

# ANALYTICAL REPORT

## PREPARED FOR

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

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## JOB DESCRIPTION

Gadsden PFAS Sampling

## JOB NUMBER

280-169125-1

## Case Narrative

Client: Gadsden Water Works  
Project/Site: Gadsden PFAS Sampling

Job ID: 280-169125-1

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Laboratory: Eurofins Denver

Narrative

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### 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 Sample Results

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 Sample ID: 280-169125-1**

**Matrix: 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
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	B	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	B	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	B	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

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

**Client Sample ID: GADSDEN - FINISHED**

**Date Collected: 11/09/22 11:00**

**Date Received: 11/11/22 09:35**

**Lab Sample ID: 280-169125-2**

**Matrix: Water**

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	U	1.8	0.50	ng/L		11/21/22 12:16	11/24/22 06:50	1
Perfluoroheptanoic acid (PFHpA)	6.5	B	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	J B	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

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# Client Sample Results

Client: Gadsden Water Works  
 Project/Site: Gadsden PFAS Sampling

Job ID: 280-169125-1

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

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
Perfluorotetradecanoic 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	B	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
13C2 PFDoA	90		25 - 150				11/21/22 12:16	11/24/22 06:50	1
13C2 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
18O2 PFHxS	107		25 - 150				11/21/22 12:16	11/24/22 06:50	1
13C4 PFOS	104		25 - 150				11/21/22 12:16	11/24/22 06:50	1

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## Login Sample Receipt Checklist

Client: Gadsden Water Works

Job Number: 280-169125-1

Login Number: 169125

List Source: Eurofins Denver

List Number: 1

Creator: Bieniulis, Dylan T

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.		
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 $<6\text{mm}$ ( $1/4"$ ).		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

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Environment Testing America

Sacramento Sample Receiving Notes



280-169125 Field Sheet

Tracking #: 16 336 988 016388 1826

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

Job: \_\_\_\_\_

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: 606 Corr. Factor: (+/-) NA °C

Ice [x] Wet [x] Gel [ ] Other [ ]

Cooler Custody Seal: 1878587

Cooler ID: \_\_\_\_\_

Temp Observed: 16 °C Corrected: 16 °C From: Temp Blank [ ] Sample [x]

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cooler Temperature is acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frozen samples show signs of thaw?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Initials: SD Date: 11-11-22

Unpacking/Labeling The Samples	Yes	No	NA
COC is complete w/o discrepancies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples compromised/tampered with?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Containers are not broken or leaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample custody seal?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sample containers have legible labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample date/times are provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Appropriate containers are used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample bottles are completely filled?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample preservatives verified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the Field Sampler's name on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples require splitting/compositing?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Samples w/o discrepancies?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Zero headspace?*	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Alkalinity has no headspace?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Perchlorate has headspace? (Methods 314, 331, 6850)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Multiphasic samples are not present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: JF Date: 11/14/22

Notes: Sample missing time on container JF 11/14/22

Trizma Lot #(s): \_\_\_\_\_

Login Completion	Yes	No	NA
Receipt Temperature on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NCM Filed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Log Release checked in TALS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Initials: JF Date: 11/14/22