

## ANALYTICAL REPORT

Job Number: 280-84425-1

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 12:34 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  
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## METHOD SUMMARY

Client: Alabama Dept. Environmental Management

Job Number: 280-84425-1

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: 280-84425-1

**Client Sample ID: GADSDEN-RAW**

Lab Sample ID: 280-84425-1  
Client Matrix: Water

Date Sampled: 06/13/2016 1055  
Date Received: 06/14/2016 0725

### DV-LC-0012 Perfluorinated Hydrocarbons

Analysis Method: DV-LC-0012	Analysis Batch: 280-331377	Instrument ID: LC_LCMS5
Prep Method: 3535	Prep Batch: 280-330460	Lab File ID: PC516F24066.d
Dilution: 1.0		Initial Weight/Volume: 244.3 mL
Analysis Date: 06/24/2016 2236		Final Weight/Volume: 5 mL
Prep Date: 06/20/2016 1145		Injection Volume: 25 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Perfluorobutane Sulfonate (PFBS)	0.050		0.0084	0.020
Perfluorobutanoic acid (PFBA)	0.011	J	0.010	0.020
Perfluorodecane sulfonate (PFDS)	0.0094	U	0.0094	0.020
Perfluorodecanoic acid (PFDA)	0.0080	U	0.0080	0.020
Perfluorododecanoic acid (PFDoA)	0.015	U	0.015	0.031
Perfluoroheptanoic acid (PFHpA)	0.014	U	0.014	0.031
Perfluorohexane Sulfonate (PFHxS)	0.0071	U	0.0071	0.031
Perfluorohexanoic acid (PFHxA)	0.035		0.0030	0.020
Perfluorononanoic acid (PFNA)	0.018	U	0.018	0.041
Perfluorooctanoic acid (PFOA)	0.023		0.010	0.020
Perfluorooctane Sulfonate (PFOS)	0.034		0.014	0.031
Perfluoropentanoic acid (PFPA)	0.047		0.011	0.031
Perfluorotetradecanoic acid (PFTeA)	0.015	U	0.015	0.031
Perfluorotridecanoic Acid (PFTriA)	0.018	U	0.018	0.041
Perfluoroundecanoic acid (PFUnA)	0.0071	U	0.0071	0.020
Surrogate	%Rec	Qualifier	Acceptance Limits	
13C8 PFOA	102		60 - 155	
13C8 PFOS	99		45 - 130	

## Analytical Data

Client: Alabama Dept. Environmental Management

Job Number: 280-84425-1

**Client Sample ID: GADSDEN-FINISHED**

Lab Sample ID: 280-84425-2  
 Client Matrix: Water

Date Sampled: 06/13/2016 1056  
 Date Received: 06/14/2016 0725

### DV-LC-0012 Perfluorinated Hydrocarbons

Analysis Method: DV-LC-0012	Analysis Batch: 280-331377	Instrument ID: LC_LCMS5
Prep Method: 3535	Prep Batch: 280-330460	Lab File ID: PC516F24067.d
Dilution: 1.0		Initial Weight/Volume: 278.3 mL
Analysis Date: 06/24/2016 2249		Final Weight/Volume: 5 mL
Prep Date: 06/20/2016 1145		Injection Volume: 25 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Perfluorobutane Sulfonate (PFBS)	0.051		0.0074	0.018
Perfluorobutanoic acid (PFBA)	0.011	J	0.0088	0.018
Perfluorodecane sulfonate (PFDS)	0.0082	U	0.0082	0.018
Perfluorodecanoic acid (PFDA)	0.0070	U	0.0070	0.018
Perfluorododecanoic acid (PFDoA)	0.013	U	0.013	0.027
Perfluoroheptanoic acid (PFHpA)	0.012	U	0.012	0.027
Perfluorohexane Sulfonate (PFHxS)	0.0063	U	0.0063	0.027
Perfluorohexanoic acid (PFHxA)	0.031		0.0026	0.018
Perfluorononanoic acid (PFNA)	0.016	U	0.016	0.036
Perfluorooctanoic acid (PFOA)	0.023		0.0088	0.018
Perfluorooctane Sulfonate (PFOS)	0.041		0.012	0.027
Perfluoropentanoic acid (PFPA)	0.044		0.0098	0.027
Perfluorotetradecanoic acid (PFTeA)	0.013	U	0.013	0.027
Perfluorotridecanoic Acid (PFTriA)	0.016	U	0.016	0.036
Perfluoroundecanoic acid (PFUnA)	0.0062	U	0.0062	0.018
Surrogate	%Rec	Qualifier	Acceptance Limits	
13C8 PFOA	101		60 - 155	
13C8 PFOS	103		45 - 130	

## Analytical Data

Client: Alabama Dept. Environmental Management

Job Number: 280-84425-1

**Client Sample ID: GADSDEN-RAW**

Lab Sample ID: 280-84425-1

Date Sampled: 06/13/2016 1055

Client Matrix: Water

Date Received: 06/14/2016 0725

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

Analysis Method: PFC -FOSA	Analysis Batch: 280-330805	Instrument ID: LC_LCMS5
Prep Method: 3535	Prep Batch: 280-330461	Lab File ID: PC516F21130b.d
Dilution: 1.0		Initial Weight/Volume: 269.9 mL
Analysis Date: 06/22/2016 0425		Final Weight/Volume: 5 mL
Prep Date: 06/20/2016 1155		Injection Volume: 25 uL

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

## Analytical Data

Client: Alabama Dept. Environmental Management

Job Number: 280-84425-1

**Client Sample ID: GADSDEN-FINISHED**

Lab Sample ID: 280-84425-2

Date Sampled: 06/13/2016 1056

Client Matrix: Water

Date Received: 06/14/2016 0725

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

Analysis Method: PFC -FOSA	Analysis Batch: 280-330805	Instrument ID: LC_LCMS5
Prep Method: 3535	Prep Batch: 280-330461	Lab File ID: PC516F21131.d
Dilution: 1.0		Initial Weight/Volume: 270.9 mL
Analysis Date: 06/22/2016 0437		Final Weight/Volume: 5 mL
Prep Date: 06/20/2016 1155		Injection Volume: 25 uL

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

TestAmerica Denver  
4955 Yarrow Street  
Arvada, CO 80002  
Phone (303) 796-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING

**Client Information**  
 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:   
 SOW#:   
 PO #:   
 Purchase Order Requested:   
 Due Date Requested:   
 TAT Requested (days):   
 Lab Pk:   
 Lab Pk #:   
 Lab Pk Name:   
 E-Mail:   
 Carrier Tracking No(s):   
 COC No:   
 Page:   
 of:   
 Job #:

**Analysis Requested**  
 Held Filtered Sample: Yes/No  
 PFCs  
 280-84425 Chain of Custody  
 Preservation Codes:  
 A - HCl  
 B - NaOH  
 C - Zn Acetate  
 D - Nitric Acid  
 E - NH4SO4  
 F - MeOH  
 G - Anhydrous  
 H - Ascorbic Acid  
 I - Ice  
 J - DI Water  
 K - EDTA  
 L - EDA  
 M - Hexane  
 N - None  
 O - AsNaO2  
 P - Na2O4S  
 Q - Na2SO3  
 R - Na2S2O3  
 S - H2SO4  
 T - TSP Dodecahydrate  
 U - Acetone  
 V - MCAA  
 W - 0H 4-5  
 Z - other (specify)  
 Other:  
 Special Instructions/Note:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Soil, O=Other, A=Air)	Field Filtered Sample	Analysis Requested	Total Number of Containers	Special Instructions/Note
Gadsden - Raw	6/13/16	1055	G	W	PPK		4	
Gadsden - Finished	6/13/16	1056	G	W	PPK		4	
Centre - Raw	6/13/16	1135	G	W	PPX		4	
Centre - Finished	6/13/16	1133	G	W	PPX		4	
Coosa Valley - Raw	6/13/16	1330	G	W	PPX		4	
Coosa Valley - Finished	6/13/16	1315	G	W	PPX		4	

**Possible Hazard Identification**  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological  
 Deliverable Requested: I, II, III, IV, Other (specify)  
 Empty Kit Relinquished by:   
 Date:   
 Method of Shipment: **FedEx**  
 Relinquished by:   
 Date/Time:   
 Company:   
 Relinquished by:   
 Date/Time:   
 Company:   
 Custody Seats Intact:   
 Custody Seal No.: **735666**  
 Cooler Temperature(s): **2.9 FRS**  
 Other Remarks: **CO2 transferred SPL 6/16**