

## ANALYTICAL REPORT

Job Number: 280-84129-1

Job Description: ADEM PFC Sampling

For:

Alabama Dept. Environmental Management  
2715 Sandlin Road, SW  
Decatur, AL 35603  
Attention: Mr. Ed Poolos



Approved for release.  
Stephanie K Kupper  
Project Manager I  
6/28/2016 12:22 PM

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06/28/2016

cc: Mr. Bruce Freeman

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

**TestAmerica Laboratories, Inc.**

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002  
Tel (303) 736-0100 Fax (303) 431-7171 [www.testamericainc.com](http://www.testamericainc.com)

## METHOD SUMMARY

Client: Alabama Dept. Environmental Management

Job Number: 280-84129-1

Description	Lab Location	Method	Preparation Method
<b>Matrix: Water</b>			
Perfluorinated Hydrocarbons	TAL DEN	TAL-DEN DV-LC-0012	
Solid-Phase Extraction (SPE)	TAL DEN		SW846 3535
FOSA in Water (LC/MS/MS)	TAL DEN	TAL-DEN PFC -FOSA	
Solid-Phase Extraction (SPE)	TAL DEN		SW846 3535

### Lab References:

TAL DEN = TestAmerica Denver

### Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-DEN = TestAmerica Laboratories, Denver, Facility Standard Operating Procedure.

## Analytical Data

Client: Alabama Dept. Environmental Management

Job Number: 280-84129-1

**Client Sample ID: GADSDEN-RAW**

Lab Sample ID: 280-84129-1

Date Sampled: 06/06/2016 0923

Client Matrix: Water

Date Received: 06/07/2016 0715

### DV-LC-0012 Perfluorinated Hydrocarbons

Analysis Method: DV-LC-0012	Analysis Batch: 280-330638	Instrument ID: LC_LCMS5
Prep Method: 3535	Prep Batch: 280-330332	Lab File ID: PC516F20019.d
Dilution: 1.0		Initial Weight/Volume: 273.6 mL
Analysis Date: 06/20/2016 1453		Final Weight/Volume: 5 mL
Prep Date: 06/18/2016 1120		Injection Volume: 25 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Perfluorobutane Sulfonate (PFBS)	0.051		0.0075	0.018
Perfluorobutanoic acid (PFBA)	0.013	J	0.0090	0.018
Perfluorodecane sulfonate (PFDS)	0.0084	U	0.0084	0.018
Perfluorodecanoic acid (PFDA)	0.0071	U	0.0071	0.018
Perfluorododecanoic acid (PFDoA)	0.014	U	0.014	0.027
Perfluoroheptanoic acid (PFHpA)	0.013	J	0.012	0.027
Perfluorohexane Sulfonate (PFHxS)	0.0064	U	0.0064	0.027
Perfluorohexanoic acid (PFHxA)	0.030		0.0027	0.018
Perfluorononanoic acid (PFNA)	0.016	U	0.016	0.037
Perfluorooctanoic acid (PFOA)	0.023		0.0089	0.018
Perfluorooctane Sulfonate (PFOS)	0.038		0.012	0.027
Perfluoropentanoic acid (PFPA)	0.049		0.010	0.027
Perfluorotetradecanoic acid (PFTeA)	0.013	U	0.013	0.027
Perfluorotridecanoic Acid (PFTriA)	0.016	U	0.016	0.037
Perfluoroundecanoic acid (PFUnA)	0.0063	U	0.0063	0.018

Surrogate	%Rec	Qualifier	Acceptance Limits
13C8 PFOA	98		60 - 155
13C8 PFOS	102		45 - 130

## Analytical Data

Client: Alabama Dept. Environmental Management

Job Number: 280-84129-1

**Client Sample ID: GADSDEN-FINISHED**

Lab Sample ID: 280-84129-2

Date Sampled: 06/06/2016 0925

Client Matrix: Water

Date Received: 06/07/2016 0715

### DV-LC-0012 Perfluorinated Hydrocarbons

Analysis Method: DV-LC-0012	Analysis Batch: 280-330638	Instrument ID: LC_LCMS5
Prep Method: 3535	Prep Batch: 280-330332	Lab File ID: PC516F20020.d
Dilution: 1.0		Initial Weight/Volume: 260.6 mL
Analysis Date: 06/20/2016 1505		Final Weight/Volume: 5 mL
Prep Date: 06/18/2016 1120		Injection Volume: 25 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Perfluorobutane Sulfonate (PFBS)	0.051		0.0079	0.019
Perfluorobutanoic acid (PFBA)	0.011	J	0.0094	0.019
Perfluorodecane sulfonate (PFDS)	0.0088	U	0.0088	0.019
Perfluorodecanoic acid (PFDA)	0.0075	U	0.0075	0.019
Perfluorododecanoic acid (PFDoA)	0.014	U	0.014	0.029
Perfluoroheptanoic acid (PFHpA)	0.013	J	0.013	0.029
Perfluorohexane Sulfonate (PFHxS)	0.0067	U	0.0067	0.029
Perfluorohexanoic acid (PFHxA)	0.032		0.0028	0.019
Perfluorononanoic acid (PFNA)	0.017	U	0.017	0.038
Perfluorooctanoic acid (PFOA)	0.026		0.0094	0.019
Perfluorooctane Sulfonate (PFOS)	0.044		0.013	0.029
Perfluoropentanoic acid (PFPA)	0.048		0.010	0.029
Perfluorotetradecanoic acid (PFTeA)	0.014	U	0.014	0.029
Perfluorotridecanoic Acid (PFTriA)	0.017	U	0.017	0.038
Perfluoroundecanoic acid (PFUnA)	0.0066	U	0.0066	0.019

Surrogate	%Rec	Qualifier	Acceptance Limits
13C8 PFOA	103		60 - 155
13C8 PFOS	100		45 - 130

## Analytical Data

Client: Alabama Dept. Environmental Management

Job Number: 280-84129-1

**Client Sample ID: GADSDEN-RAW**

Lab Sample ID: 280-84129-1

Date Sampled: 06/06/2016 0923

Client Matrix: Water

Date Received: 06/07/2016 0715

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

Analysis Method:	PFC -FOSA	Analysis Batch:	280-330646	Instrument ID:	LC_LCMS5
Prep Method:	3535	Prep Batch:	280-330331	Lab File ID:	PC516F20045.d
Dilution:	1.0			Initial Weight/Volume:	265.4 mL
Analysis Date:	06/20/2016 2013			Final Weight/Volume:	5 mL
Prep Date:	06/18/2016 1125			Injection Volume:	25 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Perfluorooctane Sulfonamide (FOSA)	0.0054	U	0.0054	0.047

## Analytical Data

Client: Alabama Dept. Environmental Management

Job Number: 280-84129-1

**Client Sample ID: GADSDEN-RAW**

Lab Sample ID: 280-84129-1

Date Sampled: 06/06/2016 0923

Client Matrix: Water

Date Received: 06/07/2016 0715

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

Analysis Method: PFC -FOSA	Analysis Batch: 280-331383	Instrument ID: LC_LCMS5
Prep Method: 3535	Prep Batch: 280-331088	Lab File ID: PC516F24081.d
Dilution: 1.0		Initial Weight/Volume: 269.2 mL
Analysis Date: 06/25/2016 0141	Run Type: RE	Final Weight/Volume: 5 mL
Prep Date: 06/23/2016 1400		Injection Volume: 25 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Perfluorooctane Sulfonamide (FOSA)	0.0053	U H	0.0053	0.046

## Analytical Data

Client: Alabama Dept. Environmental Management

Job Number: 280-84129-1

**Client Sample ID: GADSDEN-FINISHED**

Lab Sample ID: 280-84129-2

Date Sampled: 06/06/2016 0925

Client Matrix: Water

Date Received: 06/07/2016 0715

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

Analysis Method: PFC -FOSA	Analysis Batch: 280-330646	Instrument ID: LC_LCMS5
Prep Method: 3535	Prep Batch: 280-330331	Lab File ID: PC516F20046.d
Dilution: 1.0		Initial Weight/Volume: 240.1 mL
Analysis Date: 06/20/2016 2025		Final Weight/Volume: 5 mL
Prep Date: 06/18/2016 1125		Injection Volume: 25 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Perfluorooctane Sulfonamide (FOSA)	0.0059	U	0.0059	0.052

## Analytical Data

Client: Alabama Dept. Environmental Management

Job Number: 280-84129-1

**Client Sample ID: GADSDEN-FINISHED**

Lab Sample ID: 280-84129-2  
Client Matrix: Water

Date Sampled: 06/06/2016 0925  
Date Received: 06/07/2016 0715

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

Analysis Method:	PFC -FOSA	Analysis Batch:	280-331383	Instrument ID:	LC_LCMS5
Prep Method:	3535	Prep Batch:	280-331088	Lab File ID:	PC516F24082.d
Dilution:	1.0			Initial Weight/Volume:	274.1 mL
Analysis Date:	06/25/2016 0154	Run Type:	RE	Final Weight/Volume:	5 mL
Prep Date:	06/23/2016 1400			Injection Volume:	25 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Perfluorooctane Sulfonamide (FOSA)	0.0052	U H	0.0052	0.046



Chain of Custody Record

<b>Client Information</b> Client Contact: Josh Davis Company: Alabama Dept. Environmental Management Address: 2715 Sandlin Road, SW City: Decatur State, Zip: AL, 35603 Phone: 256-432-2083(Tel) Email: jdavis@adem.state.al.us Project Name: ADEM PFC Sampling Water Site:		Sampler: <b>Bruce Freeman</b> Lab PIV: Kupper, Stephanie K E-Mail: stephanie.kupper@testamericainc.com Phone: 256-432-2073		Carrier Tracking No(s): COC No: _____ Page _____ of _____ Job # _____	
Due Date Requested: TAT Requested (days): PO #: Purchase Order Requested WO #: Project #: 28009916 SSOW#:		<b>Analysis Requested</b> Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: _____ M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)			
<b>Sample Identification</b> Sample Date Sample Time Sample Type (C=comp, G=grab) Matrix (Wet, Solid, Ovensafe, etc) Preservation Code (I=Ice, A=Ascorbic, etc)		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> PFCs <input checked="" type="checkbox"/> Total Number of Containers			
Gadsden - Raw Gadsden - Finished Centre - Raw Centre - Finished Coosa Valley - Raw Coosa Valley - Finished		6/6/16 923 G W NX 6/6/16 925 G W NX 6/6/16 1005 G W NX 6/6/16 1006 G W NX 6/6/16 1210 G W NX 6/6/16 1155 G W NX			
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Empty Kit Relinquished by: Relinquished by: <i>[Signature]</i> Relinquished by: Relinquished by:		Method of Shipment: <b>FedEx</b> Date/Time: 6/6/16 1330 Received by: <b>Adam</b> Date/Time: 6/6/16 0715 Company: <b>JAD</b>			
Custody Seal No.: 734591 Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: 1.5 PFS to 0 Transferred by RP 6-7-16			