
New York	NELAP	11666	04-01-21
Oregon	NELAP	4040	01-29-21
Pennsylvania	NELAP	68-01272	03-31-21
Texas	NELAP	T104704399-19-13	06-01-21
US Fish & Wildlife	US Federal Programs	58448	07-31-21
USDA	US Federal Programs	P330-18-00239	07-31-21
Utah	NELAP	CA000442019-01	02-28-21
Vermont	State	VT-4040	04-16-21
Virginia	NELAP	460278	03-14-21
Washington	State	C581	05-05-21
West Virginia (DW)	State	9930C	12-31-20
Wisconsin	State	998204680	08-31-21
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Method	Method Description	Protocol	Laboratory
537(Modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Sample Summary

Client: 3M Company
Project/Site: E20-2199

Job ID: 320-66718-1
SDG: 3M Cordova Semo-Annual 2020 Sampling

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-66718-1	COIL-GW-MW-1-79-0-201111	Water	11/11/20 14:15	11/13/20 10:00	
320-66718-2	COIL-GW-MW-3-79-0-201109	Water	11/09/20 14:20	11/13/20 10:00	
320-66718-3	COIL-GW-MW-4-79-0-201109	Water	11/09/20 12:45	11/13/20 10:00	
320-66718-4	COIL-GW-MW-5-79-0-201109	Water	11/09/20 10:55	11/13/20 10:00	
320-66718-5	COIL-GW-MW-1-81-0-201110	Water	11/10/20 13:35	11/13/20 10:00	
320-66718-6	COIL-GW-MW-1-81-DB-201110	Water	11/10/20 13:35	11/13/20 10:00	
320-66718-7	COIL-GW-MW-3-81-0-201110	Water	11/10/20 11:45	11/13/20 10:00	
320-66718-8	COIL-GW-MW-1-88-0-201110	Water	11/10/20 16:00	11/13/20 10:00	
320-66718-9	COIL-GW-MW-2-90-0-201110	Water	11/10/20 10:45	11/13/20 10:00	
320-66718-10	COIL-GW-MW-7-90-0-201111	Water	11/11/20 12:35	11/13/20 10:00	
320-66718-11	COIL-GW-MW-9-90R-0-201111	Water	11/11/20 11:25	11/13/20 10:00	
320-66718-12	COIL-GW-MW-1-93-0-201110	Water	11/10/20 14:10	11/13/20 10:00	
320-66718-13	COIL-GW-MW-3-94-0-201111	Water	11/11/20 13:00	11/13/20 10:00	
320-66718-14	COIL-GW-MW-4-94-0-201111	Water	11/11/20 12:00	11/13/20 10:00	
320-66718-15	COIL-GW-MW-7-94-0-201110	Water	11/10/20 08:40	11/13/20 10:00	
320-66718-16	COIL-GW-MW-8-94-0-201110	Water	11/10/20 08:00	11/13/20 10:00	
320-66718-17	COIL-GW-MW-9-94-0-201109	Water	11/09/20 16:30	11/13/20 10:00	
320-66718-18	COIL-GW-MW-2-81-0-201109	Water	11/09/20 15:30	11/13/20 10:00	
320-66718-19	COIL-GW-MW-4-81-0-201110	Water	11/10/20 10:00	11/13/20 10:00	
320-66718-20	COIL-GW-MW-5-81-0-201109	Water	11/09/20 09:10	11/13/20 10:00	
320-66718-21	COIL-GW-[redacted]-0-201111	Water	11/11/20 16:05	11/13/20 10:00	
320-66718-22	COIL-GW-[redacted]-0-201111	Water	11/11/20 15:05	11/13/20 10:00	
320-66718-23	COIL-GW-[redacted]-0-201111	Water	11/11/20 15:25	11/13/20 10:00	
320-66718-24	COIL-GW-[redacted]-0-201111	Water	11/11/20 15:35	11/13/20 10:00	
320-66718-25	COIL-GW-[redacted]-0-201111	Water	11/11/20 15:55	11/13/20 10:00	
320-66718-26	COIL-GW-[redacted]-DB-201111	Water	11/11/20 15:55	11/13/20 10:00	
320-66718-27	COIL-GW-[redacted]-0-201111	Water	11/11/20 15:45	11/13/20 10:00	
320-66718-28	COIL-GW-[redacted]-0-201111	Water	11/11/20 14:50	11/13/20 10:00	
320-66718-29	COIL-GW-PW-11-0-201112	Water	11/12/20 09:05	11/13/20 10:00	
320-66718-30	COIL-GW-PW-112-0-201112	Water	11/12/20 09:15	11/13/20 10:00	
320-66718-31	COIL-GW-PW-113-0-201112	Water	11/12/20 08:55	11/13/20 10:00	
320-66718-32	COIL-GW-PW-124-0-201112	Water	11/12/20 09:20	11/13/20 10:00	
320-66718-33	COIL-GW-PW-37-0-201112	Water	11/12/20 09:30	11/13/20 10:00	
320-66718-34	COIL-GW-PW-91-0-201112	Water	11/12/20 08:30	11/13/20 10:00	
320-66718-35	COIL-GW-PW-94-0-201112	Water	11/12/20 08:15	11/13/20 10:00	
320-66718-36	COIL-GW-Bldg 1 Coffee Sink-0-201112	Water	11/12/20 10:20	11/13/20 10:00	
320-66718-37	COIL-GW-TRIP-0-201109	Water	11/12/20 07:00	11/13/20 10:00	
320-66718-38	COIL-GW-FB01-0-201111	Water	11/09/20 11:40	11/13/20 10:00	
320-66718-39	COIL-GW-MW-7-94-EB01-0-201110	Water	11/10/20 08:10	11/13/20 10:00	
320-66718-40	COIL-GW-MW-1-79-EB02-0-201111	Water	11/10/20 13:20	11/13/20 10:00	

3M EHS LABORATORY
Chain-of-Custody

320-66718 Chain of Custody

Shipping Address:

Eurofins TestAmerica
880 Riverside Parkway
West Sacramento, CA 95605

Project: E20-2199

Requester: Colberg, Kristin (MAPLEWOOD-3M
Department: 108100 Site Source: 01L1M100
Project Number:
Date Created: 11/5/2020
Project Description: 3M Cordova Semi-Annual 2020 Sampling - Facility and Residential Wells
Comments:

Completion Date:
Project Lead: Susan T. Wolf
Phone Number: 651-733-9851
Email Address: stwolf@mmm.com

3M Sample Number	Sample Description	Date/Time Sampled	Matrix	Comment
E20-2199-001	COIL-GW-MW-1-79-0- 201111	11-11-2020/14:15	WG	
E20-2199-002	COIL-GW-MW-3-79-0- 201109	11-9-2020/14:20		
E20-2199-003	COIL-GW-MW-4-79-0- 201109	11-9-2020/12:45		
E20-2199-004	COIL-GW-MW-5-79-0- 201109	11-9-2020/10:55		
E20-2199-005	COIL-GW-MW-1-81-0- 201110	11-10-2020/13:35		
E20-2199-006	COIL-GW-MW-1-81-DB- 201110	11-10-2020/13:35		
E20-2199-007	COIL-GW-MW-3-81-0- 201110	11-10-2020/11:45		
E20-2199-008	COIL-GW-MW-1-88-0- 201110	11-10-2020/16:00		
E20-2199-009	COIL-GW-MW-2-90-0- 201110	11-10-2020/10:45		
E20-2199-010	COIL-GW-MW-7-90-0- 201111	11-11-2020/12:35		
E20-2199-011	COIL-GW-MW-9-90R-0- 201111	11-11-2020/11:25		
E20-2199-012	COIL-GW-MW-1-93-0- 201110	11-10-2020/14:10		

Sample Condition Upon Receipt: ☐ Acceptable ☐ All items accounted for

Temperature: _____ Deg C ☐ Received on Ice ☐ Other:

Collected by (print): DAVE CAIRNS **Collector's signature:**

Item #	Relinquished by:	Date	Time	Shipped Via	Received by:	Date	Time
		11/12/2020	17:30	FedEx	[illegible]	11/13/20	1000

Page 1 of 4

3M EHS LABORATORY
Chain-of-Custody

Shipping Address:

Eurofins TestAmerica
880 Riverside Parkway
West Sacramento, CA 95605

Project: E20-2199 (cont.)

Requester: Colberg, Kristin (MAPLEWOOD-3M
Department: 108100 Site Source: 011.1M100
Project Number:
Date Created: 11/5/2020
Project Description: 3M Cordova Semi-Annual 2020 Sampling - Facility and Residential Wells

Completion Date:
Project Lead: Susan T. Wolf
Phone Number: 651-733-9851
Email Address: stwolf@mmm.com

3M Sample Number	Sample Description	Date/Time Sampled	Matrix	Comment
E20-2199-013	COH-GW-MW-3-94-0- 201111	11-11-2020/13:00	WG	
E20-2199-014	COH-GW-MW-4-94-0- 201111	11-11-2020/12:00		
E20-2199-015	COH-GW-MW-7-94-0- 201110	11-10-2020/08:40		
E20-2199-016	COH-GW-MW-8-94-0- 201110	11-10-2020/08:00		
E20-2199-017	COH-GW-MW-9-94-0- 201109	11-9-2020/16:30		
E20-2199-018	COH-GW-MW-2-81-0- 201109	11-9-2020/15:30		
E20-2199-019	COH-GW-MW-4-81-0- 201110	11-10-2020/10:00		
E20-2199-020	COH-GW-MW-5-81-0- 201109	11-9-2020/09:10		
E20-2199-021	COH-GW-[redacted]-0- 201111	11-11-2020/16:05		
E20-2199-022	COH-GW-[redacted]-0- 201111	11-11-2020/15:05		
~~E20-2199-023~~	~~COH-GW-[redacted]-0-~~ NO SAMPLE COLLECTED			~~Location not sampled for Monitoring~~
E20-2199-024	COH-GW-[redacted]-0- 201111	11-11-2020/15:25	WG	MS/MSD
E20-2199-025	COH-GW-[redacted]-0- 201111	11-11-2020/15:35		
E20-2199-026	COH-GW-[redacted]-0- 201111	11-11-2020/15:55		

Sample Condition Upon Receipt: ☐ Acceptable ☐ All items accounted for

Temperature: _____ Deg C ☐ Received on Ice ☐ Other:

Collected by (print): DAVE CAIRNS **Collector's signature:**

Item #	Relinquished by:	Date	Time	Shipped Via	Received by:	Date	Time
		11/12/2020	17:30	FedEx	[illegible]	11/13/20	1000

Page 2 of 4

3M EHS LABORATORY
Chain-of-Custody

Shipping Address:

Eurofins TestAmerica
880 Riverside Parkway
West Sacramento, CA 95605

Project: E20-2199 (cont.)

Requester: Colberg, Kristin (MAPLEWOOD-3M
Department: 108100 Site Source: 01L1M100
Project Number:
Date Created: 11/5/2020
Project Description: 3M Cordova Semi-Annual 2020 Sampling - Facility and Residential Wells

Completion Date:
Project Lead: Susan T. Wolf
Phone Number: 651-733-9851
Email Address: stwolf@mmm.com

3M Sample Number	Sample Description	Date/Time Sampled	Matrix	Comment
E20-2199-027	COIL-GW-22009-DB- 201111	11-11-2020/15:55	WG	
E20-2199-028	COIL-GW-22125-0- 201111	11-11-2020/15:45		
E20-2199-029	COIL-GW-21421-0- 201111	11-11-2020/14:50		
E20-2199-030	COIL-GW-PW-111-0- 201112	11-12-2020/09:05		
E20-2199-031	COIL-GW-PW-112-0- 201112	11-12-2020/09:15		
E20-2199-032	COIL-GW-PW-113-0- 201112	11-12-2020/08:55		
E20-2199-033	COIL-GW-PW-124-0- 201112	11-12-2020/09:20		
E20-2199-034	COIL-GW-PW-37-0- 201112	11-12-2020/09:30		
E20-2199-035	COIL-GW-PW-91-0- 201112	11-12-2020/08:30		6 bottles needed for MS/MSD
E20-2199-036	COIL-GW-PW-94-0- 20112	11-12-2020/08:15		
E20-2199-037	COIL-GW-Bldg 1 Coffee Sink-0- 201112	11/12/2020/10:20		
E20-2199-038	COIL-GW-TRIP-0- 201109	11-9-2020 07:00	WQ	
E20-2199-039	COIL-GW-FB01-0- 201111	11-11-2020 11:40	WQ	
E20-2199-040	COIL-GW-~~MW-7-94~~EB01-0- 201110	11-10-2020 08:10	WQ	MW-7-94

Sample Condition Upon Receipt: ☐ Acceptable ☐ All items accounted for

Temperature: _____ Deg C ☐ Received on Ice ☐ Other:

Collected by (print): DAVE CAIRNS **Collector's signature:**

Item #	Relinquished by:	Date	Time	Shipped Via	Received by:	Date	Time
		11/12/2020	17:30	FedEx	eta sac	11/13/20	1000

Page 3 of 4

5.0°C
5.7°C / 5.5°C

3M EHS LABORATORY
Chain-of-Custody

Shipping Address:

Eurofins TestAmerica
880 Riverside Parkway
West Sacramento, CA 95605

Project: E20-2199 (cont.)

Requester: Colberg, Kristin (MAPLEWOOD-3M
Department: 108100 Site Source: 01L1M100
Project Number:
Date Created: 11/5/2020
Project Description: 3M Cordova Semi-Annual 2020 Sampling - Facility and Residential Wells

Completion Date:
Project Lead: Susan T. Wolf
Phone Number: 651-733-9851
Email Address: stwolf@mmm.com

3M Sample Number	Sample Description	Date/Time Sampled	Matrix	Comment
E20-2199-041	COIL-GW-MW-1-79-EB02-0-201111	11-11-2020/13:20	WQ	MW-1-79

Sample Condition Upon Receipt: ☐ Acceptable ☐ All items accounted for

Temperature: _____ **Deg C** ☐ Received on Ice ☐ Other:

Collected by (print): DAVE CAIRNS **Collector's signature:**

Item #	Relinquished by:	Date	Time	Shipped Via	Received by:	Date	Time
		11/12/2020	17:30	Fed Ex			

Page 4 of 4

5.0°C
5.7°C/5.5

Login Sample Receipt Checklist

Client: 3M Company

Job Number: 320-66718-1
SDG Number: 3M Cordova Semo-Annual 2020 Sampling

Login Number: 66718
List Number: 1
Creator: Thompson, Sarah W

List Source: Eurofins TestAmerica, Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1372535, 1372532, 1372534, 1372533
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	client corrected temp to the nearest 0.5c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Not requested on COC.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

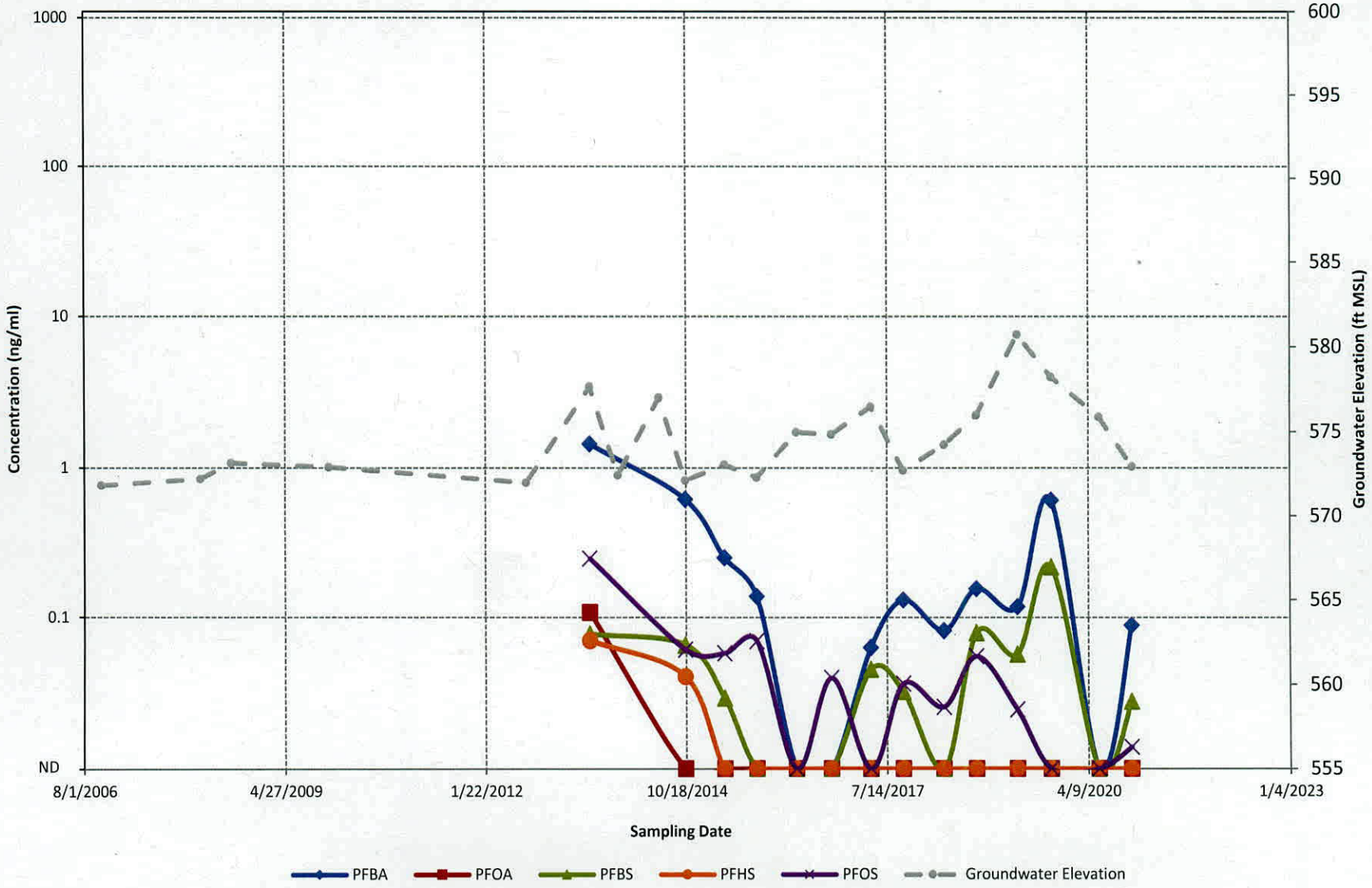
APPENDIX D
PFAS TREND GRAPHS

- D.1 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – Manufacturing Area Monitoring Wells
- D.2 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – Former Sludge Incorporation Area (SIA) Monitoring Wells
- D.3 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – On-Site Reference Monitoring Wells
- D.4 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – Site Production Wells and Building 1 Coffee Sink (Combined Discharge Monitoring Point)

- **D.1 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – Manufacturing Area Monitoring Wells**

Monitoring Well MW-1-81

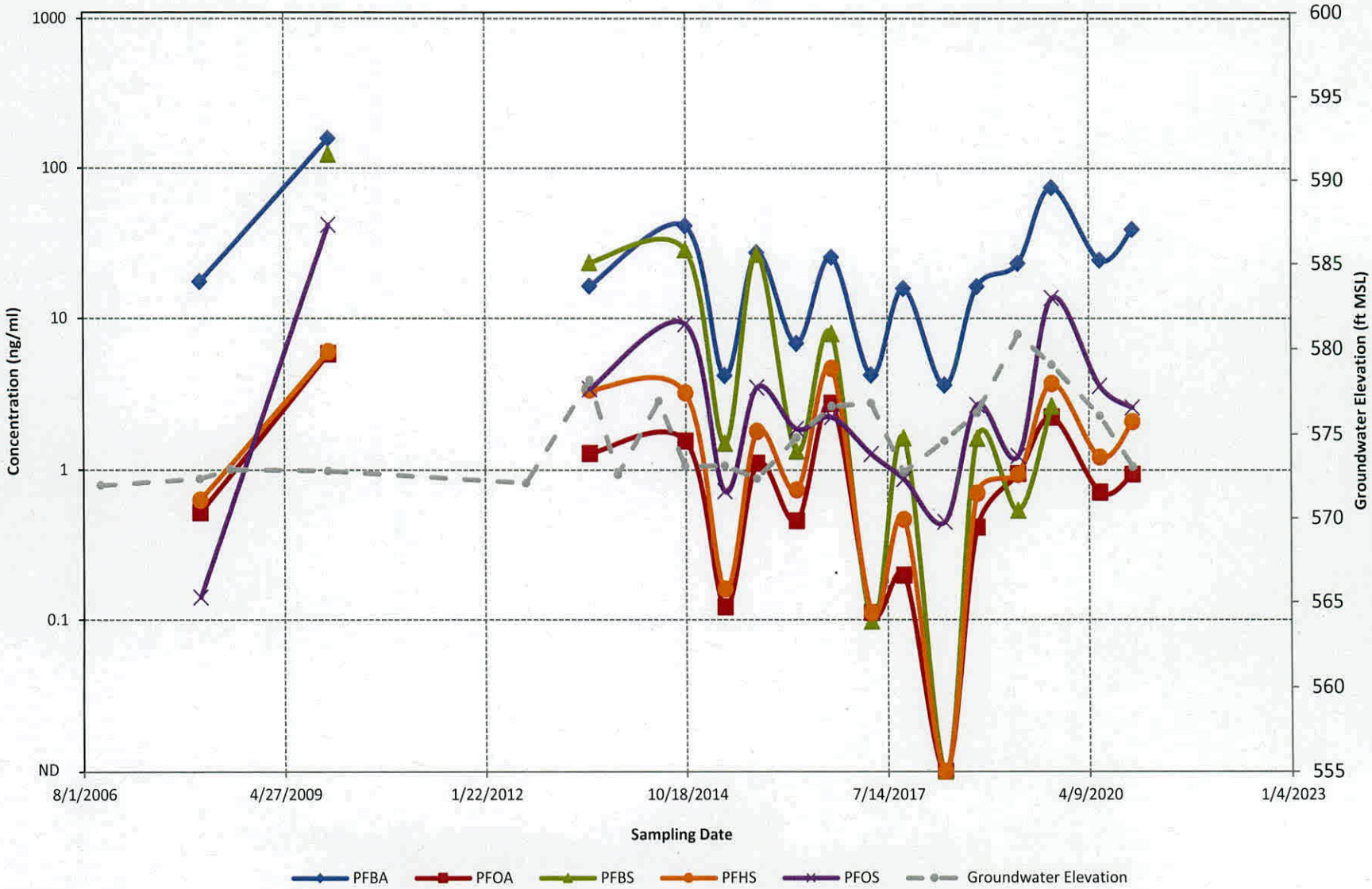
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-MW-1-81(D1-1)

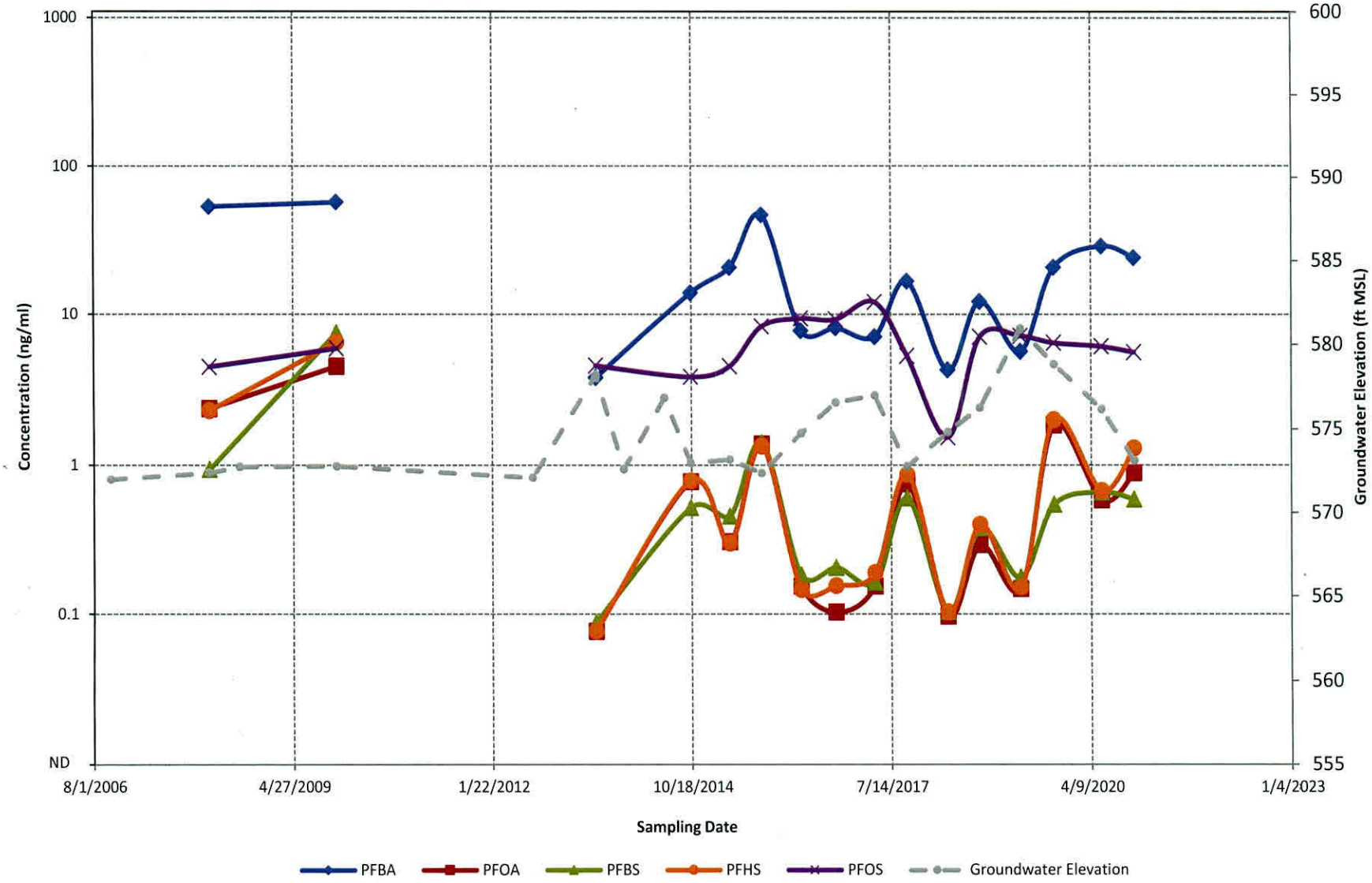
Monitoring Well MW-1-88

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



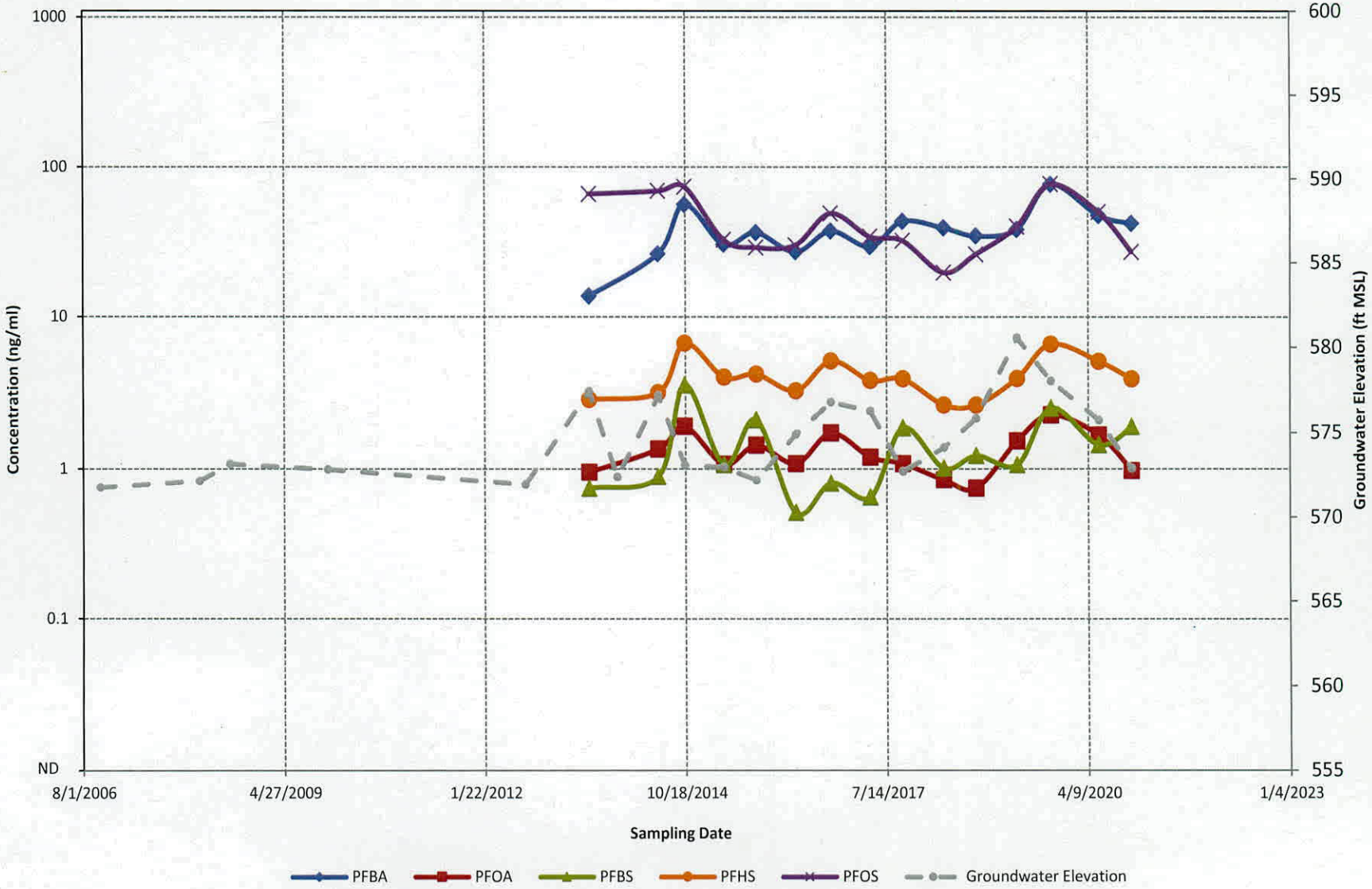
Monitoring Well MW-2-90

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



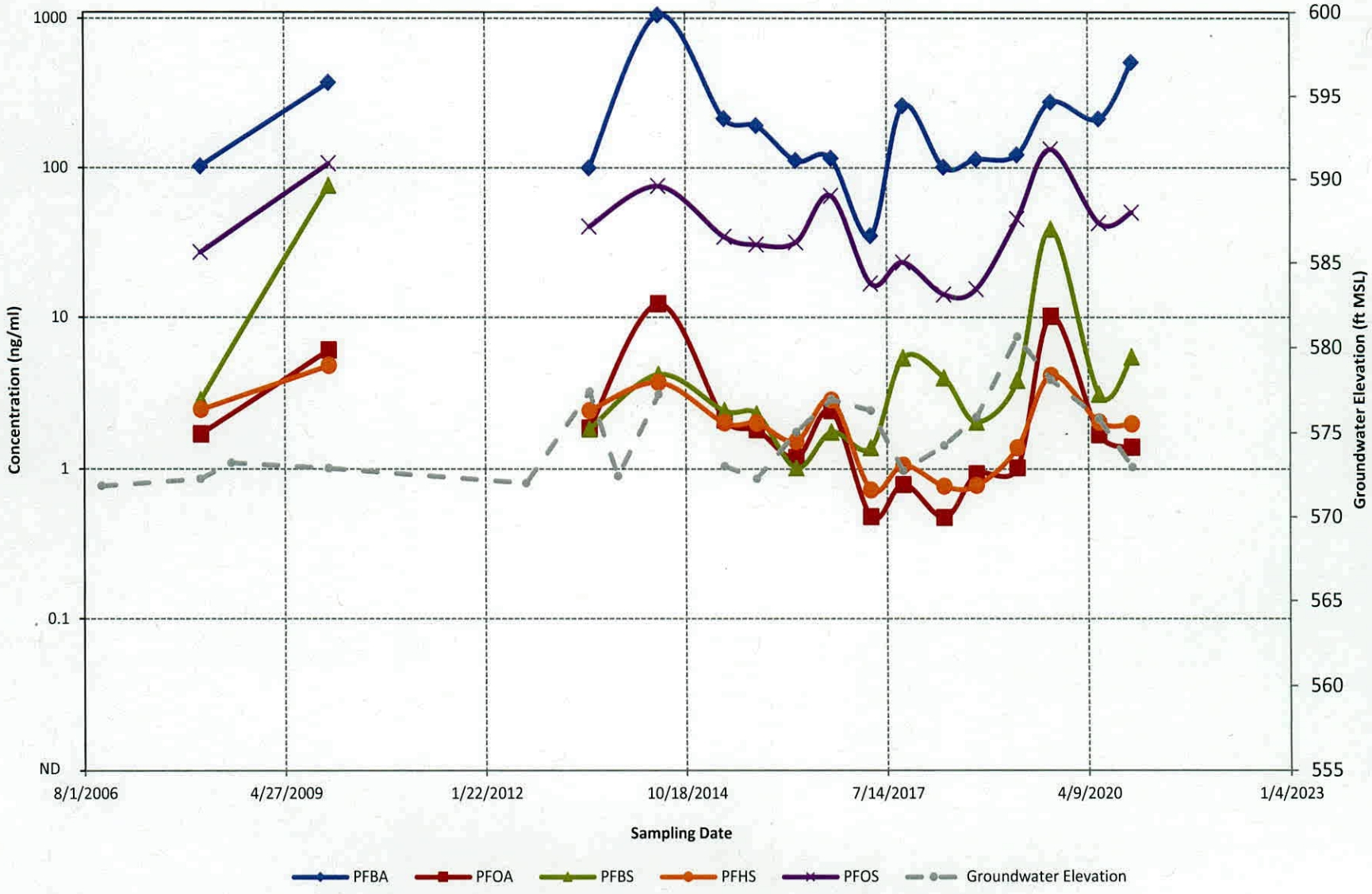
Monitoring Well MW-7-90

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



Monitoring Well MW-9-90R

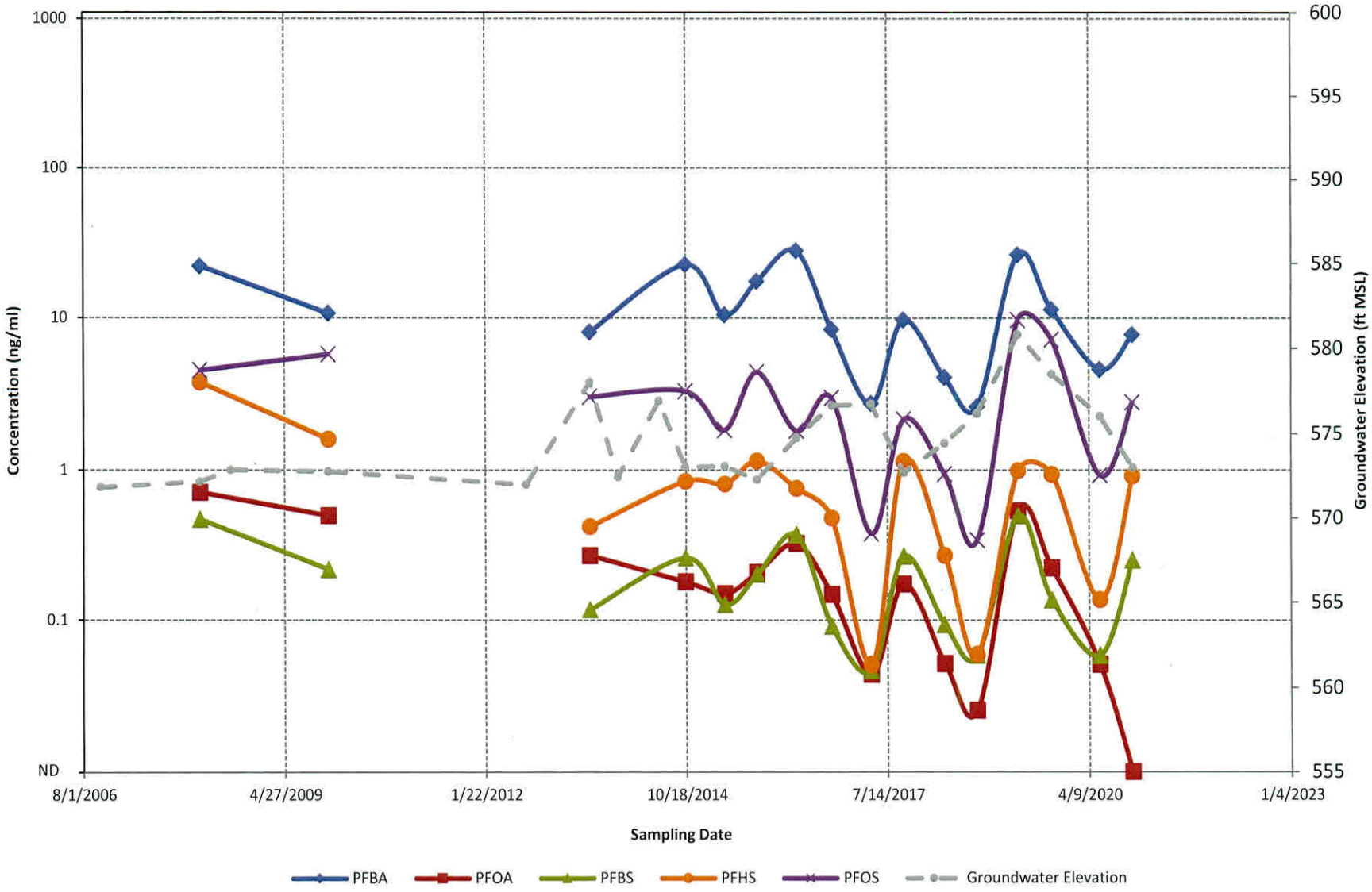
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-MW-9-90R(D1-5)

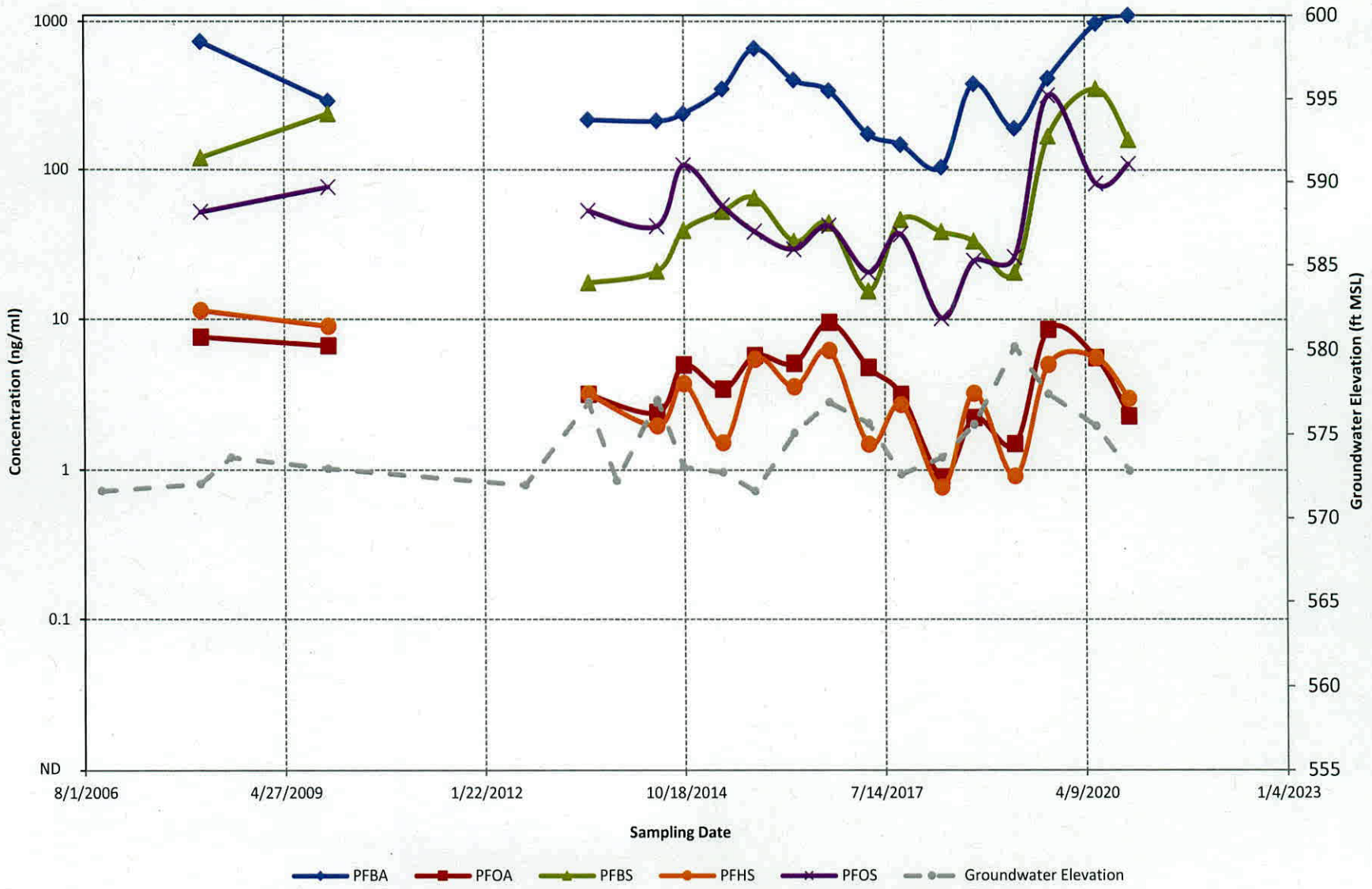
Monitoring Well MW-1-93

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



Monitoring Well MW-3-94

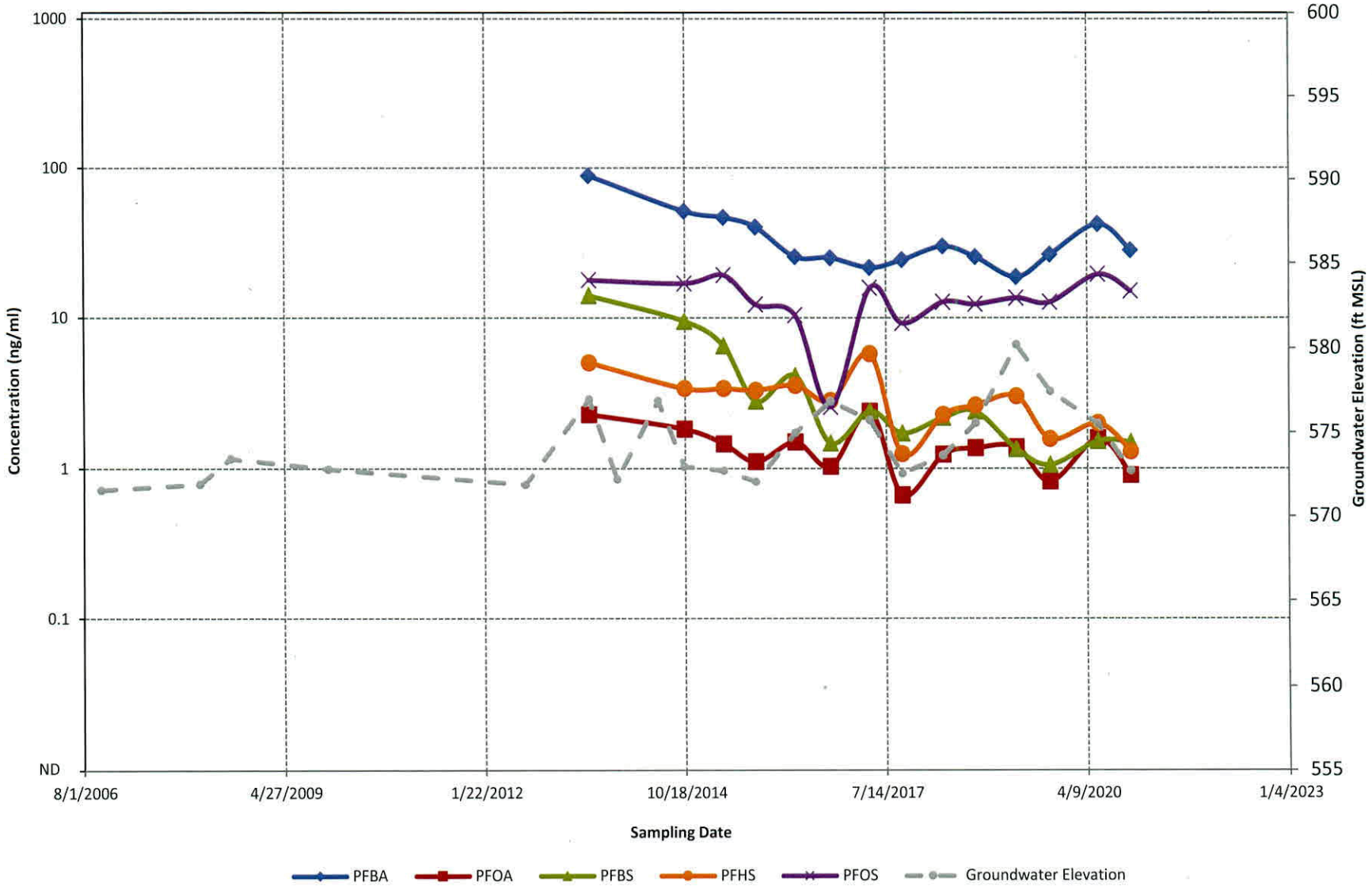
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-MW-3-94(D1-7)

Monitoring Well MW-4-94

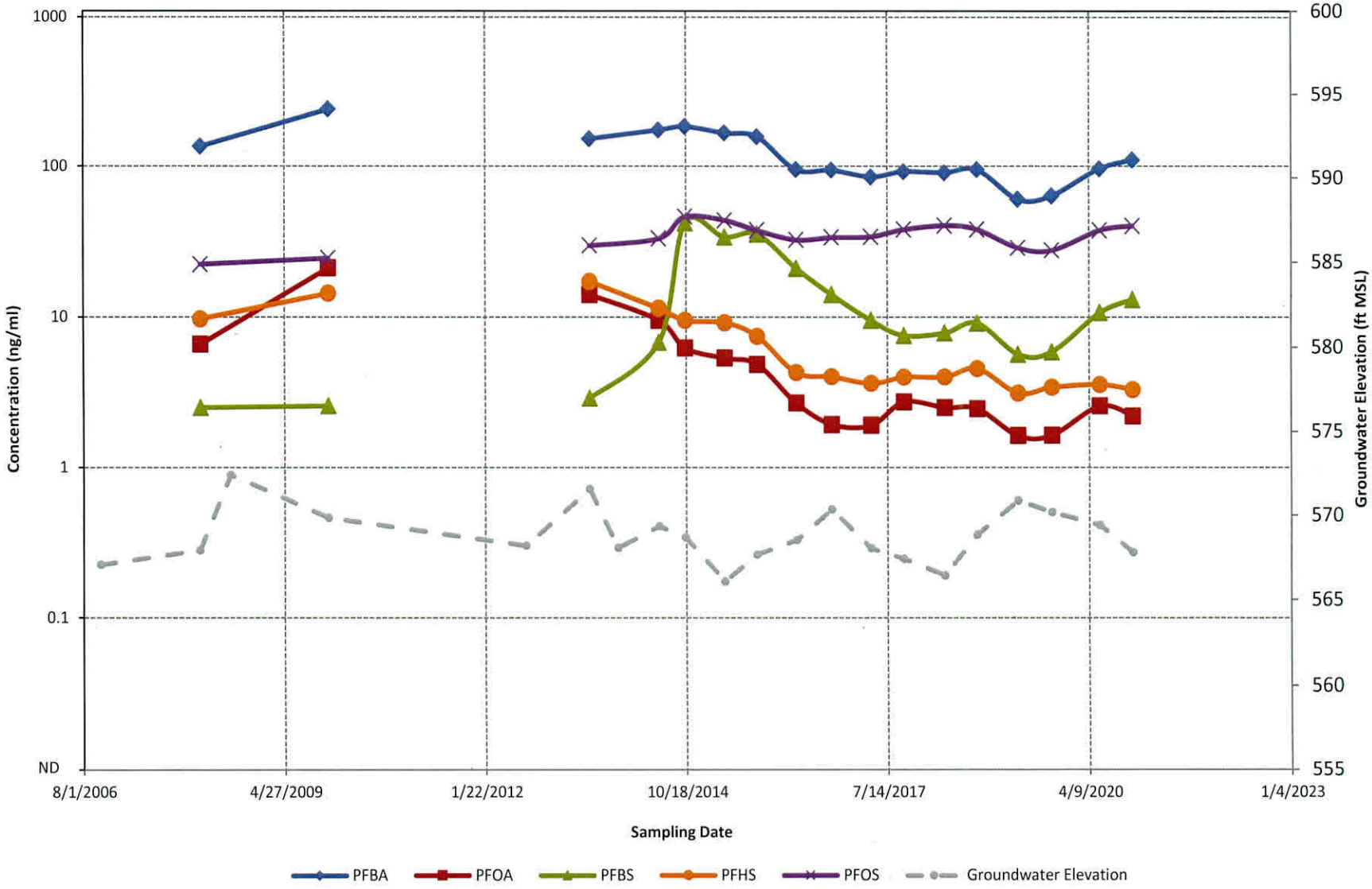
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



- **D.2 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – Former Sludge Incorporation Area (SIA) Monitoring Wells**

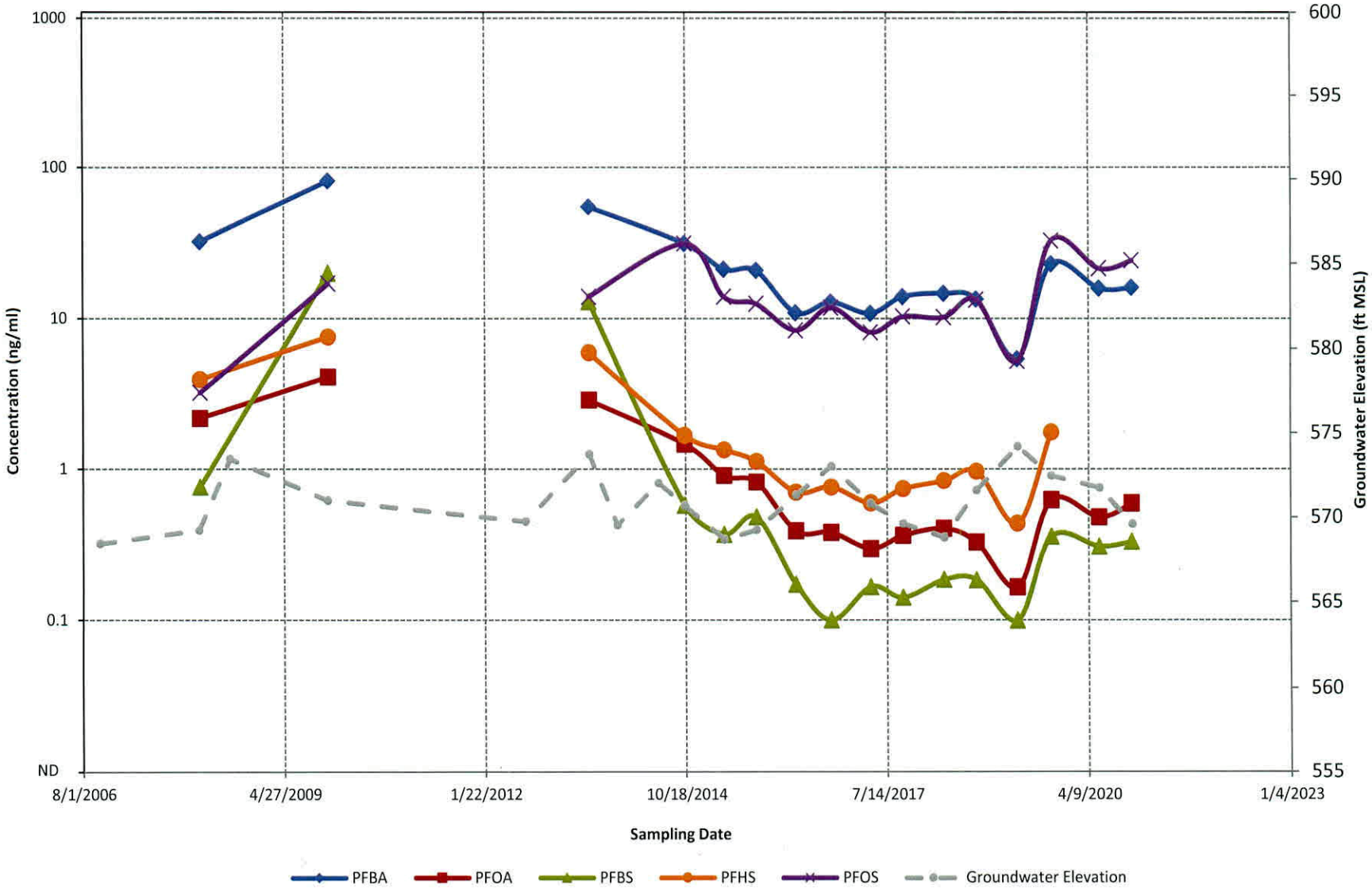
Monitoring Well MW-1-79

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



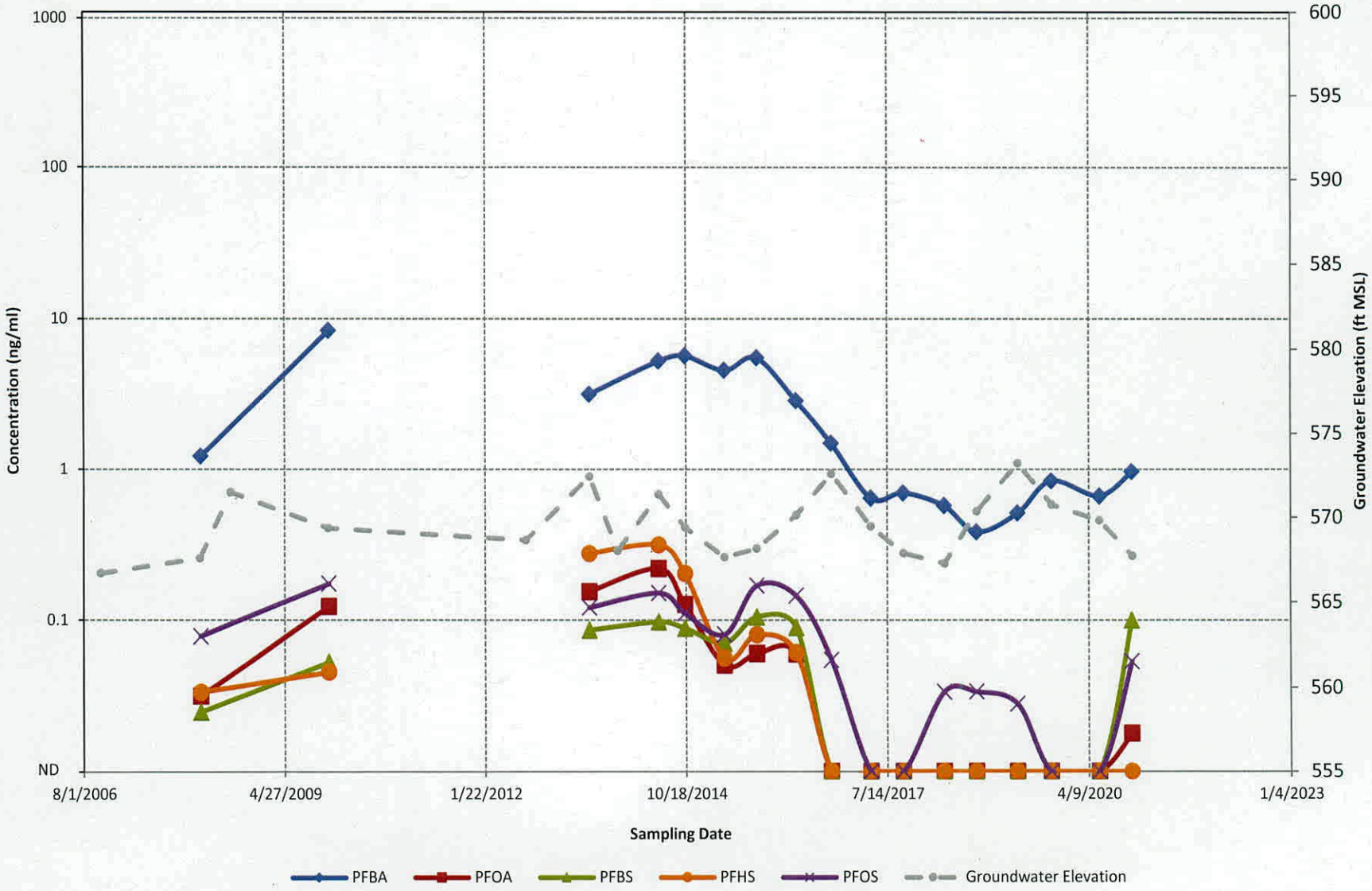
Monitoring Well MW-3-79

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



Monitoring Well MW-4-79

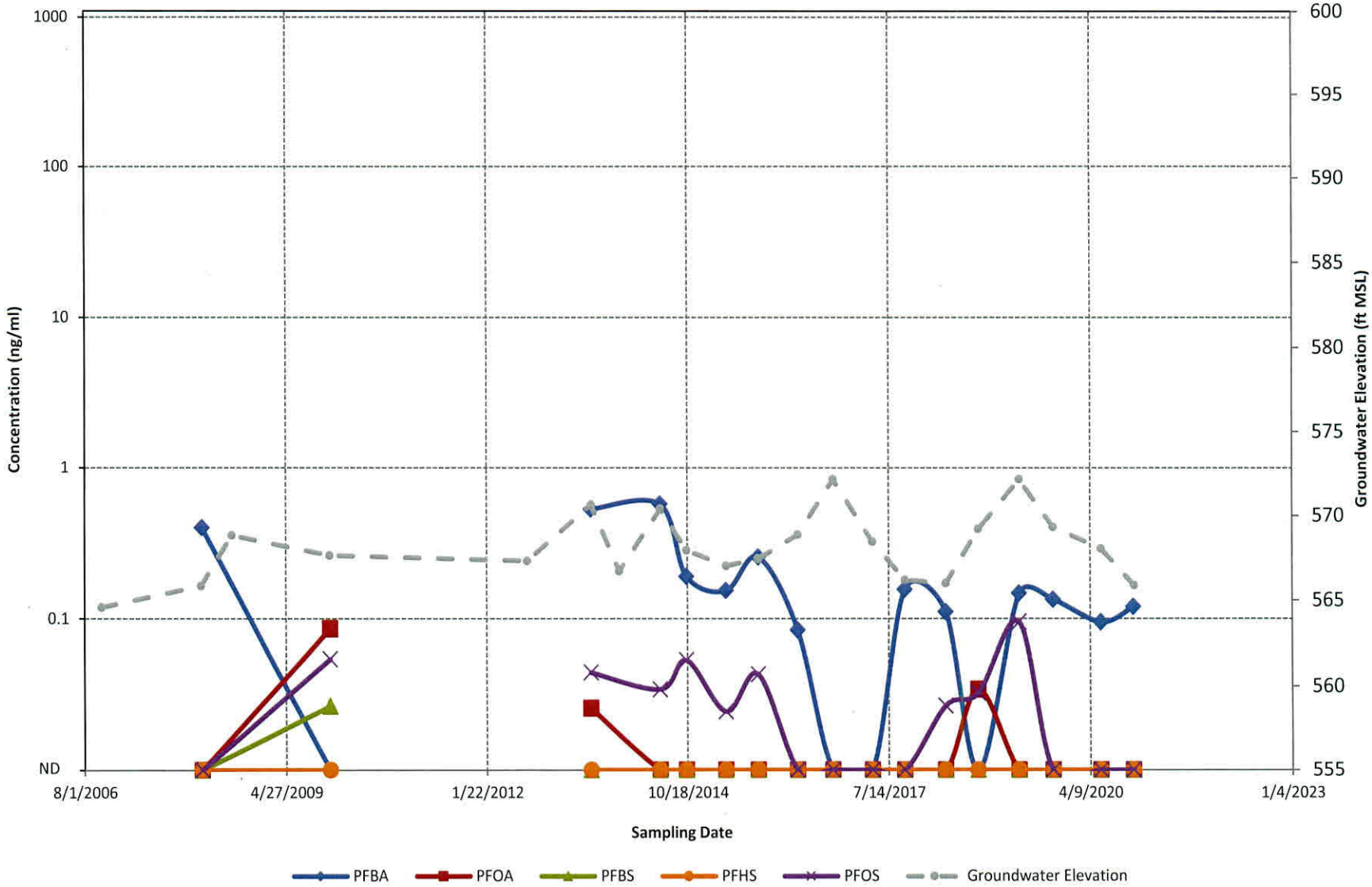
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-MW-4-79(D2-3)

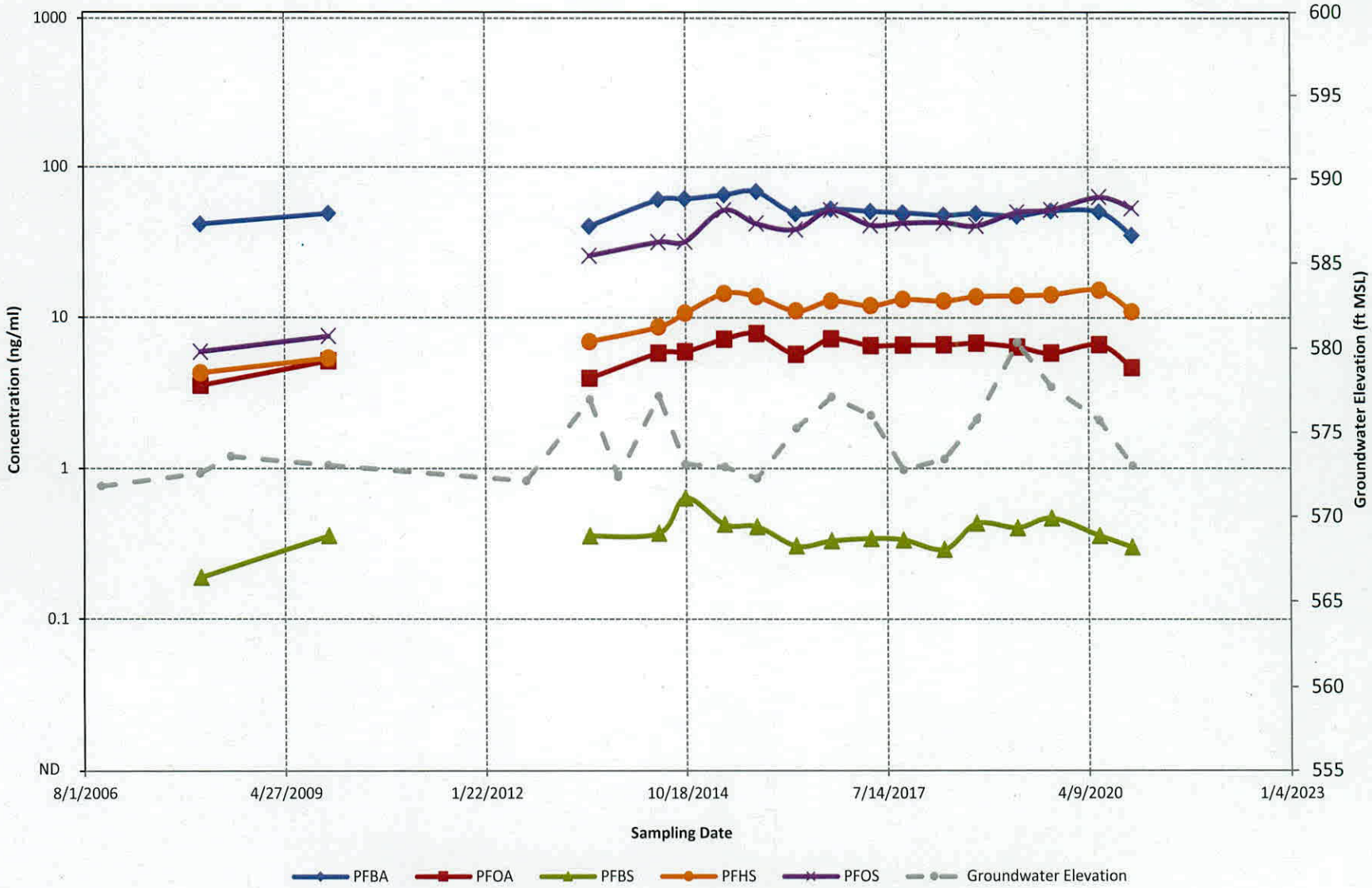
Monitoring Well MW-5-79

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



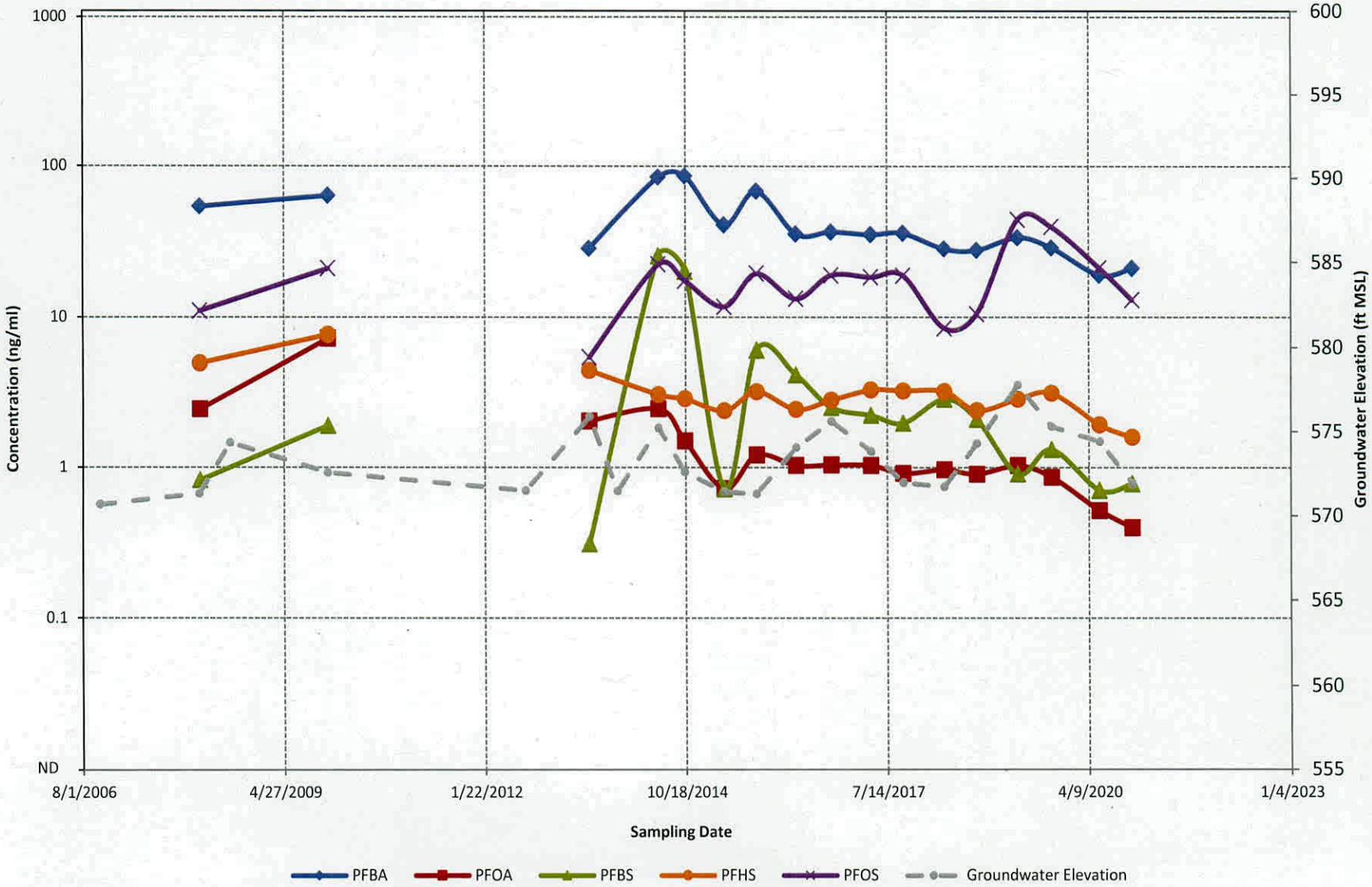
Monitoring Well MW-3-81

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



Monitoring Well MW-7-94

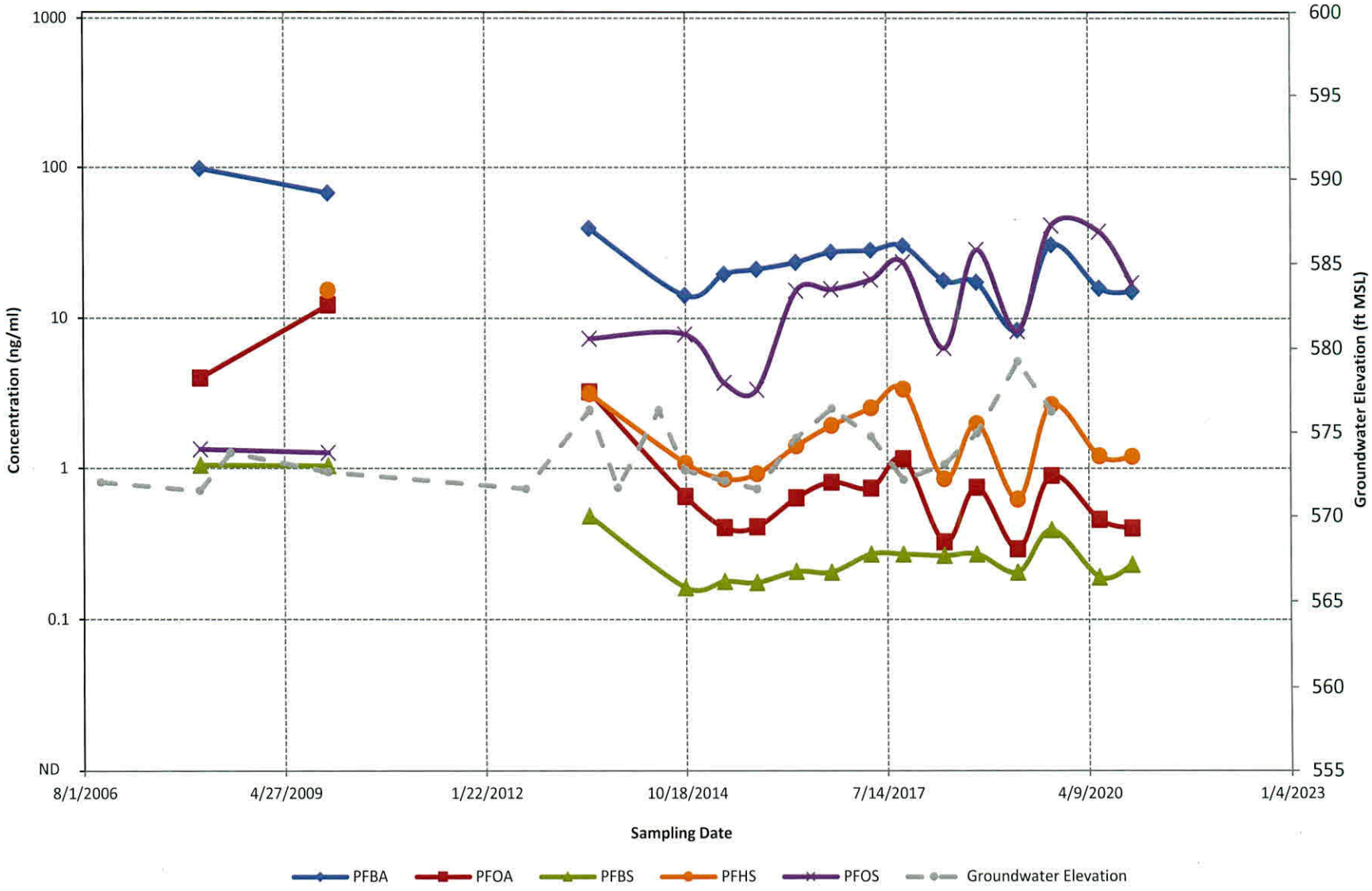
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-MW-7-94(D2-6)

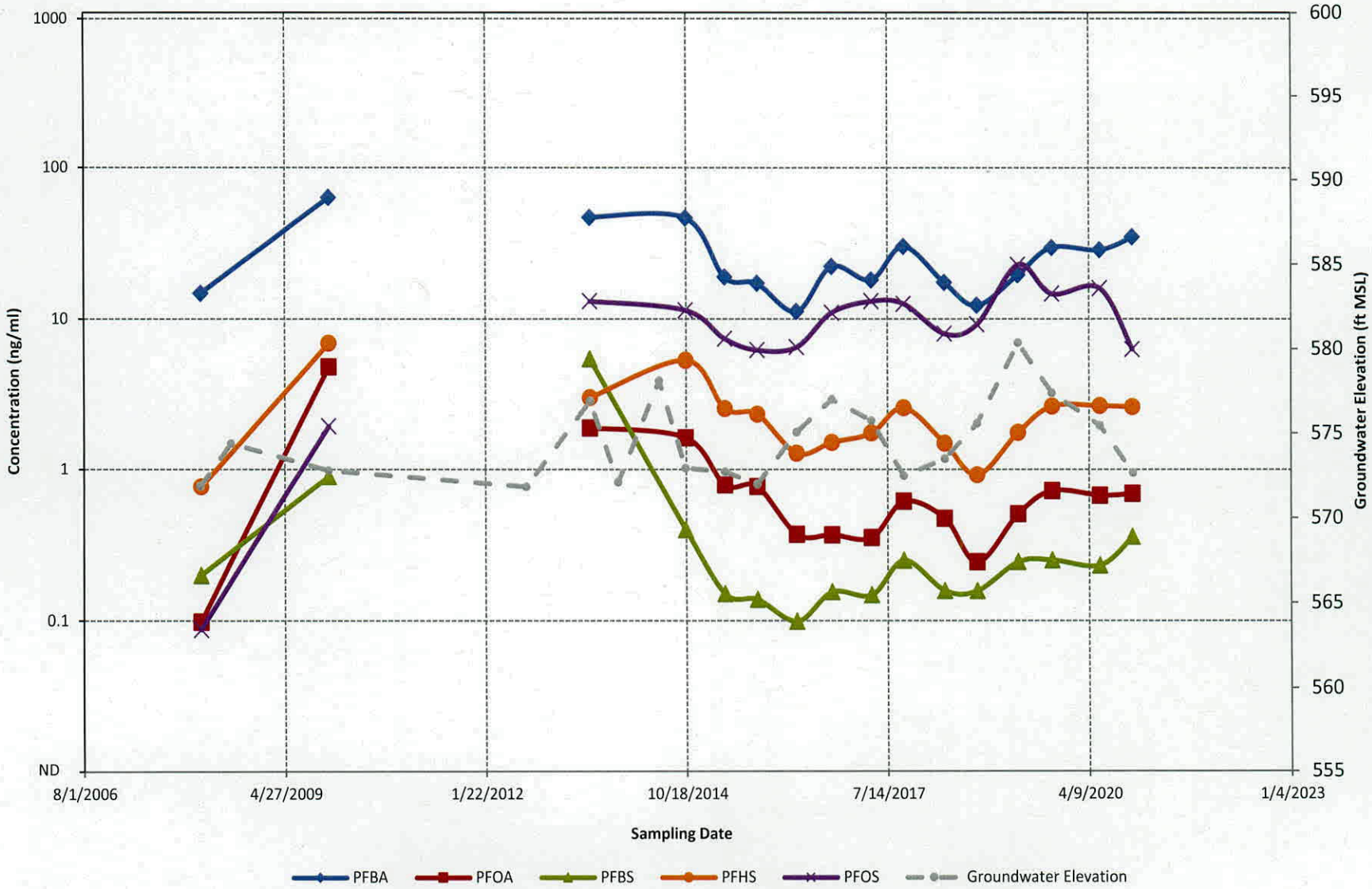
Monitoring Well MW-8-94

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



Monitoring Well MW-9-94

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.

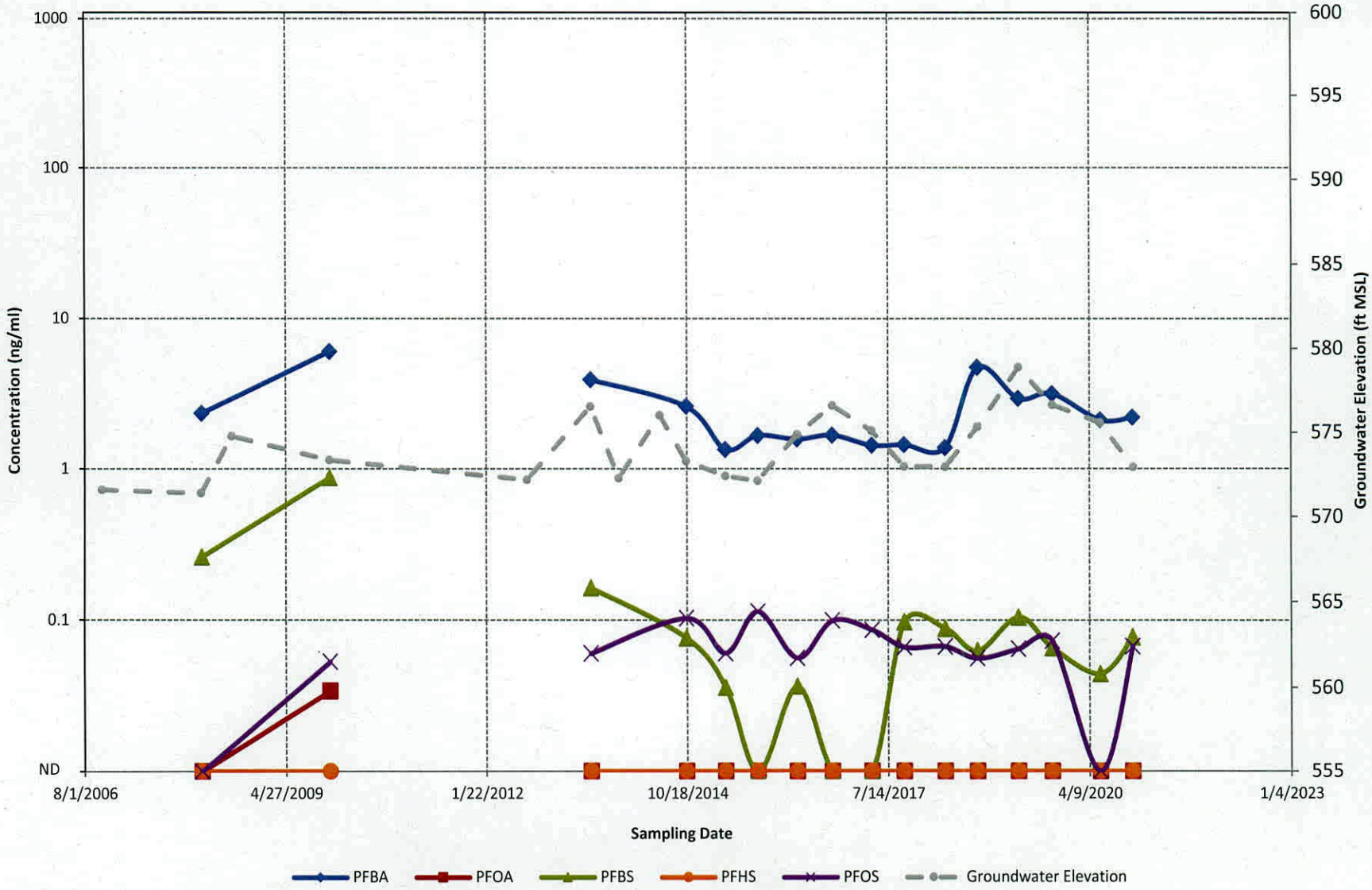


2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-MW-9-94(D2-8)

- **D.3 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – On-Site Reference Monitoring Wells**

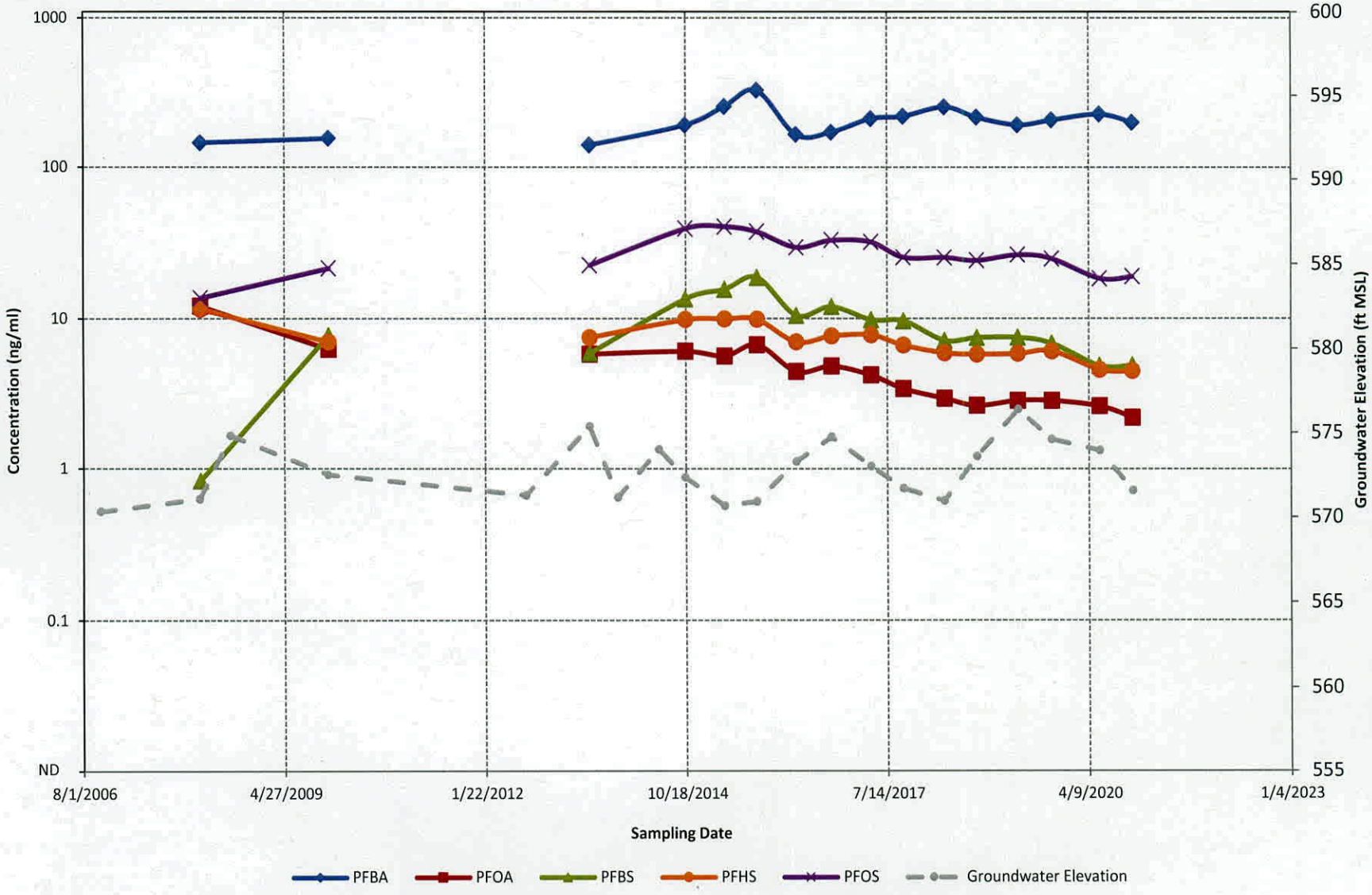
Monitoring Well MW-2-81

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



Monitoring Well MW-4-81

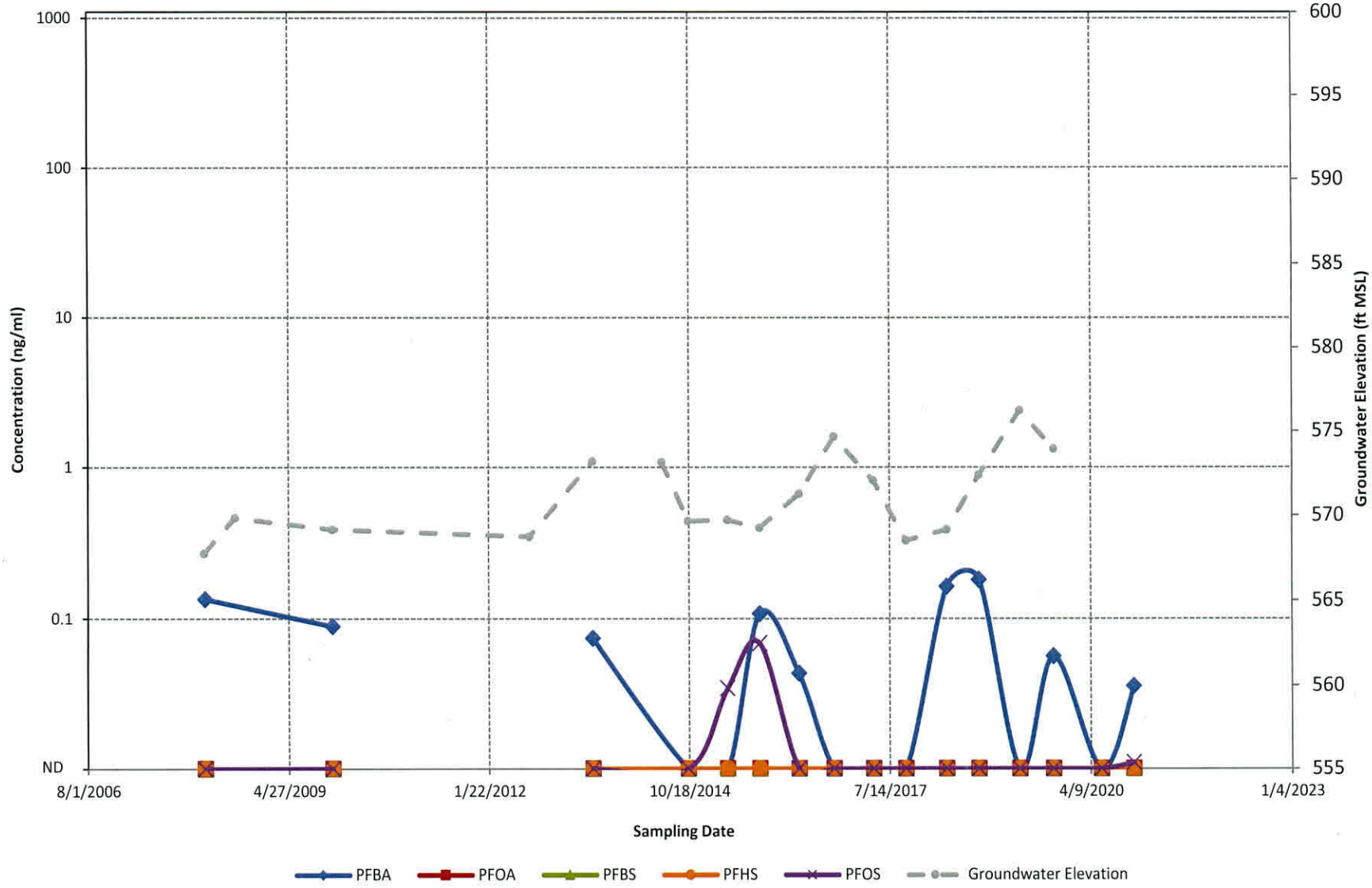
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-MW-4-81(D3-2)

Monitoring Well MW-5-81

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.

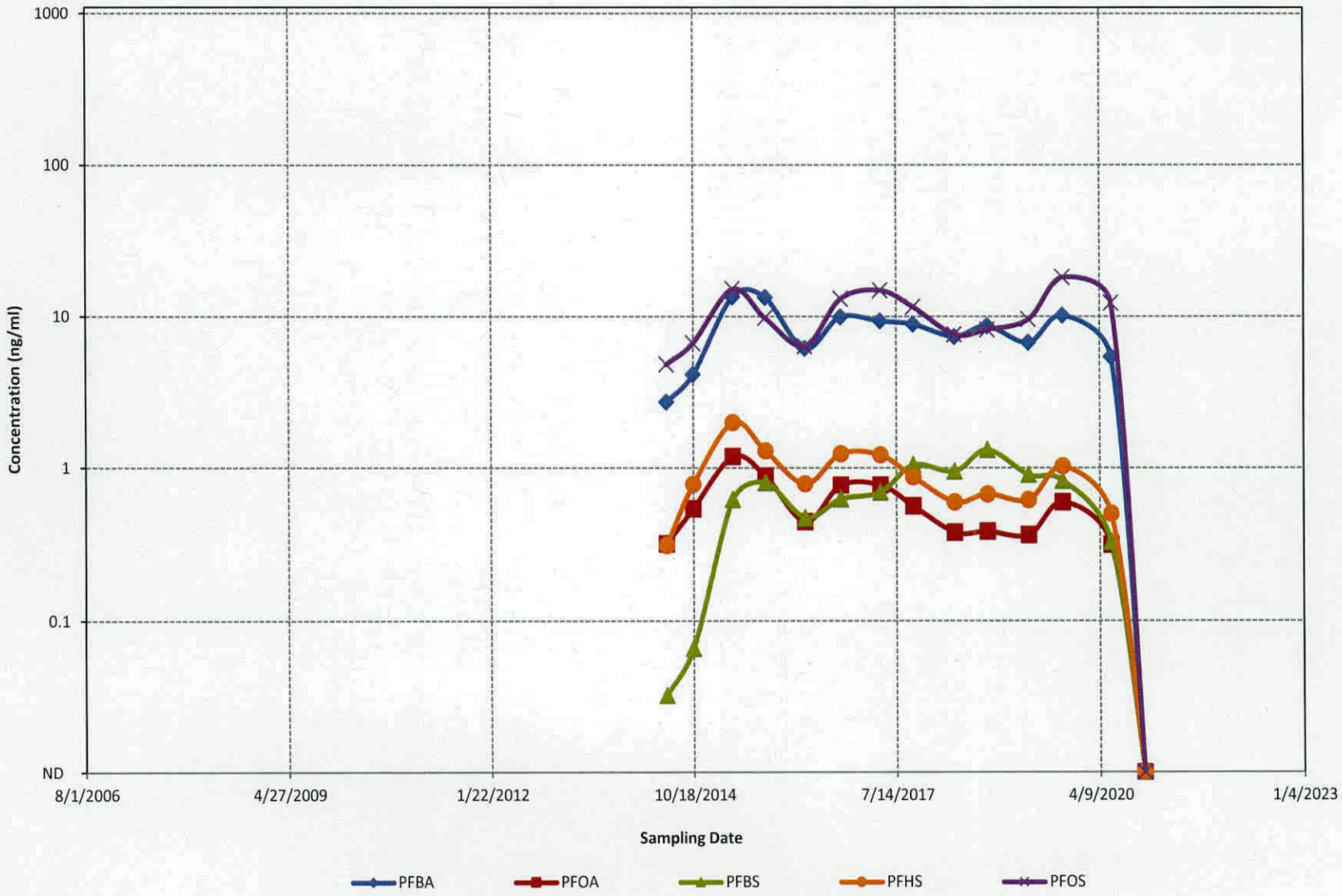


2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-MW-5-81(D3-3)

- **D.4 PFOS, PFBS, PFOA, PFBA and PFHS Trend Graphs – Site Production Wells and Building 1 Coffee Sink (Combined Discharge Monitoring Point)**

Building 1 - Coffee Sink (Combined Discharge Monitoring Point)

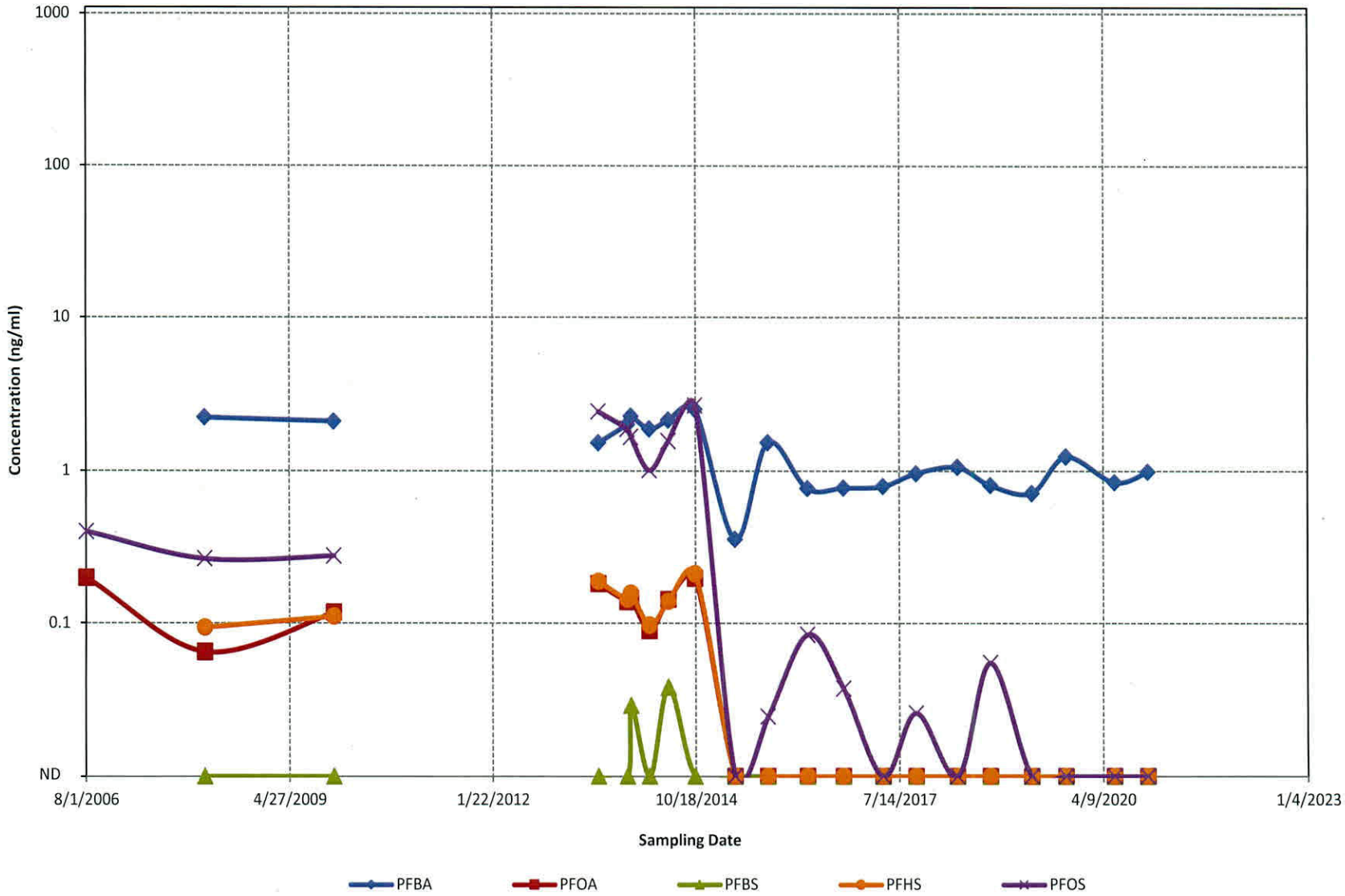
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-Build01_Sink(D4-1)

Production Well PW-11

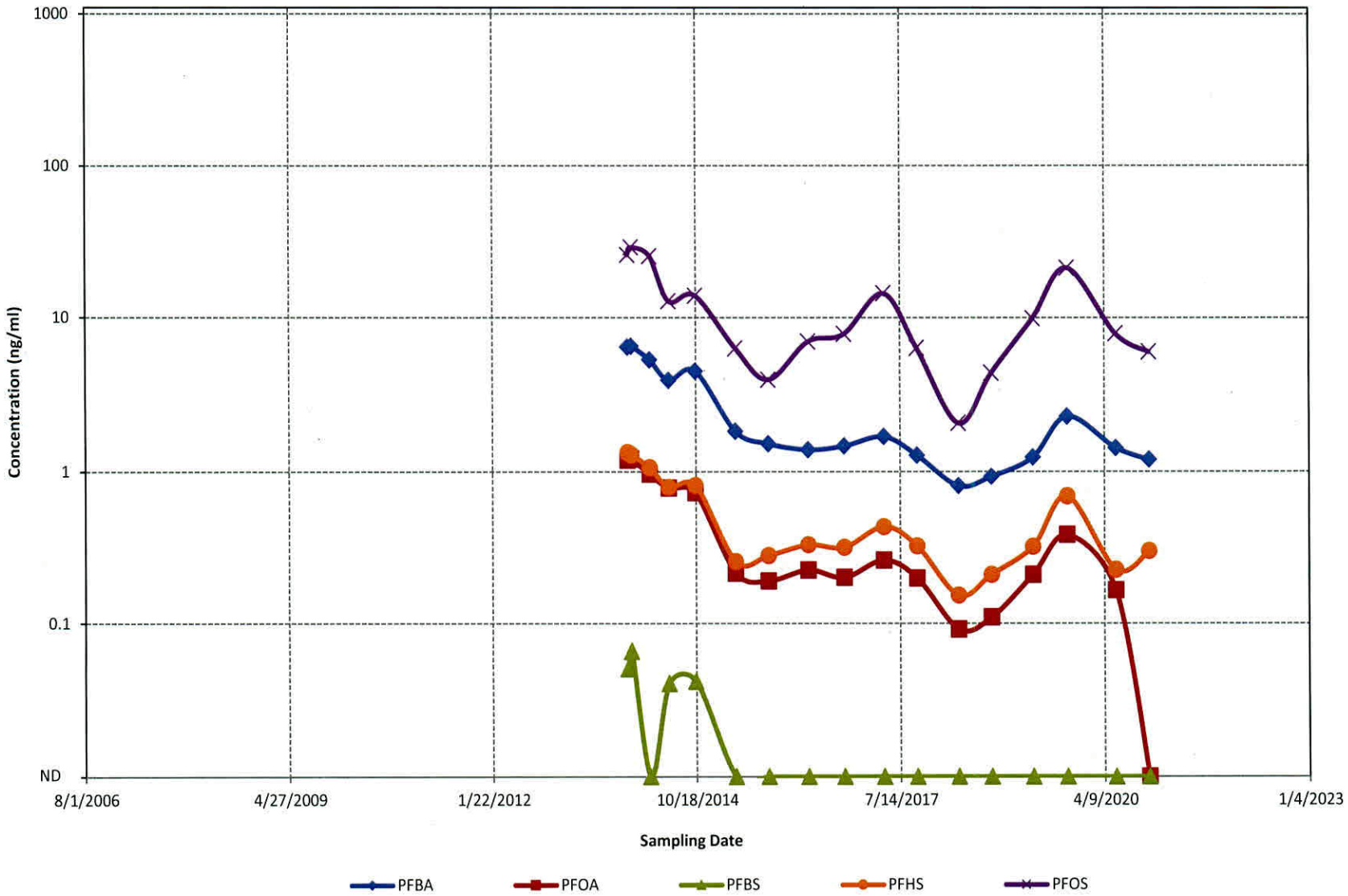
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-PW-11(D4-2)

Production Well PW-112

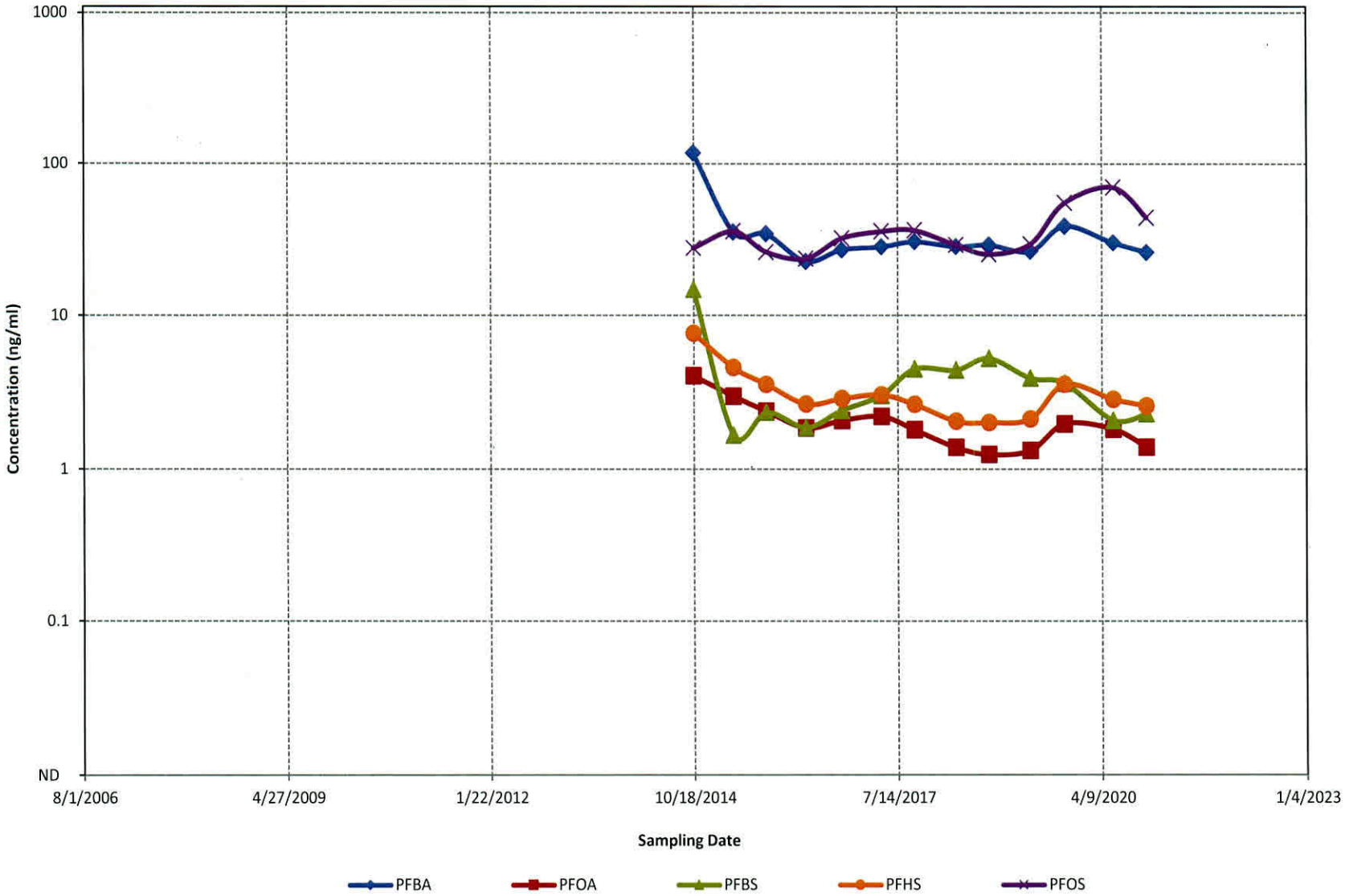
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-PW-112(D4-3)

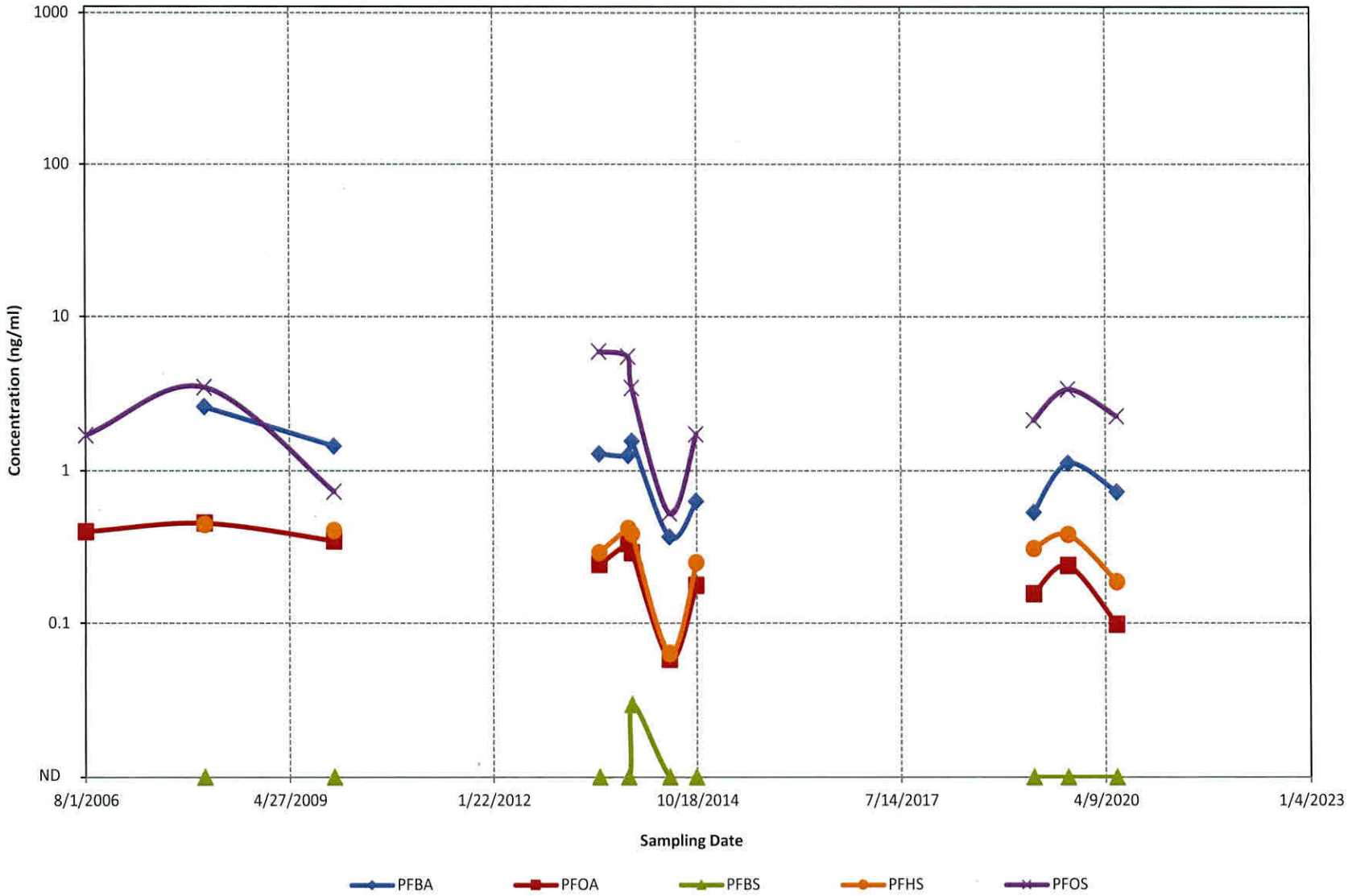
Production Well PW-113

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



Production Well PW-24

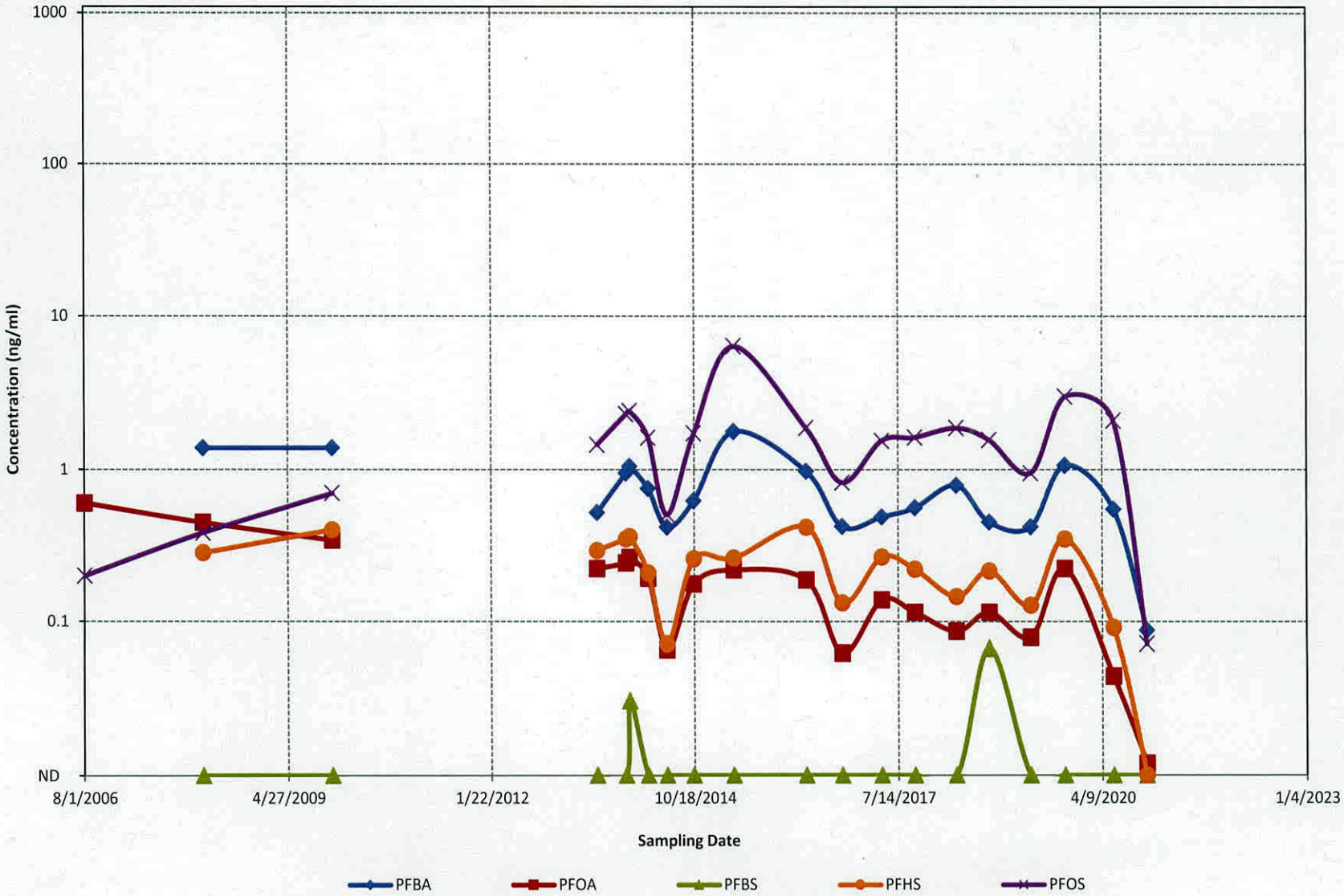
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-PW-24(D4-5)

Production Well PW-37

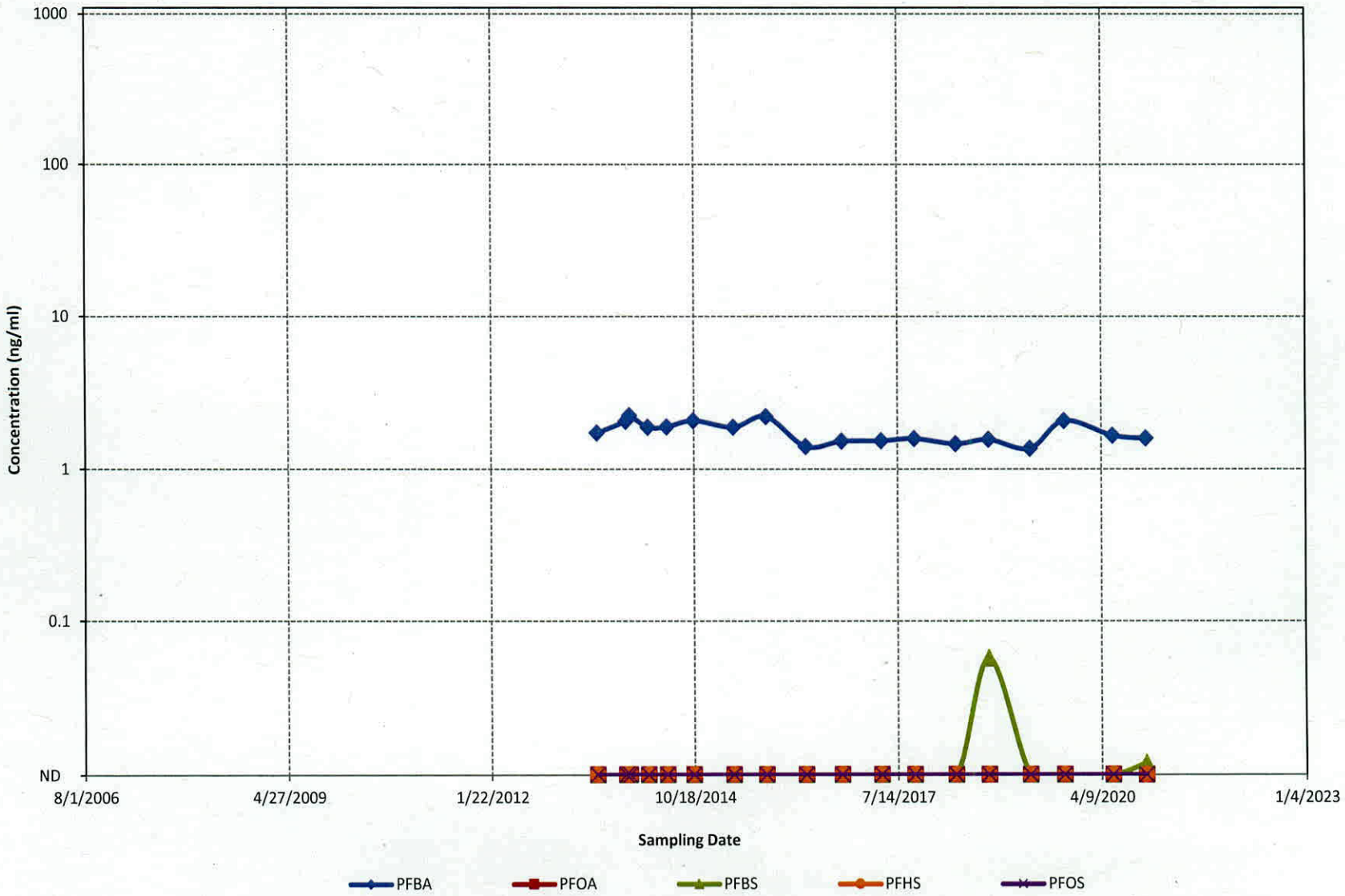
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-PW-37(D4-6)

Production Well PW-91

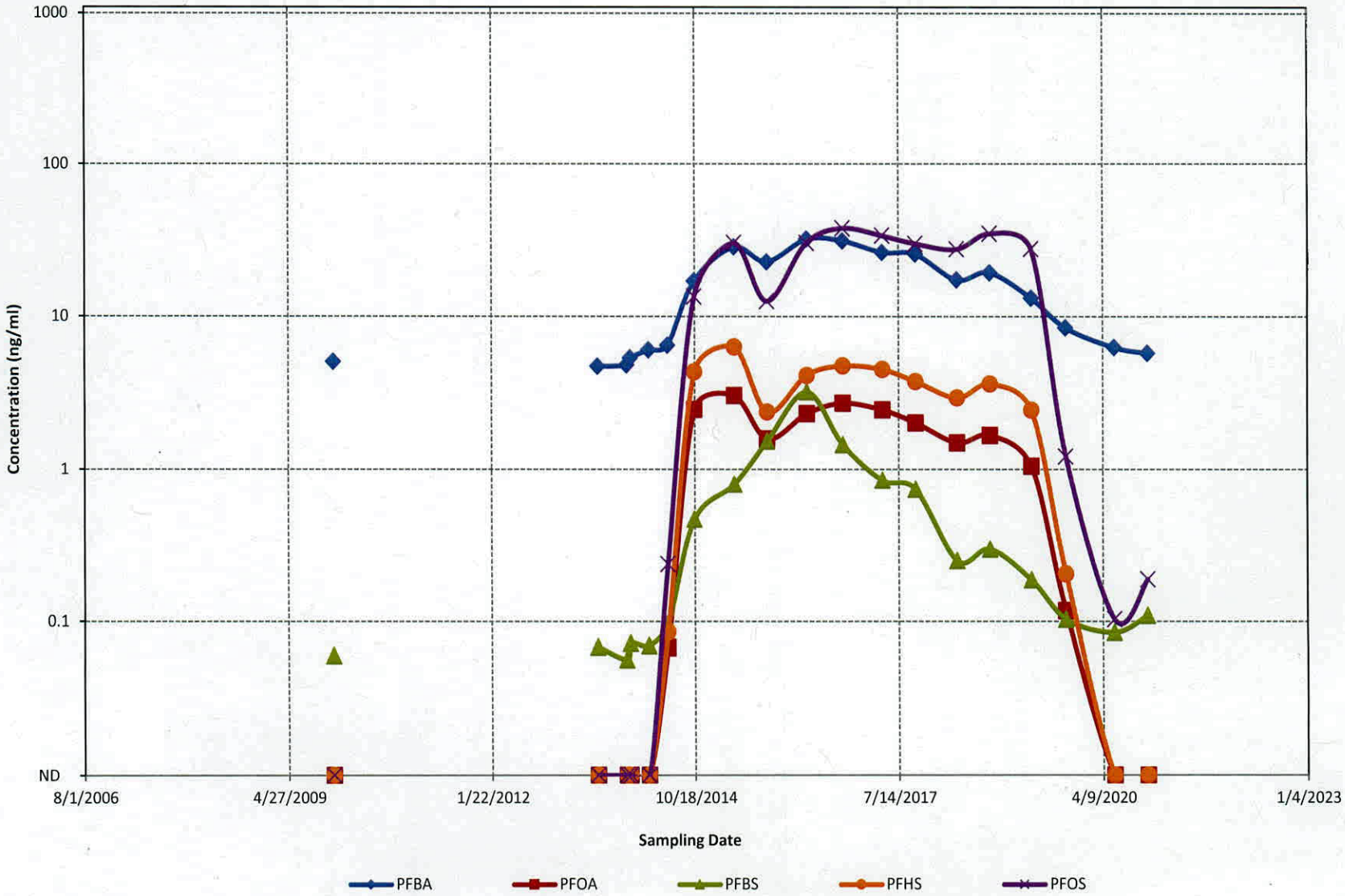
PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-PW-91(D4-7)

Production Well PW-94

PFC Groundwater Analytical Data
3M Cordova Facility, Cordova IL.



2021-06-01-COIL-TrendGraphs-LOG_Scale(thru 2020-11).xlsx; Chart-PW-94(D4-8)

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