

ANALYTICAL REPORT

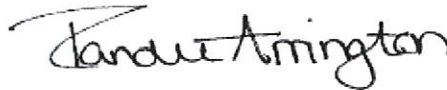
Job Number: 280-117443-1

Job Description: ADEM PFC Sampling - Gadsden

For:

Alabama Dept. Environmental Management
2715 Sandlin Road, SW
Decatur, AL 35603

Attention: Mr. Bruce Freeman



Approved for release.
Randee E. Arrington
Project Manager II
12/12/2018 2:48 PM

Designee for
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12/12/2018

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.

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Definitions/Glossary

Client: Alabama Dept. Environmental Management
Project/Site: ADEM PFC Sampling - Gadsden

TestAmerica Job ID: 280-117443-1

Qualifiers

LCMS

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job Narrative
280-117443-1

Receipt

The samples were received on 11/29/2018 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

LCMS

Method DV-LC-0012: The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: GADSDEN-RAW (280-117443-1). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

PFC preparation batch 280-439847 and analytical batch 280-440149

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

Organic Prep

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

Client Sample Results

Client: Alabama Dept. Environmental Management
Project/Site: ADEM PFC Sampling - Gadsden

TestAmerica Job ID: 280-117443-1

Client Sample ID: GADSDEN-RAW

Lab Sample ID: 280-117443-1

Date Collected: 11/27/18 20:11

Matrix: Water

Date Received: 11/29/18 09:25

Method: DV-LC-0012 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.017		0.016	0.0080	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluorodecanoic acid (PFDA)	0.0064	U	0.016	0.0064	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluorododecanoic acid (PFDoA)	0.012	U	0.024	0.012	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluoroheptanoic acid (PFHpA)	0.011	U	0.024	0.011	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluorohexanoic acid (PFHxA)	0.027		0.016	0.0024	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluorononanoic acid (PFNA)	0.014	U	0.032	0.014	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluorooctanoic acid (PFOA)	0.024		0.016	0.0080	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluorooctane sulfonate (PFOS)	0.034		0.024	0.011	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluoropentanoic acid (PFPA)	0.055		0.024	0.0089	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluorotetradecanoic acid (PFTeA)	0.012	U	0.024	0.012	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluorotridecanoic acid (PFTriA)	0.014	U	0.032	0.014	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluoroundecanoic acid (PFUnA)	0.0056	U	0.016	0.0056	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluorobutanesulfonic acid (PFBS)	0.093		0.016	0.0067	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluorodecanesulfonic acid (PFDS)	0.0074	U	0.016	0.0074	ug/L		12/04/18 19:32	12/06/18 00:17	1
Perfluorohexanesulfonic acid (PFHxS)	0.0057	U	0.024	0.0057	ug/L		12/04/18 19:32	12/06/18 00:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 PFOA	106		60 - 155				12/04/18 19:32	12/06/18 00:17	1
13C8 PFOS	104		45 - 130				12/04/18 19:32	12/06/18 00:17	1

Client Sample ID: GADSDEN-FINISHED

Lab Sample ID: 280-117443-2

Date Collected: 11/28/18 11:30

Matrix: Water

Date Received: 11/29/18 09:25

Method: DV-LC-0012 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.015	J	0.017	0.0085	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluorodecanoic acid (PFDA)	0.0068	U	0.017	0.0068	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluorododecanoic acid (PFDoA)	0.013	U	0.026	0.013	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluoroheptanoic acid (PFHpA)	0.011	U	0.026	0.011	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluorohexanoic acid (PFHxA)	0.025		0.017	0.0025	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluorononanoic acid (PFNA)	0.015	U	0.035	0.015	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluorooctanoic acid (PFOA)	0.024		0.017	0.0085	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluorooctane sulfonate (PFOS)	0.036		0.026	0.012	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluoropentanoic acid (PFPA)	0.050		0.026	0.0095	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluorotetradecanoic acid (PFTeA)	0.013	U	0.026	0.013	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluorotridecanoic acid (PFTriA)	0.015	U	0.035	0.015	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluoroundecanoic acid (PFUnA)	0.0060	U	0.017	0.0060	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluorobutanesulfonic acid (PFBS)	0.12		0.017	0.0072	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluorodecanesulfonic acid (PFDS)	0.0079	U	0.017	0.0079	ug/L		12/04/18 19:32	12/06/18 00:29	1
Perfluorohexanesulfonic acid (PFHxS)	0.0061	U	0.026	0.0061	ug/L		12/04/18 19:32	12/06/18 00:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 PFOA	106		60 - 155				12/04/18 19:32	12/06/18 00:29	1
13C8 PFOS	101		45 - 130				12/04/18 19:32	12/06/18 00:29	1