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## ANALYTICAL REPORT

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Laboratory Job ID: 280-147528-1  
Client Project/Site: West River WWTP

For:  
Gadsden Water Works  
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Authorized for release by:  
4/26/2021 3:10:19 PM

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*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.*

# Case Narrative

Client: Gadsden Water Works  
Project/Site: West River WWTP

Job ID: 280-147528-1

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**Laboratory: Eurofins TestAmerica, Denver**

## Narrative

### CASE NARRATIVE

**Client: Gadsden Water Works**

**Project: West River WWTP**

**Report Number: 280-147528-1**

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 4/16/2021 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.1° C.

The container labels for the following samples did not match the information listed on the Chain-of-Custody (COC): GADSDEN-RW (280-147528-1), GADSDEN-FW (280-147528-2) and GADSDEN-DISCHARGE (280-147528-3). The container labels do not state "GADSDEN" in the sample identifications, while the COC does so. The samples were logged per the COC.

### PERFLUORINATED HYDROCARBONS (PFC)

Samples GADSDEN-RW (280-147528-1), GADSDEN-FW (280-147528-2) and GADSDEN-DISCHARGE (280-147528-3) were analyzed for Perfluorinated Hydrocarbons (PFC) in accordance with SOP DV-LC-0012. The samples were prepared on 04/19/2021 and analyzed on 04/21/2021.

The method required MS/MSD could not be performed for Method PFC due to insufficient sample volume, however, a LCS/LCSD pair was analyzed to demonstrate method precision and accuracy.

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

### PERFLUOROCTANE SULFONAMIDE (FOSA)

Samples GADSDEN-RW (280-147528-1), GADSDEN-FW (280-147528-2) and GADSDEN-DISCHARGE (280-147528-3) were analyzed for Perfluorooctane Sulfonamide (FOSA) in accordance with SOP DV-LC-0012. The samples were prepared on 04/19/2021 and analyzed on 04/21/2021.

The method required MS/MSD could not be performed for Method PFC\_FOSA due to insufficient sample volume, however, a LCS/LCSD pair was analyzed to demonstrate method precision and accuracy.

No 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: West River WWTP

Job ID: 280-147528-1

## Method: DV-LC-0012 - Fluorinated Alkyl Substances

**Client Sample ID: GADSDEN-RW**

**Date Collected: 04/15/21 21:08**

**Date Received: 04/16/21 09:40**

**Lab Sample ID: 280-147528-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.0098	J	0.017	0.0083	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluorodecanoic acid (PFDA)	0.0066	U	0.017	0.0066	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluorododecanoic acid (PFDoA)	0.013	U	0.025	0.013	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluoroheptanoic acid (PFHpA)	0.011	U	0.025	0.011	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluorohexanoic acid (PFHxA)	0.017		0.017	0.0067	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluorononanoic acid (PFNA)	0.0064	U	0.034	0.0064	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluorooctanoic acid (PFOA)	0.017		0.017	0.0083	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluorooctane sulfonate (PFOS)	0.029		0.025	0.011	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluoropentanoic acid (PFPA)	0.030		0.025	0.0092	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluorotetradecanoic acid (PFTeA)	0.012	U	0.025	0.012	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluorotridecanoic acid (PFTriA)	0.015	U	0.034	0.015	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluoroundecanoic acid (PFUnA)	0.0058	U	0.017	0.0058	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluorobutanesulfonic acid (PFBS)	0.062		0.017	0.0070	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluorodecanesulfonic acid (PFDS)	0.0078	U	0.017	0.0078	ug/L		04/19/21 17:56	04/21/21 12:28	1
Perfluorohexanesulfonic acid (PFHxS)	0.0059	U	0.025	0.0059	ug/L		04/19/21 17:56	04/21/21 12:28	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C8 PFOA	102		60 - 155				04/19/21 17:56	04/21/21 12:28	1
13C8 PFOS	101		45 - 130				04/19/21 17:56	04/21/21 12:28	1

**Client Sample ID: GADSDEN-FW**

**Date Collected: 04/15/21 11:00**

**Date Received: 04/16/21 09:40**

**Lab Sample ID: 280-147528-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.0080	U	0.016	0.0080	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluorodecanoic acid (PFDA)	0.0063	U	0.016	0.0063	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluorododecanoic acid (PFDoA)	0.012	U	0.024	0.012	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluoroheptanoic acid (PFHpA)	0.011	U	0.024	0.011	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluorohexanoic acid (PFHxA)	0.0078	J	0.016	0.0064	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluorononanoic acid (PFNA)	0.0061	U	0.032	0.0061	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluorooctanoic acid (PFOA)	0.0084	J	0.016	0.0079	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluorooctane sulfonate (PFOS)	0.015	J	0.024	0.011	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluoropentanoic acid (PFPA)	0.012	J	0.024	0.0088	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluorotetradecanoic acid (PFTeA)	0.012	U	0.024	0.012	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluorotridecanoic acid (PFTriA)	0.014	U	0.032	0.014	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluoroundecanoic acid (PFUnA)	0.0056	U	0.016	0.0056	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluorobutanesulfonic acid (PFBS)	0.033		0.016	0.0067	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluorodecanesulfonic acid (PFDS)	0.0074	U	0.016	0.0074	ug/L		04/19/21 17:56	04/21/21 12:37	1
Perfluorohexanesulfonic acid (PFHxS)	0.0057	U	0.024	0.0057	ug/L		04/19/21 17:56	04/21/21 12:37	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C8 PFOA	102		60 - 155				04/19/21 17:56	04/21/21 12:37	1
13C8 PFOS	103		45 - 130				04/19/21 17:56	04/21/21 12:37	1

**Client Sample ID: GADSDEN-DISCHARGE**

**Date Collected: 04/15/21 10:00**

**Date Received: 04/16/21 09:40**

**Lab Sample ID: 280-147528-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.0080	U	0.016	0.0080	ug/L		04/19/21 17:56	04/21/21 12:46	1

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# Client Sample Results

Client: Gadsden Water Works  
Project/Site: West River WWTP

Job ID: 280-147528-1

## Method: DV-LC-0012 - Fluorinated Alkyl Substances (Continued)

**Client Sample ID: GADSDEN-DISCHARGE**

**Date Collected: 04/15/21 10:00**

**Date Received: 04/16/21 09:40**

**Lab Sample ID: 280-147528-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	0.0064	U	0.016	0.0064	ug/L		04/19/21 17:56	04/21/21 12:46	1
Perfluorododecanoic acid (PFDoA)	0.012	U	0.025	0.012	ug/L		04/19/21 17:56	04/21/21 12:46	1
Perfluoroheptanoic acid (PFHpA)	0.011	U	0.025	0.011	ug/L		04/19/21 17:56	04/21/21 12:46	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>0.018</b>		0.016	0.0065	ug/L		04/19/21 17:56	04/21/21 12:46	1
Perfluorononanoic acid (PFNA)	0.0061	U	0.033	0.0061	ug/L		04/19/21 17:56	04/21/21 12:46	1
<b>Perfluorooctanoic acid (PFOA)</b>	<b>0.017</b>		0.016	0.0080	ug/L		04/19/21 17:56	04/21/21 12:46	1
<b>Perfluorooctane sulfonate (PFOS)</b>	<b>0.030</b>		0.025	0.011	ug/L		04/19/21 17:56	04/21/21 12:46	1
<b>Perfluoropentanoic acid (PFPA)</b>	<b>0.032</b>		0.025	0.0089	ug/L		04/19/21 17:56	04/21/21 12:46	1
Perfluorotetradecanoic acid (PFTeA)	0.012	U	0.025	0.012	ug/L		04/19/21 17:56	04/21/21 12:46	1
Perfluorotridecanoic acid (PFTriA)	0.014	U	0.033	0.014	ug/L		04/19/21 17:56	04/21/21 12:46	1
Perfluoroundecanoic acid (PFUnA)	0.0056	U	0.016	0.0056	ug/L		04/19/21 17:56	04/21/21 12:46	1
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>0.064</b>		0.016	0.0067	ug/L		04/19/21 17:56	04/21/21 12:46	1
Perfluorodecanesulfonic acid (PFDS)	0.0075	U	0.016	0.0075	ug/L		04/19/21 17:56	04/21/21 12:46	1
Perfluorohexanesulfonic acid (PFHxS)	0.0057	U	0.025	0.0057	ug/L		04/19/21 17:56	04/21/21 12:46	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C8 PFOA	102		60 - 155				04/19/21 17:56	04/21/21 12:46	1
13C8 PFOS	103		45 - 130				04/19/21 17:56	04/21/21 12:46	1

## Method: PFC -FOSA - FOSA in Water (LC/MS/MS)

**Client Sample ID: GADSDEN-RW**

**Date Collected: 04/15/21 21:08**

**Date Received: 04/16/21 09:40**

**Lab Sample ID: 280-147528-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	0.0011	J	0.046	0.0010	ug/L		04/19/21 18:03	04/21/21 13:38	1

**Client Sample ID: GADSDEN-FW**

**Date Collected: 04/15/21 11:00**

**Date Received: 04/16/21 09:40**

**Lab Sample ID: 280-147528-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	0.00086	U	0.040	0.00086	ug/L		04/19/21 18:03	04/21/21 13:47	1

**Client Sample ID: GADSDEN-DISCHARGE**

**Date Collected: 04/15/21 10:00**

**Date Received: 04/16/21 09:40**

**Lab Sample ID: 280-147528-3**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	0.00090	J	0.040	0.00086	ug/L		04/19/21 18:03	04/21/21 13:56	1

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