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ANALYTICAL REPORT

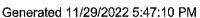




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PREPARED FOR

Attn: Mike Lankford Gadsden Water Works 515 Albert Rains Blvd Gadsden, Alabama 35901





Gadsden PFAS Sampling

JOB NUMBER

280-169125-1

Eurofins Denver 4955 Yarrow Street Arvada CO 80002

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Case Narrative

Client: Gadsden Water Works

Project/Site: Gadsden PFAS Sampling

Job ID: 280-169125-1

Job ID: 280-169125-1

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: Gadsden Water Works

Project: Gadsden PFAS Sampling

Report Number: 280-169125-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/11/2022; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.6 C.

PERFLUORINATED HYDROCARBONS (PFAS) MOD

Samples GADSDEN - RAW (280-169125-1) and GADSDEN - FINISHED (280-169125-2) were analyzed for Perfluorinated Hydrocarbons (PFAS) MOD in accordance with 537 MOD. The samples were prepared on 11/21/2022 and analyzed on 11/24/2022.

The following sample was light yellow and contained a thin layer of sediment at the bottom of the bottle prior to extraction: GADSDEN - RAW (280-169125-1).

During the solid phase extraction process, the following samples contained non-settable particulates which clogged the solid phase extraction column: GADSDEN - RAW (280-169125-1).

Perfluorobutanesulfonic acid (PFBS), Perfluoroheptanoic acid (PFHpA) and Perfluorononanoic acid (PFNA) were detected in method blank MB 320-634507/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

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

Client: Gadsden Water Works

Project/Site: Gadsden PFAS Sampling

Job ID: 280-169125-1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: GADSDEN - RAW Date Collected: 11/09/22 20:21 Date Received: 11/11/22 09:35						Lab Sam _l	ple ID: 280-16 Matrix	9125-1 : Water	
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Perfluorobutanoic acid (PFBA)	16	4.4	2.1	ng/L		11/21/22 12:16	11/24/22 06:40	1	
Perfluorodecanoic acid (PFDA)	14	1,8	0.27	ng/L		11/21/22 12:16	11/24/22 06:40	1	
Daufi	0.4	4.0	0.40			44 (04 (00 40 40	44/04/00 00:40	4	

Analyte	Kesult	Qualitier	KL	MIDL	Unit	ט	Prepared	Analyzed	DII Fac
Perfluorobutanoic acid (PFBA)	16		4.4	2.1	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorodecanoic acid (PFDA)	14		1,8	0.27	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorododecanoic acid (PFDoA)	2.1		1.8	0.48	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluoroheptanoic acid (PFHpA)	10	В	1.8	0.22	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorohexanoic acid (PFHxA)	30		1.8	0.51	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorononanoic acid (PFNA)	3.2	В	1.8	0.24	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorooctanoic acid (PFOA)	25		1.8	0.75	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorooctane sulfonate (PFOS)	56		1.8	0.47	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluoropentanoic acid (PFPA)	51		1.8	0.43	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorotetradecanoic acid (PFTeA)	0.78	J	1.8	0.64	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorotridecanoic acid (PFTriA)	1.1	U	1.8	1.1	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluoroundecanoic acid (PFUnA)	4.9		1.8	0.97	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorooctanesulfonamide (PFOSA)	2.3		1.8	0.86	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorobutanesulfonic acid (PFBS)	92	В	1.8	0.18	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorodecanesulfonic acid (PFDS)	0.28	U	1.8	0.28	ng/L		11/21/22 12:16	11/24/22 06:40	1
Perfluorohexanesulfonic acid (PFHxS)	3.8		1.8	0.50	ng/L		11/21/22 12:16	11/24/22 06:40	1

V/					
Isotope Dilution	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	68	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C4 PFBA	55	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C5 PFPeA	60	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C2 PFHxA	60	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C4 PFHpA	62	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C4 PFOA	63	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C5 PFNA	62	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C2 PFDA	65	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C2 PFUnA	65	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C2 PFDoA	54	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C2 PFTeDA	46	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C3 PFBS	63	25 - 150	11/21/22 12:16	11/24/22 06:40	1
18O2 PFHxS	65	25 - 150	11/21/22 12:16	11/24/22 06:40	1
13C4 PFOS	65	25 - 150	11/21/22 12:16	11/24/22 06:40	1
mr					

Client Sample ID: GADSDEN - FINISHED Lab Sample ID: 280-169125-2 Date Collected: 11/09/22 11:00 Matrix: Water

Date Received: 11/11/22 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	20		4.5	2.2	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluorodecanoic acid (PFDA)	1.8		1.8	0.28	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluorododecanoic acid (PFDoA)	0.50	υ	1.8	0.50	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluoroheptanoic acid (PFHpA)	6.5	В	1.8	0.23	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluorohexanoic acid (PFHxA)	21		1.8	0.53	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluorononanoic acid (PFNA)	1.6	JB	1.8	0.25	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluorooctanoic acid (PFOA)	17		1.8	0.77	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluorooctane sulfonate (PFOS)	19		1.8	0.49	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluoropentanoic acid (PFPA)	47		1.8	0.44	ng/L		11/21/22 12:16	11/24/22 06:50	1

Eurofins Denver

Project/Site: Gadsden PFAS Sampling

Job ID: 280-169125-1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Client Sample ID: GADSDEN Date Collected: 11/09/22 11:00						Lab Sam	ple ID: 280-16 Matrix	9125-2 : Water	
Date Received: 11/11/22 09:35	5							Mauix	. water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanolc acid (PFTeA)	0.66	U	1.8	0.66	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluorotridecanoic acid (PFTriA)	1.2	U	1.8	1.2	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluoroundecanoic acid (PFUnA)	1.0	U	1.8	1.0	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluorooctanesulfonamide (PFOSA)	4.5		1.8	0.89	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluorobutanesulfonic acid (PFBS)	68	В	1.8	0.18	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluorodecanesulfonic acid (PFDS)	0.29	U	1.8	0.29	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluorohexanesulfonic acid (PFHxS)	2.6		1.8	0.52	ng/L		11/21/22 12:16	11/24/22 06:50	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	94		25 - 150				11/21/22 12:16	11/24/22 06:50	1
13C4 PFBA	94		25 - 150				11/21/22 12:16	11/24/22 06:50	1
13C5 PFPeA	96		25 - 150				11/21/22 12:16	11/24/22 06:50	1
13C2 PFHxA	105		25 - 150				11/21/22 12:16	11/24/22 06:50	1
13C4 PFHpA	105		25 - 150				11/21/22 12:16	11/24/22 06:50	1
13C4 PFOA	97		25 - 150				11/21/22 12:16	11/24/22 06:50	1
13C5 PFNA	102		25 - 150				11/21/22 12:16	11/24/22 06:50	1
13C2 PFDA	99		25 - 150				11/21/22 12:16	11/24/22 06:50	1
13C2 PFUnA	103		25 - 150				11/21/22 12:16	11/24/22 06:50	1
3C2 PFDoA	90		25 - 150				11/21/22 12:16	11/24/22 06:50	1
3C2 PFTeDA	96		25 - 150				11/21/22 12:16	11/24/22 06:50	1
13C3 PFBS	107		25 - 150				11/21/22 12:16	11/24/22 06:50	1
1802 PFHxS	107		25 - 150				11/21/22 12:16		1
13C4 PFOS	104		25 - 150				11/21/22 12:16		1

Environment Testing Orbidity
Special instructions Mote: N · None
O · Assisanz
P · Nazoda
Q · NazSo3
R · NazSz03
R · NazSz03
R · T · TSP Dodecatyvit
U · Acadrana
V · MCAA
Z · voter (specify) Ver 01/16/2019 Company Months Company Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Mon ्रि eurofins D - Watto Acid
F - NaHSO4
F - Watto4
G - Amocho
H - Ascorbic Acid
- Wat
J - Di Wate
L - EDA 800 800 800 800 8 Total Number of containers , ea Dette/Time: 11-11-12 Dete/Time Date/Time sethod of Shipment ١ Camer Tracking No(s) State of Origin Analysis Requested 280-169125 Chain of Custody Cooler Temperature(s) °C and Other Remarks Special Instructions/QC Requirements Uab № Bieniulis, Dylan T E-наз Dylan Bieniulis@et eurofinsus.com Received by Received by Received by Chain of Custody Record × × Z z (ON COM) address promissions Ě Z Matrix (verse, \$ 7 Company GWWSB Company Rediological Sample Type (C=comp. G=grab) ø ø OISW. Compliance Project: A Yes A No Semple 2021 1100 Time. Date: Unknown (AT Requested (days): Due Date Requested: MANUAL 11/10/2022 Sampler BROOKINS Phone (256)312-7465 PO# DEM# 6-0288 WO# Sample Date 11/10/22 11/9/22 Project # 28020645 SSOW# Date/Time: Date/Time 878587 Poison B Skin Imtant Deliverable Requested: I, II, III, IV, Other (specify) Custody Seal No. WINQUISMED BY: MICHAEL BROOKINS TO COOLER Possible Hazard Identification

Non-Hazard Flammable **Eurofins Sacramento** niankford@gadsdenwater.org West Sacramento, CA 95605 Phone (916) 373-5600 roject Name Gadsden PFAS Sampling Empty Kit Relinquished by: CustoOy beats Intact. 880 Riverside Parkway Client Information GADSDEN - FINISHED Sadsden Water Works ampie Identification 515 Albert Rains Blvd SADSDEN - RAW Client Contact Mike Lankford linquished by: singushed by SADSDEN State, Zp. Al., 35901 Gadsden

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Login Sample Receipt Checklist

Answer

Comment

Client: Gadsden Water Works

Job Number: 280-169125-1

Login Number: 169125

List Number: 1

Creator: Bieniulis, Dylan T

List Source: Eurofins Denver

Question

Radioactivity wasn't checked or is </= background as measured by a survey

The cooler's custody seal, if present, is intact.

Sample custody seals, if present, are intact.

The cooler or samples do not appear to have been compromised or

tampered with.

Samples were received on ice.

Cooler Temperature is acceptable.

Cooler Temperature is recorded.

COC is present.

COC is filled out in ink and legible.

COC is filled out with all pertinent information.

Is the Field Sampler's name present on COC?

There are no discrepancies between the containers received and the COC.

Samples are received within Holding Time (excluding tests with immediate

HTs)

Sample containers have legible labels.

Containers are not broken or leaking.

Sample collection date/times are provided.

Appropriate sample containers are used.

Sample bottles are completely filled.

Sample Preservation Verified.

There is sufficient vol. for all requested analyses, incl. any requested

MS/MSDs

Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").

Multiphasic samples are not present.

Samples do not require splitting or compositing.

Residual Chlorine Checked.



Job:

Environment Testing America

Sacramento Sample Receiving Notes



280-169125 Field Sheet

Tracking #: 16 336 988 0/6388 /820

SO / PO / FO / SAT / 2-Day / Ground (UPS) CDO / Courier GSO / OnTrac / Goldstreak / USPS / Other_____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: 6 Corr. Factor:			_°C	Notes: Sample Miss	ing	+14	re —
Cooler Custody Seal: 18785				JF 1	[<i>[][</i> [122	
Cooler ID:			·			· · · · · · · · · · · · · · · · · · ·	
Temp Observed:C Correct From: Temp Blank \boxed{\mathbb{D}} Samp	ed:/s ole_E		_°C				
Opening/Processing The Shipment Cooler compromised/tampered with? Cooler Temperature is acceptable? Frozen samples show signs of thaw?	Yes D 2	<u>>0</u>	NA O				
Initials: So Date: 11-11-	-72				·····		
Unpacking/Labeling The Samples COC is complete w/o discrepancies? Samples compromised/tampered with? Containers are not broken or leaking? Sample custody seal? Sample containers have legible labels? Sample date/times are provided? Appropriate containers are used? Sample bottles are completely filled? Sample preservatives verified? Is the Field Sampler's name on COC? Samples require splitting/compositing? Samples w/o discrepancies?	Yes ADADADADADADADADA			Trizma Lot #(s):			and the second s
Samples w/o discrepancies? Zero headspace?*	~ 1 28	'אבק ם		Login Completion	Yes	<u>No</u>	<u>NA</u>
Alkalinity has no headspace?			1 2	Receipt Temperature on COC? Samples received within hold time?	,P2 121	ם	
Perchlorate has headspace? (Methods 314, 331, 6850)	ם	۵	ø	NCM Filed?	ם	ם	127
Multiphasic samples are not present?	par	ם		Log Release checked in TALS?	0		ם
*Containers requiring zero headspace have no headspace		le < 6 mn	1 (1/4")	Initials: JF Date: U//V/2	2	_	

QA-812 MBB 05/10/2022