Water Boards

Fact Sheet

Per- and Polyfluoroalkyl Substances (PFAS) Fact Sheet

State Water Resources Control Board
Division of Drinking Water

May 2024

Table of Contents

List of Acronyms & Abbreviations

Acronyms/Abbreviations	Definitions
DDW	Division of Drinking Water
MCL	Maximum Contaminants Level
NPDWR	National Primary Drinking Water Regulation
OEHHA	Office of Environmental Health Hazard Assessment
PFAS	Per- and Polyfluoroalkyl Substances
PHG	Public Health Goal
State Water Board	State Water Resources Control Board
US EPA	The U.S. Environmental Protection Agency

Overview

This fact sheet provides information about Per- and Polyfluoroalkyl Substances (PFAS) and State Water Resources Control Board (State Water Board), Division of Drinking Water actions to manage PFAS issues in drinking water in California.

PFAS Background

1. PFAS definition

PFAS, or Per- and Polyfluoroalkyl Substances, are a large group of man-made substances that do not occur naturally in the environment and are resistant to heat, water, oil, grease, and stains. Since the 1940s, PFAS have been used in industry and consumer products, such as non-stick cookware, waterproof clothing, stain-resistant fabrics and carpets, some firefighting foams, and products that resist grease, water, and oil. PFAS can be found in a variety of consumer products and in groundwater.

2. PFAS concerns

Long term exposure to PFAS is potentially harmful to health. A recent review from the U.S. Centers for Disease Control and Prevention (CDC) outlines that over a long time PFAS may:

- Decrease fertility and birth weight.
- Weaken a body's ability to fight disease.
- Increase the risk for some cancers, asthma, thyroid disease, and liver damage.
- Increase cholesterol levels (which can increase the risk for heart attack or stroke).

Because of the potential health risks of PFAS, the State Water Board requires monitoring PFAS to protect drinking water quality. Monitoring PFAS in drinking water ensures that your water remains safe to drink and helps the State Water Board to protect public health.

3. PFAS found in the environment

PFAS can be found in air, water, and soil in and around manufacturing facilities. Although these releases have been declining since companies began phasing out the production and use of several PFAS in the early 2000s, PFAS are very stable in the environment and are resistant to breaking down. They remain in the environment and the human body for long periods of time. Some PFAS are volatile and can be carried long distances through the air, which may lead to contamination of soil and groundwater far from the source of the PFAS emission.

4. Sources of PFAS

The primary sources of PFAS are: fire training/fire response sites, industrial sites landfills, and wastewater treatment plants/biosolids. The following picture shows examples of products containing PFAS.

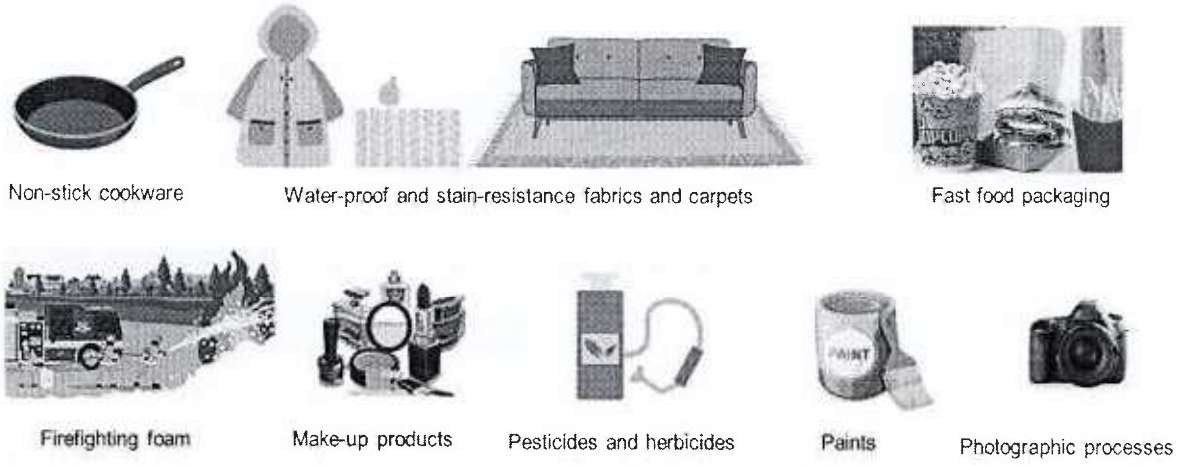


Figure 1. Examples of consumer products containing PFAS.

5. Human exposure to PFAS

The main ways that PFAS get into people's bodies are through:

- **Drinking water**: Contaminated drinking water has led to high levels of exposure to PFAS for some populations residing near manufacturing facilities that have used PFAS.
- **Food:** Food produced in water or soil contaminated with PFAS, such as vegetables fish, meat, and eggs may contain PFAS due to bioaccumulation and crop uptake. Also, food packaging made with PFAS can lead to PFAS transfer to food.
- **Consumer Products:** Hand-to-mouth contact with consumer products made with PFAS, such as carpets and textiles, or cosmetics and lotions.
- **Inhalation:** Breathing in contaminated air or household dust can expose people to PFAS. Both outdoor and indoor air or dust may contain PFAS. PFAS in outdoor air may be because of manufacturing releases. Clothing, textiles, and carpets treated with PFAS may result in higher concentrations of some PFAS in indoor air.

PFAS chemicals are not easily absorbed through the skin; therefore, dermal exposure is considered a less significant route of exposure for the general population.

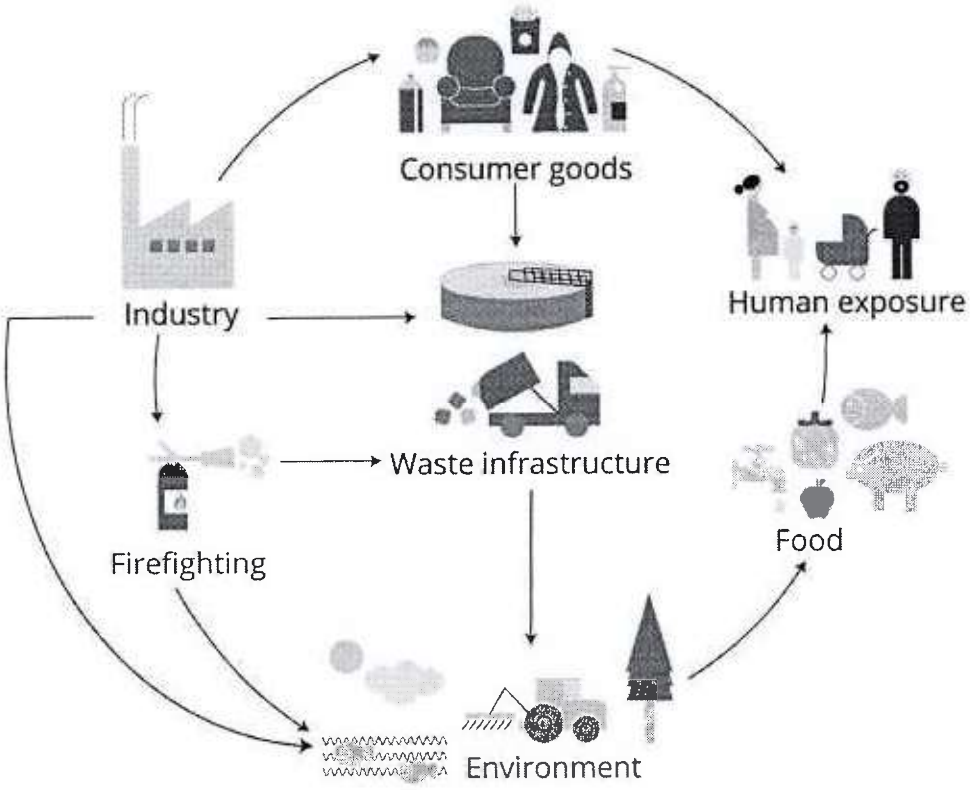


Figure 2. PFAS exposure pathways to the environment and human. Image is adopted from https://extension.umaine.edu/livestock/dairy/pfas-and-dairy-animals/

6. PFAS in drinking water

PFAS can get into drinking water when products containing them are used or spilled onto the ground or into lakes and rivers. Once in groundwater, PFAS are easily transported large distances and can contaminate drinking wells. PFAS in the air can also end up in rivers and lakes used for drinking water. Additional information regarding PFAS fate and transport in the environment may be found on the Interstate Technology Regulatory Council (https://pfas-1.itrcweb.org/).

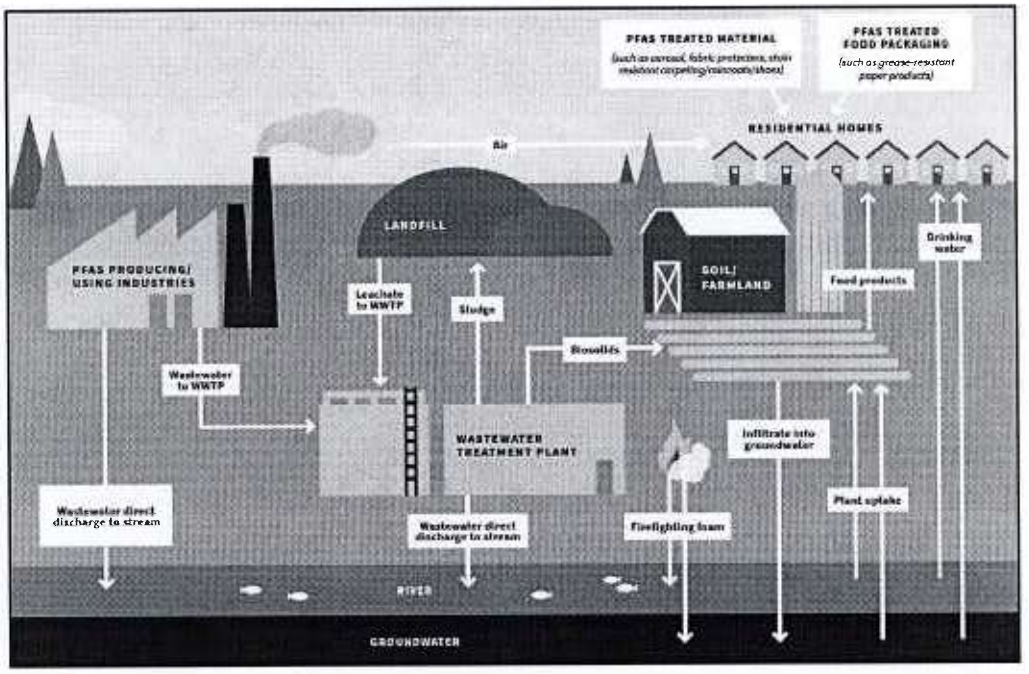


Figure 3. PFAS sources and pathways to drinking water. Image is adopted from https://health.hawaii.gov/heer/environmental-health/highlighted-projects/pfas/

7. PFAS production in the United States

The U.S. Environmental Protection Agency (US EPA) has announced that eight major PFAS producers have phased out PFAS from emissions and products. However, manufacturers have developed replacement substances in the PFAS family. Additionally, there could be some imported goods containing these substances.

8. PFAS exposure reduction

Preventing exposure to PFAS is not practical due to the widespread historic and current use of PFAS, which are commonly used in consumer products throughout the world. Exposure can be reduced by avoiding or limiting exposure with some products, as follows:

- Use non-stick coated cookware according to manufacturer guidelines (not all non-stick coatings contain PFAS).
- Use stainless steel or cast-iron cookware in place of non-stick coated items.
- Avoid oil and water-resistant food packaging.
- Avoid stain resistant coatings on carpet, furniture and clothing.

- Avoid water repellants on clothing.
- Use personal care products without "PTFE" or "Fluoro" ingredients.
- Wipe or clean household surfaces with a damp cloth regularly.

The Food and Drug Administration (FDA) recommends that people should eat different types of foods to maintain a healthy diet. They mentioned that the findings from the first tests conducted on various foods didn't show a need to avoid specific foods because of PFAS contamination. More information may be obtained from the Food and Drug Administration (https://www.fda.gov/food/process-contaminants-food/questions-and-answers-pfas-food).

Efforts by the California State Water Resources Control Board (State Water Board) to Address PFAS

9. Efforts to identify the sources of PFAS in California

Since 2019, the State Water Board, Division of Drinking Water (DDW) has been strategically planning and issuing statewide investigative orders to identify the occurrence of PFAS in areas of the highest potential impact to the environment and drinking water. These areas include industrial use of PFAS in fire-fighting foams, at certain industrial applications, and at those industries impacted secondarily by PFAS.

Based on statewide sampling efforts, PFAS has been mostly identified in areas of industrial use of firefighting foams containing PFAS at airports, bulk fuel terminals, refineries, and when PFAS-containing mist suppressants have been used as part of plating processes. However, PFAS has also been identified in landfills and at wastewater treatment plants, because they are receiving PFAS secondarily in waste streams.

10. State Water Board efforts to manage PFAS issues in drinking water

The DDW has issued several investigation orders (https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/pfas_ddw_general_order) to public water systems requiring testing for PFAS. Most recently, General Order DW 2024-0002-DDW (2024 Order) has been issued to public water systems for monitoring PFAS in community public water systems serving disadvantaged and severely disadvantaged communities. The purpose of this monitoring is to understand PFAS impacts on drinking water in these communities.

California State Assembly Bill 756 (codified as Health and Safety Code section 116378) authorizes the State Water Board to more broadly order public water systems to monitor for PFAS and report their detections. Additional and more assessment might be required in the coming years.

In combination with investigating industrial sources, public water systems have been sampling wells in the vicinity of these areas per State Water Board General Order DW 2022-0001-DDW (https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/pfas_ddw_general_order/).

Additionally, the DDW has issued notification levels and response levels for four common PFAS compounds listed in Table 1. Additional notification and response levels could be issued in the future based on occurrence and recommendations from Office of Environmental Health Hazard Assessment (OEHHA) on the potential risks to human health.

Table 1. Four PFAS constituents with Notification and Response levels in nanograms per liter or parts per trillion.

PFAS Constituent	Notification Level (ng/L or ppt)	Response Level (ng/L or ppt)
Perfluorobutanesulfonic acid (PFBS)	500	5,000
Perfluorohexanesulfonic acid (PFHxS)	3	20
Perfluorooctanesulfonic acid (PFOS)	6.5	40
Perfluorooctanoic acid (PFOA)	5.1	10

11. Notification level and Response level

Notification levels are health-based advisory levels established by the DDW for chemicals in drinking water that lack maximum contaminant levels (MCLs). When chemicals are found at concentrations greater than their notification levels, certain requirements and recommendations apply. The law's notification requirements apply to:

- Wholesale water systems, who must notify their governing bodies and the water systems that are directly supplied with that drinking water.
- Retail water systems, who must notify their governing bodies and the governing bodies of any local agencies (i.e., city or county, or a city and county) whose jurisdictions include areas supplied with their drinking water.

- Wholesale and retail water systems regulated by the California Public Utilities Commission, who must also notify the commission.

Response level is the level at which DDW recommends removal of a drinking water source from service. When a confirmed detection exceeds the response level, a community water system or a nontransient noncommunity public water system is required to:

- Report that detection in the water system's annual consumer confidence report.
- Take a water source where detected levels exceed the response level out of use or provide public notification (as specified in Health and Safety §116378) within 30 days of the confirmed detection.

12. PFAS Notification level or Response level exceedance requirements

Currently, there are only four PFAS with notifications levels (refer to Table 1). Additional notification levels could be established for other PFAS as more data and information become available.

If the water system voluntary samples the well and performs the analytical testing and the results of a PFAS detection are confirmed to exceed its respective notification level, the water system must report the detection within 30 days after the water system is first informed by the laboratory of a confirmed detection of the contaminant that exceeds the notification level.

For the 2024 Order, if the results of a PFAS detection are confirmed to exceed its respective notification level, the State Water Board will already have been notified of the results since the State Water Board's contractor is performing the analytical testing. Therefore, the water system does not need to report the exceedance to the State Water Board.

If the results of a PFAS exceeds a response level, the water system must either (1) take the source out of service immediately; (2) utilize treatment or blending; or (3) provide public notification of the response level exceedance. Additionally, the exceedance of the response level must be reported in the annual consumer confidence report.

13. US EPA issuance of PFAS maximum contaminant levels (MCLs) for drinking water

US EPA published the final federal PFAS Rule establishing the Maximum Contaminants Levels (MCLs) as part of the National Primary Drinking Water Regulation (NPDWR) per Safe Drinking Water Act for regulating drinking water contaminants on April 26, 2024. These levels are set using health-protective standards for the specific PFAS in drinking water, feasibility of laboratory analysis and treatment, and an analysis of the costs and benefits. Water systems must comply with monitoring and related reporting and public notification requirements. Water systems must also follow the MCLs and provide public notification to consumers if the MCLs are violated. Table 2 presents the MCLs. For more information, visit EPA's website at https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas.

Table 2. PFAS constituents with EPA MCLs in nanograms per liter or parts per trillion.

Compound	EPA MCL
PFOA	4.0 ppt
PFOS	4.0 ppt
PFHxS	10 ppt
PFNA	10 ppt
HFPO-DA (commonly known as GenX Chemicals)	10 ppt
Mixtures containing two or more of PFHxS, PFNA, HFPO-DA, and PFBS	1 (unitless) Hazard Index*

*USEPA established MCLs for PFAS mixtures containing at least two or more of PFHxS, PFNA, HFPO-DA, and PFBS using a Hazard Index MCL to account for the combined and co-occurring levels of these PFAS in drinking water. For more details about Hazard Index refer to the EPA's factsheet at: https://www.epa.gov/system/files/documents/2024-04/pfas-npdwr_fact-sheet_hazard-index_4.8.24.pdf

14. US EPA PFAS MCLs impact on California public water systems compliance

In the final federal PFAS rule establishing MCLs for PFOA, PFOS, PFNA, PFHxS, PFBS, and HFPO-DA (Table 2), the initial monitoring period was set to 3 years (2027) and the compliance period was set to 5 years (2029) after the final rule is promulgated (April 26, 2024).

The DDW must evaluate whether the US EPA MCLs are protective of public health based on the uses of drinking water in California. If DDW is to set their own MCLs they must be equal to or more restrictive than the MCLs set by US EPA. California Health & Safety Code §116365(a) requires a contaminant's MCL

to be established at a level as close to its Public Health Goal (PHG) as is technologically and economically feasible, placing primary emphasis on the protection of public health. PHGs are established by the Office of Environmental Health Hazard Assessment (OEHHA) and then adopted by the DDW.

ROUX

March 1, 2023

Ms. Emma Hoffman-Davies
Engineering Geologist, Toxics Cleanup Division
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, California 94612

Re: Stormwater Sampling Results for PFAS
1170 North Fifth Street, San Jose, California

Dear Ms. Hoffman-Davies:

This letter summarizes the results of stormwater sampling completed at the property located at 1170 North Fifth Street in San Jose, California (Site) (Figure 1). Water sampling was completed in accordance with the *Work Plan to Evaluate the Presence of Per- and Polyfluoroalkyl Substances* (Work Plan) prepared by Roux dated September 10, 2021. Per the Work Plan, stormwater sampling was conducted to provide an initial screen for the potential presence of per- and polyfluoroalkyl substances (PFAS) in response to the State Water Resources Control Board (SWRCB) Order WQ-2019-0045-DWQ under Water Code sections 13267 and 13383.

Details regarding sampling methodology, laboratory analytical results, and future work are provided below.

WATER SAMPLING AND LABORATORY ANALYSIS PROGRAM

On December 1, 2022, Roux personnel collected stormwater samples from roof drains at the Site in accordance with the Work Plan. During the sampling event, Roux field staff noted a second roof drain with closer proximity to and in the prevailing downwind direction (northeast to east) from the exhaust stack. Roux staff collected an additional sample from the second location. Samples collected include two roof drain samples (BB-01 and BB-03), a duplicate of BB-01 (BB-02), and a field blank (BB-AMB). Sample locations are shown on Figure 2.

All samples were collected in accordance with the Work Plan. All samples were placed in labelled polypropylene bottles with Teflon-free caps and transported under chain of custody to Enthalpy Analytical, a state-certified laboratory, for analysis for PFAS by Enthalpy Ultratrace (EU) Method EU-047 Isotope Dilution.[1]

SAMPLING RESULTS

Four of the sixty-nine PFAS chemical for which the laboratory tested were detected above method detection limits across the three samples analyzed. One compound was detected above its respective San Francisco Bay Regional Water Quality Control (SFRWQCB) Interim Groundwater Regional Screening Level (RSL), using the MCL Priority Environmental Screening Level (ESL).[2] The ESL was used for reference purposes and is not a regulatory limit.

3792.0001S.101/LR

[1] EU-047 is a laboratory specific method for analysis of PFAS with isotope dilution. Enthalpy Analytical is accredited for this method through the National Environmental Laboratory Accreditation Program (NELAP) and through the ANSI National Accreditation Board in accordance with ISO/IEC 17025:2017 and the Department of Defense (DoD) Quality Systems Manual for Environmental Laboratories (DoD QSM V5.3).

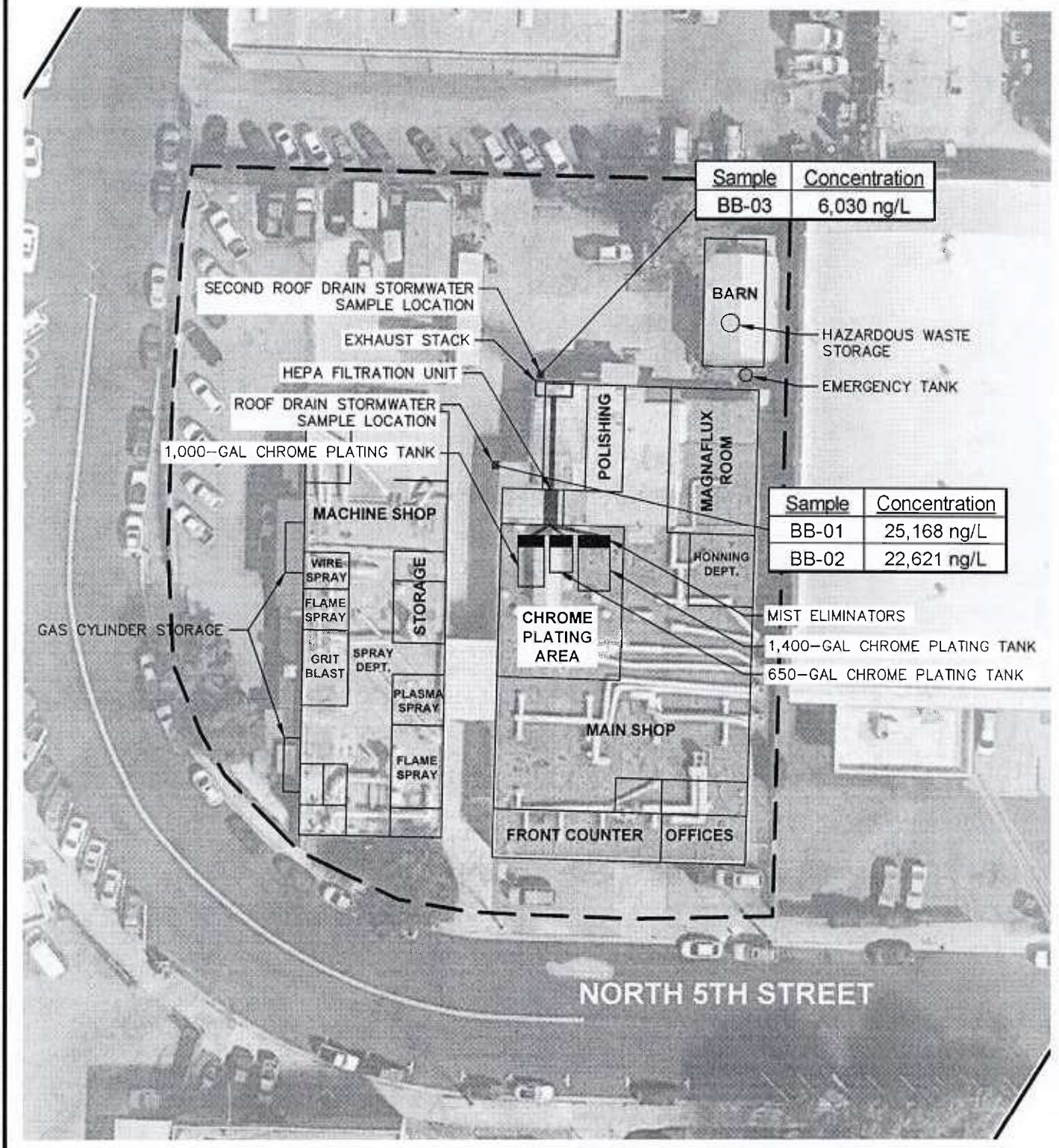
[2] Naugle, 2020. Transmittal of Interim Final Environmental Screening Levels (ESLs) for Two Per- and Polyfluoroalkyl Substances (PFAS): Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoate (PFOA).

TABLE

PFAS Analytical Results

FIGURES

1. Site Plan & Sampling Locations
2. Sampling Locations



LEGEND

——— APPROXIMATE SITE FEATURES

— — APPROXIMATE SITE BOUNDARY

NOTES

ng/L = NANOGRAMS PER LITER

PFOS = PERFLUOROOCTANE SULFONIC ACID

500' 0 500'

Title:

STORMWATER SAMPLE LOCATIONS AND PFOS CONCENTRATIONS

1170 NORTH FIFTH STREET
SAN JOSE, CALIFORNIA

Prepared for:

Babbitt Bearing Co.

ROUX

Compiled by: SA	Date: 09JAN2023
Prepared by: MM	Scale: AS SHOWN
Project Mgr: MF	Project: 3792.0001S000
File: SITE PLAN AND SAMPLE LOCATIONS.DWG	

FIGURE 2

S:\CLIENTS\BABBITT PLATING\02-ROUX DOCS\WORK PLAN\FIGURES\CADD\BABBITT PLATING.DWG

ATTACHMENT 1

Laboratory Analytical Reports

ENTHALPY ANALYTICAL

Sample Summary

Michael Friedman
Roux Associates
555 12th Street
Suite 250
Oakland, CA 94607

Lab Job #:	474135
Project No:	3792.0001S000
Location:	Babbitt Bearing
Date Received:	12/01/22

Sample ID	Lab ID	Collected	Matrix
BB-01	474135-001	12/01/22 10:40	Water
BB-02	474135-002	12/01/22 10:42	Water
BB-AMB	474135-003	12/01/22 10:43	Water
BB-03	474135-004	12/01/22 10:45	Water

ENTHALPY

Chain of Custody Record

Lab No: 474135

Page: 1 of 1

Turn Around Time (rush by advanced notice only)

Standard:	X	5 Day:		3 Day:	
2 Day:		1 Day:		Custom TAT:	

Enthalpy Analytical - Berkeley

2323 5th Street, Berkeley, CA 94710

Phone 510-486-0900

Matrix: A = Air S = Soil/Solid W = Water DW = Drinking Wate SD = Sediment PP = Pure Product SEA = Sea Water SW = Swab T = Tissue WP = Wipe O = Other

Preservatives: 1 = $Na_2S_2O_3$ 2 = HCl 3 = HNO_3 4 = H_2SO_4 5 = NaOH 6 = Other

Sample Receipt Temp: (lab use only)

CUSTOMER INFORMATION		PROJECT INFORMATION	
Company:	Roux Associates, Inc.	Name:	Babbitt Bearing
Report To:	Michael Friedman	Number:	
Email:	mfriedman@rouxinc.com	P.O. #:	
Address:	555 12th Street, #250	Address:	1170 N. 5th St.
	Oakland, CA 94607		San Jose, CA 95112
Phone:	415-967-6083 32	Global ID:	T10000013405
		Sampled By:	Michael Friedman

Analysis Request

PFAS QSM 5.3 Table B-15-DoD

Test Instructions / Comments

See email to John Goyette 11/10/22 for PFAS List

	Sample ID	Sampling Date	Sampling Time	Matrix	Container No. / Size	Pres.	PFAS QSM 5.3 Table B-15-DoD
1	BB-01	12-1-22	10:40	W		—	X
2	BB-02	12-1-22	10:42	W		—	X
3	BB-AMB	12-1-22	10:43	W		—	X
4	BB-03	12-1-22	10:45	W		—	X
5							
6							
7							
8							
9							
10							

	Signature	Print Name	Company / Title	Date / Time
1 Relinquished By:		MICHAEL FRIEDMAN	Roux	12-1-22 1335
1 Received By:		Miguel Gamboa	EA	12/1/22 1335
2 Relinquished By:				
2 Received By:			EA	12/2/22 0730
3 Relinquished By:				
3 Received By:				

12/3.7

Laboratory Job Number 474135

Subcontracted Products

Enthalpy - Wilmington

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains 23 pages.

QA Review Performed by: Laura K. Boivin

Report Issued Date: 12/21/2022

ENTHALPY ANALYTICAL

Enthalpy Analytical

Job No.: 1222-719-1 PFAS by Isotope Dilution (non-potable water)

Enthalpy Analytical, Orange, CA Client Project: EO-474135

Summary

	Compound	CAS	BB-01 ng/L	BB-02 ng/L	BB-AMB ng/L	BB-03 ng/L
Acids	PFBA	375-22-4	<LOD (12.8) U	<LOD (12.8) U	<LOD (0.136) U	<LOD (3.83) U
	PFPeA	2706-90-3	<LOD (14.2) U	<LOD (14.2) U	<LOD (0.152) U	<LOD (4.25) U
	PFHxA	307-24-4	<LOD (16.1) U	<LOD (16.1) U	<LOD (0.172) U	7.86 J
	PFHpA	375-85-9	<LOD (10.2) U	<LOD (10.2) U	<LOD (0.109) U	<LOD (3.05) U
	PFOA	335-67-1	<LOD (14.8) U	<LOD (14.8) U	<LOD (0.158) U	<LOD (4.43) U
	PFNA	375-95-1	<LOD (6.34) U	<LOD (6.34) U	<LOD (0.0679) U	<LOD (1.90) U
	PFDA	335-76-2	<LOD (7.04) U	<LOD (7.04) U	<LOD (0.0754) U	<LOD (2.11) U
	PFUnDA	2058-94-8	<LOD (15.4) U	<LOD (15.4) U	<LOD (0.165) U	<LOD (4.63) U
	PFDoDA	307-55-1	<LOD (16.8) U	<LOD (16.8) U	<LOD (0.180) U	<LOD (5.05) U
	PFTrDA	72629-94-8	<LOD (12.6) U	<LOD (12.6) U	<LOD (0.135) U	<LOD (3.78) U
	PFTeDA	376-06-7	<LOD (18.2) U	<LOD (18.2) U	<LOD (0.194) U	<LOD (5.45) U
Sulfonates	PFBS	375-73-5	39.3 J	47.2 J	<LOD (0.317) U	<LOD (8.88) U
	PFPeS	2706-91-4	<LOD (17.2) U	<LOD (17.2) U	<LOD (0.184) U	<LOD (5.15) U
	PFHxS	355-46-4	<LOD (15.9) U	<LOD (15.9) U	<LOD (0.170) U	<LOD (4.78) U
	PFHpS	375-92-8	<LOD (11.3) U	<LOD (11.3) U	<LOD (0.120) U	<LOD (3.38) U
	PFOS	1763-23-1	25200	22600	<LOD (0.143) U	6030
	PFNS	68259-12-1	<LOD (7.20) U	<LOD (7.20) U	<LOD (0.0771) U	<LOD (2.16) U
	PFDS	335-77-3	<LOD (16.0) U	<LOD (16.0) U	<LOD (0.171) U	<LOD (4.80) U
	4:2 FTS	757124-72-4	<LOD (9.83) U	<LOD (9.83) U	<LOD (0.105) U	<LOD (2.95) U
	6:2 FTS	27619-97-2	19.5 J	40.2 J	<LOD (0.103) U	4.08 J
	8:2 FTS	39108-34-4	<LOD (14.3) U	<LOD (14.3) U	<LOD (0.153) U	<LOD (4.28) U
Other	PFOSA	754-91-6	<LOD (10.8) U	<LOD (10.8) U	<LOD (0.116) U	<LOD (3.25) U
	N-MeFOSAA	2355-31-9	<LOD (12.0) U	<LOD (12.0) U	<LOD (0.128) U	<LOD (3.60) U
	N-EtFOSAA	2991-50-6	<LOD (9.08) U	<LOD (9.08) U	<LOD (0.0972) U	<LOD (2.73) U
	HFPO-DA	13252-13-6	<LOD (19.0) U	<LOD (19.0) U	<LOD (0.203) U	<LOD (5.70) U
	PFMOPrA	377-73-1	<LOD (20.0) U	<LOD (20.0) U	<LOD (0.214) U	<LOD (6.00) U
	ADONA	919005-14-4	<LOD (10.0) U	<LOD (10.0) U	<LOD (0.107) U	<LOD (3.00) U
	9Cl-PF3ONS	756426-58-1	<LOD (10.0) U	<LOD (10.0) U	<LOD (0.107) U	<LOD (3.00) U
	11Cl-PF3OUdS	763051-92-9	<LOD (10.0) U	<LOD (10.0) U	<LOD (0.107) U	<LOD (3.00) U
	10:2 FTS	120226-60-0	<LOD (20.0) U	<LOD (20.0) U	<LOD (0.214) U	<LOD (6.00) U
	N-EtFOSA	4151-50-2	<LOD (20.0) U	<LOD (20.0) U	<LOD (0.214) U	<LOD (6.00) U
	N-EtFOSE	1691-99-2	<LOD (600) U	<LOD (600) U	<LOD (6.42) U	<LOD (180) U
	NFDHA	151772-58-6	<LOD (20.0) U	<LOD (20.0) U	<LOD (0.214) U	<LOD (6.00) U
	N-MeFOSA	31506-32-8	<LOD (20.0) U	<LOD (20.0) U	<LOD (0.214) U	<LOD (6.00) U
	N-MeFOSE	24448-09-7	<LOD (600) U	<LOD (600) U	<LOD (6.42) U	<LOD (180) U
	PFDoS	79780-39-5	<LOD (187) U	<LOD (187) U	<LOD (2.00) U	<LOD (56.0) U
	PFEESA	113507-82-7	<LOD (20.0) U	<LOD (20.0) U	<LOD (0.214) U	<LOD (6.00) U
	PFHxDA	67905-19-5	<LOD (120) U	<LOD (120) U	<LOD (1.28) U	<LOD (36.0) U
	PFMOBA	863090-89-5	<LOD (120) U	<LOD (120) U	<LOD (1.28) U	<LOD (36.0) U
	PFODA	16517-11-6	<LOD (120) U	<LOD (120) U	<LOD (1.28) U	<LOD (36.0) U

Enthalpy Analytical

Job No.: 1222-719-1 PFAS by Isotope Dilution (non-potable water)

Enthalpy Analytical, Orange, CA Client Project: EO-474135

Enthalpy ID	1222-719-001-2	Prep Batch	EU14422	Sample Vol (mL)	3
Sample Name	BB-01	Prep Date	2022-12-08 14:30	Extract Vol (mL)	0.4
Matrix	AQ	Analysis Date	12/9/2022 11:45:19 PM	Split Factor	N/A
Sampling Date	20221201 10:40	Analyst	bmeff	Method Code	WM-026
Received Date	2022-12-06 10:45	Instrument	Pippin	Sample Type	Sample

	Compound	CAS	Extract Concentration ng/L	Sample Concentration ng/L	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	ND	ND	<LOD	12.8	53.3			U
	PFPeA	2706-90-3	ND	ND	<LOD	14.2	53.3			U
	PFHxA	307-24-4	77.73	10.4	<LOD	16.1	53.3			U
	PFHpA	375-85-9	ND	ND	<LOD	10.2	53.3			U
	PFOA	335-67-1	ND	ND	<LOD	14.8	53.3			U
	PFNA	375-95-1	ND	ND	<LOD	6.34	53.3			U
	PFDA	335-76-2	ND	ND	<LOD	7.04	53.3			U
	PFUnDA	2058-94-8	ND	ND	<LOD	15.4	53.3			U
	PFDoDA	307-55-1	ND	ND	<LOD	16.8	53.3			U
	PFTrDA	72629-94-8	ND	ND	<LOD	12.6	53.3			U
	PFTeDA	376-06-7	ND	ND	<LOD	16.2	53.3			U
Sulfonates	PFBS	375-73-5	294.58	39.3	39.3	29.8	62.3			J
	PFPeS	2706-91-4	ND	ND	<LOD	17.2	50.2			U
	PFHxS	355-46-4	ND	ND	<LOD	15.9	48.8			U
	PFHpS	375-92-8	0.29	0.0387	<LOD	11.3	50.9			U
	PFOS	1763-23-1	188759.50	25168	25200	13.3	49.4			
	PFNS	68259-12-1	ND	ND	<LOD	7.20	51.4			U
	PFDS	335-77-3	ND	ND	<LOD	16.0	51.4			U
	4:2 FTS	757124-72-4	ND	ND	<LOD	9.83	50.0			U
	6:2 FTS	27619-97-2	146.56	19.5	19.5	9.67	50.8			J
	8:2 FTS	39108-34-4	ND	ND	<LOD	14.3	51.1			U
Other	PFOSA	754-91-6	ND	ND	<LOD	10.8	53.3			U
	N-MeFOSAA	2355-31-9	ND	ND	<LOD	12.0	53.3			U
	N-EtFOSAA	2991-50-6	ND	ND	<LOD	9.08	53.3			U
	HFPO-DA	13252-13-6	ND	ND	<LOD	19.0	53.3			U
	PFMOPrA	377-73-1	ND	ND	<LOD	20.0	53.3			U
	ADONA	919005-14-4	ND	ND	<LOD	10.0	50.5			U
	9Cl-PF3ONS	756426-58-1	ND	ND	<LOD	10.0	49.7			U
	11Cl-PF3OUdS	763051-92-9	ND	ND	<LOD	10.0	50.2			U
	10:2 FTS	120226-60-0	ND	ND	<LOD	20.0	53.3			U
	N-EtFOSA	4151-50-2	ND	ND	<LOD	20.0	53.3			U
	N-EtFOSE	1691-99-2	ND	ND	<LOD	600	600			U
	NFDHA	151772-58-6	ND	ND	<LOD	20.0	53.3			U
	N-MeFOSA	31506-32-8	ND	ND	<LOD	20.0	53.3			U
	N-MeFOSE	24448-09-7	ND	ND	<LOD	600	600			U
	PFDoS	79780-39-5	ND	ND	<LOD	167	167			U
	PFEESA	113507-82-7	ND	ND	<LOD	20.0	53.3			U
	PFHxDA	67905-19-5	3.81	0.508	<LOD	120	120			U
	PFMOBA	863090-89-5	ND	ND	<LOD	120	120			U
	PFODA	16517-11-6	ND	ND	<LOD	120	120			U
ES	MPFBA		5238.86	699				20-150%	104.8%	
	M5PFPeA		5256.22	701				20-150%	105.1%	
	M3PFBS		4344.04	579				20-150%	86.9%	
	M2-4:2 FTS		4581.80	611				20-150%	91.6%	
	M5PFHxA		5061.76	675				20-150%	101.2%	
	M3HFPO-DA		5295.20	706				20-150%	105.9%	
	M4PFHpA		4997.77	666				20-150%	100.0%	
	M3PFHxS		5228.93	697				20-150%	104.5%	
	M2-6:2 FTS		6583.00	878				20-150%	131.7%	
	M8PFOA		4930.52	657				20-150%	98.6%	
	M9PFNA		4943.09	659				20-150%	98.9%	
	M8PFOS		4678.35	624				20-150%	93.6%	
	M2-8:2 FTS		5302.68	707				20-150%	106.1%	
	M8FOSA-I		4483.81	598				20-150%	89.7%	
	M8PFDA		4674.34	623				20-150%	93.5%	
	d3-N-MeFOSAA		5881.83	784				20-150%	117.6%	
	d5-N-EtFOSAA		6208.51	828				20-150%	124.2%	
	M7PFUdA		5004.25	667				20-150%	100.1%	
	M9PFDoA		4688.97	625				20-150%	93.8%	
	M2PFTeDA		4208.02	561				20-150%	84.2%	
	d3-N-MeFOSA		3049.18	407				10-200%	30.5%	
	d5-N-EtFOSA		3189.71	425				10-200%	31.9%	
	d7-N-MeFOSE		9062.67	1211				10-200%	90.8%	
	d9-N-EtFOSE		8339.85	1112				10-200%	83.4%	
	M2PFHxDA		5279.30	704				10-200%	105.6%	

Enthalpy Analytical

Job No.: 1222-719-1 PFAS by Isotope Dilution (non-potable water)

Enthalpy Analytical, Orange, CA Client Project: EO-474135

Enthalpy ID	1222-719-003-2	Prep Batch	EU14422	Sample Vol (mL)	280.29
Sample Name	BB-AMB	Prep Date	2022-12-06 14:30	Extract Vol (mL)	0.4
Matrix	AQ	Analysis Date	12/19/2022 12:30:39 AM	Split Factor	N/A
Sampling Date	20221201 10:43	Analyst	bmeff	Method Code	WM-026
Received Date	2022-12-06 10:45	Instrument	Pippin	Sample Type	Sample

	Compound	CAS	Extract Concentration ng/L	Sample Concentration ng/L	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	ND	ND	<LOD	0.136	0.571			U
	PFPeA	2706-90-3	ND	ND	<LOD	0.152	0.571			U
	PFHxA	307-24-4	ND	ND	<LOD	0.172	0.571			U
	PFHpA	375-85-9	ND	ND	<LOD	0.109	0.571			U
	PFOA	335-67-1	ND	ND	<LOD	0.158	0.571			U
	PFNA	375-95-1	ND	ND	<LOD	0.0679	0.571			U
	PFDA	335-76-2	ND	ND	<LOD	0.0754	0.571			U
	PFUnDA	2058-94-8	ND	ND	<LOD	0.165	0.571			U
	PFDoDA	307-55-1	ND	ND	<LOD	0.180	0.571			U
	PFTrDA	72629-94-8	ND	ND	<LOD	0.135	0.571			U
	PFTeDA	376-06-7	ND	ND	<LOD	0.194	0.571			U
Sulfonates	PFBS	375-73-5	ND	ND	<LOD	0.317	0.667			U
	PFPeS	2706-91-4	ND	ND	<LOD	0.184	0.538			U
	PFHxS	355-46-4	ND	ND	<LOD	0.170	0.523			U
	PFHpS	375-92-8	ND	ND	<LOD	0.120	0.544			U
	PFOS	1763-23-1	ND	ND	<LOD	0.143	0.529			U
	PFNS	68259-12-1	ND	ND	<LOD	0.0771	0.550			U
	PFDS	335-77-3	ND	ND	<LOD	0.171	0.550			U
	4:2 FTS	757124-72-4	ND	ND	<LOD	0.105	0.536			U
	6:2 FTS	27619-97-2	ND	ND	<LOD	0.103	0.544			U
	8:2 FTS	39108-34-4	ND	ND	<LOD	0.153	0.547			U
Other	PFOSA	754-91-6	ND	ND	<LOD	0.116	0.571			U
	N-MeFOSAA	2355-31-9	ND	ND	<LOD	0.128	0.571			U
	N-EtFOSAA	2991-50-6	ND	ND	<LOD	0.0972	0.571			U
	HFPO-DA	13252-13-6	ND	ND	<LOD	0.203	0.571			U
	PFMOPrA	377-73-1	ND	ND	<LOD	0.214	0.571			U
	ADONA	919005-14-4	ND	ND	<LOD	0.107	0.541			U
	9Cl-PF3ONS	756426-58-1	ND	ND	<LOD	0.107	0.532			U
	11Cl-PF3OUdS	763051-92-9	ND	ND	<LOD	0.107	0.538			U
	10:2 FTS	120226-60-0	ND	ND	<LOD	0.214	0.571			U
	N-EtFOSA	4151-50-2	ND	ND	<LOD	0.214	0.571			U
	N-EtFOSE	1691-99-2	ND	ND	<LOD	6.42	6.42			U
	NFDHA	151772-58-6	ND	ND	<LOD	0.214	0.571			U
	N-MeFOSA	31506-32-8	ND	ND	<LOD	0.214	0.571			U
	N-MeFOSE	24448-09-7	ND	ND	<LOD	6.42	6.42			U
	PFDoS	79780-39-5	ND	ND	<LOD	2.00	2.00			U
	PFEESA	113507-82-7	ND	ND	<LOD	0.214	0.571			U
	PFHxDA	67905-19-5	ND	ND	<LOD	1.28	1.28			U
	PFMOBA	863090-89-5	ND	ND	<LOD	1.28	1.28			U
	PFODA	16517-11-6	ND	ND	<LOD	1.28	1.28			U
ES	MPFBA		4700.26	6.71				20-150%	94.0%	
	M5PFPeA		4594.15	6.56				20-150%	91.9%	
	M3PFBS		4534.31	6.47				20-150%	90.7%	
	M2-4:2 FTS		5117.79	7.30				20-150%	102.4%	
	M5PFHxA		5811.76	8.29				20-150%	116.2%	
	M3HFPO-DA		6114.15	8.73				20-150%	122.3%	
	M4PFHpA		5360.08	7.65				20-150%	107.2%	
	M3PFHxS		6418.84	9.16				20-150%	128.4%	
	M2-6:2 FTS		5722.66	8.17				20-150%	114.5%	
	M8PFOA		5446.98	7.77				20-150%	108.9%	
	M9PFNA		5462.43	7.80				20-150%	109.2%	
	M8PFOS		5027.53	7.17				20-150%	100.6%	
	M2-8:2 FTS		5605.44	8.01				20-150%	112.2%	
	M8FOSA-I		5390.41	7.69				20-150%	107.8%	
	M6PFDA		4427.50	6.32				20-150%	88.5%	
	d3-N-MeFOSAA		5891.76	8.41				20-150%	117.8%	
	d5-N-EtFOSAA		5720.89	8.16				20-150%	114.4%	
	M7PFUdA		4293.54	6.13				20-150%	85.9%	
	M8PFDoA		3973.63	5.67				20-150%	79.5%	
	M2PFTeDA		1634.52	2.33				20-150%	32.7%	
	d3-N-MeFOSA		4822.38	6.88				10-200%	48.2%	
	d5-N-EtFOSA		5040.99	7.19				10-200%	50.4%	
	d7-N-MeFOSE		8947.20	12.8				10-200%	89.5%	
	d9-N-EtFOSE		8386.85	12.0				10-200%	83.9%	
	M2PFHxDA		739.60	1.06				10-200%	14.8%	

QC Data

Enthalpy Analytical

Job No.: 1222-719-1 PFAS by Isotope Dilution (non-potable water)

Enthalpy Analytical, Orange, CA Client Project: EO-474135

Enthalpy ID	OPR-14422-PFAS	Prep Batch	EU14422	Sample Vol (mL)	250
Sample Name	OPR-14422-PFAS	Prep Date	2022-12-08 14:30	Extract Vol (mL)	0.4
Matrix	AQ	Analysis Date	12/9/2022 11:22:39 PM	Split Factor	N/A
Sampling Date		Analyst	bmeff	Method Code	WM-026
Received Date		Instrument	Pippin	Sample Type	Control

	Compound	CAS	Extract Concentration ng/L	Sample Concentration ng/L	Formatted Result ng/L	LOD ng/L	LOQ ng/L	Recovery Limits	Recovery	Flags
Acids	PFBA	375-22-4	9300.92	14.9	14.9	0.153	0.640	73-129%	74.4%	
	PFPeA	2706-90-3	10878.87	17.4	17.4	0.170	0.640	72-129%	87.0%	
	PFHxA	307-24-4	9280.29	14.8	14.8	0.193	0.640	72-129%	74.2%	
	PFHpA	375-85-9	10487.20	16.8	16.8	0.122	0.640	72-130%	83.9%	
	PFOA	335-67-1	10682.26	17.1	17.1	0.177	0.640	71-133%	85.5%	
	PFNA	375-95-1	11009.47	17.6	17.6	0.0761	0.640	69-130%	88.1%	
	PFDA	335-76-2	11275.84	18.0	18.0	0.0845	0.640	71-129%	90.2%	
	PFUnDA	2058-94-8	9938.26	15.9	15.9	0.185	0.640	69-133%	79.5%	
	PFDoDA	307-55-1	10145.49	16.2	16.2	0.202	0.640	72-134%	81.2%	
	PFTrDA	72629-94-8	12908.31	20.7	20.7	0.151	0.640	65-144%	103.3%	
	PFTeDA	376-06-7	12020.55	19.2	19.2	0.218	0.640	71-132%	96.2%	
Sulfonates	PFBS	375-73-5	8461.34	13.5	13.5	0.355	0.747	72-134%	76.3%	
	PFPeS	2706-91-4	9714.04	15.5	15.5	0.206	0.603	71-127%	82.6%	
	PFHxS	355-46-4	8171.31	13.1	13.1	0.191	0.586	68-131%	71.5%	
	PFHpS	375-92-8	10932.90	17.5	17.5	0.135	0.610	69-134%	91.8%	
	PFOS	1763-23-1	9812.61	15.7	15.7	0.160	0.593	65-140%	84.6%	
	PFNS	68259-12-1	10865.16	17.4	17.4	0.0864	0.616	69-127%	90.4%	
	PFDS	335-77-3	9663.36	15.5	15.5	0.192	0.616	53-142%	80.1%	
	4:2 FTS	757124-72-4	11680.47	18.7	18.7	0.118	0.600	63-143%	99.7%	
	6:2 FTS	27619-97-2	11451.33	18.3	18.3	0.116	0.610	64-140%	96.3%	
	8:2 FTS	39108-34-4	15687.05	25.1	25.1	0.171	0.613	67-138%	130.7%	
Other	PFOSA	754-91-6	12290.01	19.7	19.7	0.130	0.640	67-137%	98.3%	
	N-MeFOSAA	2355-31-9	11179.17	17.9	17.9	0.144	0.640	65-136%	89.4%	
	N-EtFOSAA	2991-50-6	10498.55	16.8	16.8	0.109	0.640	61-135%	84.0%	
	HFPO-DA	13252-13-6	8839.89	14.1	14.1	0.228	0.640	70-130%	70.7%	
ES	MPFBA		5072.15	8.12				20-150%	101.4%	
	M5PFPeA		4681.31	7.49				20-150%	93.6%	
	M3PFBS		4333.78	6.93				20-150%	86.7%	
	M2-4:2 FTS		5114.16	8.18				20-150%	102.3%	
	M5PFHxA		5466.82	8.75				20-150%	109.3%	
	M3HFPO-DA		5477.05	8.76				20-150%	109.5%	
	M4PFHpA		5014.91	8.02				20-150%	100.3%	
	M3PFHxS		6418.64	10.3				20-150%	128.4%	
	M2-6:2 FTS		5777.37	9.24				20-150%	115.5%	
	M8PFOA		4729.93	7.57				20-150%	94.6%	
	M9PFNA		4464.15	7.14				20-150%	89.3%	
	M8PFOS		5217.85	8.35				20-150%	104.4%	
	M2-8:2 FTS		5447.26	8.72				20-150%	108.9%	
	M8FOSA-I		4765.72	7.63				20-150%	95.3%	
	M6PFDA		4463.27	7.14				20-150%	89.3%	
	d3-N-MeFOSAA		6004.22	9.61				20-150%	120.1%	
	d5-N-EtFOSAA		6475.54	10.4				20-150%	129.5%	
	M7PFUdA		4725.20	7.56				20-150%	94.5%	
	MPFDoA		4509.41	7.22				20-150%	90.2%	
	M2PFTeDA		3594.10	5.75				20-150%	71.9%	

Enthalpy Analytical Narrative Summary

Company	Enthalpy Analytical, Orange, CA
Job No.	1222-719-1 PFAS by Isotope Dilution (non-potable water)
Client ID.	EO-474135

1. Custody

Josie Morton received the samples on December 06, 2022 at 1.3 °C after being relinquished by Enthalpy Analytical, Orange, CA. The samples were received in good condition.

Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, LLC.

Table 1 - Sample Inventory

EU Lab Sample ID	Client Sample ID	Matrix
1222-719-001-2	BB-01	AQ
1222-719-002-2	BB-02	AQ
1222-719-003-2	BB-AMB	AQ
1222-719-004-2	BB-03	AQ

Table 2 - Sample Inventory – not reported

EU Lab Sample ID	Client Sample ID
1222-719-001-1	BB-01
1222-719-002-1	BB-02
1222-719-003-1	BB-AMB
1222-719-004-1	BB-03

2. Methods and Analytes

A list of analytes of interest and corresponding methods of analysis is shown in Table 3. Abbreviations are defined in the listed Appendices.

Table 3 - Methods and Analytes

EU Method	Analytes	Cleanup Method
EU-047	PFAS Custom List	ENVI-Carb

3. Analysis

The samples were analyzed using Waters Acquity UPLC equipped with Xevo TQ MS (LC/MS/MS "Pippin").

Unless otherwise indicated by a screening analysis, the entire sample container contents were spiked the Extraction Standard (ES), prior to extraction. The samples were mixed well and centrifuged (if needed). The samples were extracted by SPE and the extracts cleaned up using ENVI-Carb cartridges.

Injection standards (IS) were added and each extract brought to a final volume of 400µL for analysis.

General Reporting Notes – Data Qualifiers

The following are general reporting notes that are applicable to all Enthalpy Analytical, LLC - Wilmington, NC data reports, unless specifically noted otherwise.

General Data Qualifiers

- B – The analyte was found in the method blank, at a concentration that was at least 10% of the amount in the sample.
- Cxx – Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group ('xx') are shown with the number of the lowest IUPAC co-eluter.
- E – The reported concentration exceeds the calibration range (upper point of the calibration curve). For HRMS data, this condition does not imply additional measurement uncertainty. For LC-MS/MS data, these values should be considered as having measurement uncertainty higher than values within the calibration range.
- EDL – Estimated Detection Level: The EDL is unique to isotope dilution methods and reflects the conditions of analysis at the time of analysis, including the equipment used. Where the MDL is a static value, the EDL is a dynamic value.
- EMPC – Estimated Maximum Possible Concentration: EMPC is specific to Dioxin/Furan tests to indicate the determined ion-abundance ratio was outside the allowed theoretical range (usually due to being near the detection limit, although it can very rarely be caused by a co-eluting interference). The EMPC concentration is adjusted to reflect the value at the theoretical ion-abundance ratio.
- IR – The ion ratio between the primary and secondary ions was observed to be outside the method criteria. The analyte concentration may be inaccurate due to interference.
- J – The analyte has a concentration below the minimum calibration level (LOQ value) but greater than the LOD. These values should be considered as having measurement uncertainty higher than values within the calibration range
- L - Indicates that an analyte has a concentration below the Minimum Detection Limit (MDL). The reported concentration is not recommended for regulatory use as the analyte signal may have a signal-to-noise ratio less than the criteria deemed necessary to be considered a detected analyte.
- LOD – Limit of Detection: For reports conforming to the DOD ELAP QSM, this is the QSM-defined LOD. For reports conforming to TNI requirements (but not DOD ELAP QSM requirements), this value is the minimum detection limit (MDL). The LOD is adjusted for sample weight or volume.
- LOQ – Limit of Quantitation: For reports conforming to the DOD ELAP QSM, this is the QSM-defined LOQ. For reports conforming to TNI requirements (but not DOD ELAP QSM requirements), this value is the reporting limit (RL). The LOQ is adjusted for sample weight or volume.

General Reporting Notes – Data Qualifiers

- S – Indicates a sample split. The number that follows the "S" indicates the split factor.
- SAT – Indicates an analyte saturated the detector.

	PFAS Compound Acronym List		
	Acronym	CAS #	Compound Name
	Target Analytes		
	* Analyte is not accredited		
*	Hydrolyzed PSDA (Nafion Byproduct 5)	2416366-19-1	2-fluoro-2-[1,1,2,3,3,3-hexafluoro-2-(1,1,2,2-tetrafluoro-2-sulfoethoxy)propoxy]-acetic acid
*	R-PSDCA (Nafion Byproduct 6)	2416366-21-5	1,1,2,2-tetrafluoro-2-[1,2,2,3,3-pentafluoro-1-(trifluoromethyl)propoxy] ethanesulfonic acid
*	EVE Acid	69087-46-3	2,2,3,3-tetrafluoro-3-({1,1,1,2,3,3-hexafluoro-3-[(1,2,2-trifluoroethenyl)oxy]propan-2-yl}oxy)propionic acid
*	FBSA	30334-69-1	Perfluorobutylsulfonamide
*	Hydro-EVE Acid	773804-62-9	2,2,3,3-Tetrafluoro-3-{[1,1,1,2,3,3-hexafluoro-3-(1,2,2,2-tetrafluoroethoxy)propan-2-yl]oxy}propanoic acid
*	R-EVE Acid	2416366-22-6	4-(2-carboxy-1,1,2,2-tetrafluoroethoxy)-2,2,3,3,4,5,5,5-octafluoro-pentanoic acid
*	NVHOS	1132933-86-8	Perfluoroethoxysulfonic acid
*	PFDoS	79780-39-5	Perfluorododecane sulfonic acid
*	PFODA	16517-11-6	Perfluorooctadecanoic acid
*	3:3 FTCA	356-02-5	2H,2H,3H,3H-Perfluorohexanoic acid
*	5:3 FTCA	914637-49-3	2H,2H,3H,3H-Perfluorooctanoic acid
*	7:3 FTCA	812-70-4	2H,2H,3H,3H-Perfluorodecanoic acid
*	N-AP-FHxSA	50598-28-2	N-(3-(Dimethylamino)propyl)tridecafluoro-1-hexanesulfonamide
*	N-CMAmP-6:2 FOSA	34455-29-3	N-(Carboxymethyl)-N,N-dimethyl-3-(((3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)sulfonyl)amino)1-propanaminium

ENTHALPY ANALYTICAL

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PO #: Required, to be sent via email

1222-719

Enthalpy Order: EO-474135
PM: John Goyette
Email: john.goyette@enthalpy.com
CC: incomingreports@enthalpy.com
Phone: (510) 204-2233 Ext 13112

Results Due: Standard TAT
Report Level: II
Report To: RL
EDDs: Quant Method PfasToBerkeley, EDD Filename TestWllmGeoTracker EDD

Notes:
Please refer to the attached list

Sample ID	Collected	Lab ID	# Cont.	Matrix	Analysis Requested	Comment
BB-01	01-DEC-2022 10:40	474135-001	2	Water	PFOA-PFAS by ID, Compliant with QSM5.3, table B-15 - OUT	Please refer to the attached list
BB-02	01-DEC-2022 10:42	474135-002	2	Water	PFOA-PFAS by ID, Compliant with QSM5.3, table B-15 - OUT	Please refer to the attached list
BB-AMB	01-DEC-2022 10:43	474135-003	2	Water	PFOA-PFAS by ID, Compliant with QSM5.3, table B-15 - OUT	Please refer to the attached list
BB-03	01-DEC-2022 10:45	474135-004	2	Water	PFOA-PFAS by ID, Compliant with QSM5.3, table B-15 - OUT	Please refer to the attached list

Notes:	Relinquished By:	Received By:
Fedex, cooler in a box, on ice (regular & blue), no seals, good condition 770679237513 JMM 12-6-22		Jasie Matas 1.3°C TM
	Date: 12-5-22 12:19	Date: 12-6-22 1045
	Date:	Date:
	Date:	Date: