

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Sacramento
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West Sacramento, CA 95605
Tel: (916)373-5600

TestAmerica Job ID: 320-24645-1
Client Project/Site: Fort McCoy PFAS - FTBP1

For:
Hyde Environmental, Inc.
W175 N11163 Stonewood Drive
Suite 110
Germantown, Wisconsin 53022

(b) (6)

Authorized for release by:
1/8/2017 10:27:47 AM

(b) (6)

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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.

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Definitions/Glossary

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Case Narrative

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Job ID: 320-24645-1

Laboratory: TestAmerica Sacramento

Narrative

Job Narrative 320-24645-1

Comments

No additional comments.

Receipt

The samples were received on 12/23/2016 10:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.5° C.

LCMS

Method(s) 537 (modified): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Perfluorooctanesulfonic acid (PFOS) in preparation batch 320-144783 and analytical batch 320-145023 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 537 (modified): The Isotope Dilution Analyte (IDA) recovery for ¹³C8 FOSA associated with the following samples is below the method recommended limit: OW-141 (320-24645-1), OW-137 (320-24645-2), P-308A (320-24645-3), OW-308 (320-24645-4), P-134A (320-24645-5), OW-134 (320-24645-6), OW-134 (320-24645-6[MS]), OW-134 (320-24645-6[MSD]), EQ. BLANK (320-24645-7), D-133A (320-24645-8), OW-133B (320-24645-9), OW-133B DUP (320-24645-10), OW-136B (320-24645-11), OW-145 (320-24645-13), (LCS 320-144783/2-A) and (MB 320-144783/1-A). 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 samples.

Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for several analytes in the following samples: EQ. BLANK (320-24645-7), (LCS 320-144783/2-A) and (MB 320-144783/1-A). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): The concentration of Perfluorooctanesulfonic acid (PFOS) and Perfluorohexanesulfonic acid (PFHxS) the following samples exceeded the instrument calibration range: OW-141 (320-24645-1), OW-308 (320-24645-4) and OW-136B (320-24645-11). These samples have been run at dilution.

Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recoveries for some analytes, M2-6:2 FTS, M2-8:2 FTS and ¹³C2-PFUnA, are above the method recommended limit for the following sample: OW-117 (320-24645-12). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries as is the case for ¹³C2-PFUnA. While there is no visible matrix interference present in the masses monitored for the M2-6:2 FTS and M2-8:2 FTS IDA, the sample matrix did enhance the response for these 2 IDA. This is evident by the fact that recoveries for these 2 IDA are in control in the associated laboratory QC and replicated when these extracts were analyzed a second time. This elevated IDA recovery may indeed result in a low bias for the native 6:2 FTS and 8:2 FTS analytes.

Method(s) 537 (modified): The following samples were diluted to bring the concentration of target analytes within the calibration range: OW-141 (320-24645-1), OW-308 (320-24645-4), OW-136B (320-24645-11) and OW-117 (320-24645-12). Elevated reporting limits (RLs) are provided.

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

Organic Prep

Method(s) 3535: The following sample was centrifuged prior to extraction: OW-141 (320-24645-1) and OW-137 (320-24645-2)

Method(s) 3535: The aqueous portion of the following samples was decanted prior to extraction, due to excess sediment at the bottom of the bottle: P-134A (320-24645-5), OW-133B (320-24645-9), OW-133B DUP (320-24645-10), OW-136B (320-24645-11), OW-117 (320-24645-12) and OW-145 (320-24645-13)

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

Detection Summary

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-141

Lab Sample ID: 320-24645-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	22	B	2.0	0.45	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	21		2.0	0.98	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	25		2.0	0.78	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	22		2.0	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	32		2.0	0.74	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.5		2.0	0.91	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	200		2.0	0.86	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	380		9.9	6.3	ng/L	5		537 (modified)	Total/NA

Client Sample ID: OW-137

Lab Sample ID: 320-24645-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.5	B	1.9	0.45	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.9		1.9	0.96	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.1		1.9	0.76	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.4		1.9	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.8		1.9	0.73	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.0		1.9	0.89	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	26		1.9	0.85	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	130		1.9	1.2	ng/L	1		537 (modified)	Total/NA

Client Sample ID: P-308A

Lab Sample ID: 320-24645-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.5	B	2.1	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.96	J	2.1	0.81	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.7		2.1	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.7	J	2.1	0.94	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.3		2.1	0.89	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.9	J	2.1	1.3	ng/L	1		537 (modified)	Total/NA

Client Sample ID: OW-308

Lab Sample ID: 320-24645-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	40	B	2.0	0.47	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	110		2.0	1.0	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	120		2.0	0.80	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	47		2.0	0.82	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	40		2.0	0.76	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	19		2.0	0.93	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	230		2.0	0.88	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	6000		100	65	ng/L	50		537 (modified)	Total/NA

Client Sample ID: P-134A

Lab Sample ID: 320-24645-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.79	J B	2.0	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.6		2.0	0.85	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.3		2.0	1.3	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Detection Summary

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-134

Lab Sample ID: 320-24645-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.3	B	2.1	0.48	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.0	J	2.1	1.0	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.4	J	2.1	0.82	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.0	J	2.1	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.0	J	2.1	0.95	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	14		2.1	0.90	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	150	F1	2.1	1.3	ng/L	1		537 (modified)	Total/NA

Client Sample ID: EQ. BLANK

Lab Sample ID: 320-24645-7

No Detections.

Client Sample ID: P-133A

Lab Sample ID: 320-24645-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.9	B	2.1	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.9		2.1	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	6.2		2.1	0.95	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	18		2.1	0.90	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.8		2.1	1.3	ng/L	1		537 (modified)	Total/NA

Client Sample ID: OW-133B

Lab Sample ID: 320-24645-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.8	B	1.9	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.3	J	1.9	0.95	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.5	J	1.9	0.76	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.3	J	1.9	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.6		1.9	0.72	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.9	0.88	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	29		1.9	0.84	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	85		1.9	1.2	ng/L	1		537 (modified)	Total/NA

Client Sample ID: OW-133B DUP

Lab Sample ID: 320-24645-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.5	B	2.0	0.45	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.3	J	2.0	0.97	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.5	J	2.0	0.77	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.5	J	2.0	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	9.0		2.0	0.73	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.4	J	2.0	0.90	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	30		2.0	0.85	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	94		2.0	1.2	ng/L	1		537 (modified)	Total/NA

Client Sample ID: OW-136B

Lab Sample ID: 320-24645-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	110	B	1.9	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	260		1.9	0.96	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	310		1.9	0.76	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Detection Summary

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-136B (Continued)

Lab Sample ID: 320-24645-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	150		1.9	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	67		1.9	0.72	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	47		1.9	0.89	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	1100		19	8.4	ng/L	10		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	1900		19	12	ng/L	10		537 (modified)	Total/NA

Client Sample ID: OW-117

Lab Sample ID: 320-24645-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	700	B	200	45	ng/L	100		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2600		200	97	ng/L	100		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2200		200	77	ng/L	100		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1300		200	79	ng/L	100		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	920		200	73	ng/L	100		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	300		200	90	ng/L	100		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7600		200	85	ng/L	100		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	31000		200	130	ng/L	100		537 (modified)	Total/NA

Client Sample ID: OW-145

Lab Sample ID: 320-24645-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.9	B	1.9	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.1	J	1.9	0.95	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.6	J	1.9	0.76	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.3	J	1.9	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	25		1.9	0.72	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.7	J	1.9	0.88	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	230		1.9	0.84	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	36		1.9	1.2	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-141

Date Collected: 12/20/16 10:00

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-1

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	22	B	2.0	0.45	ng/L		01/03/17 15:04	01/04/17 18:48	1
Perfluoropentanoic acid (PFPeA)	21		2.0	0.98	ng/L		01/03/17 15:04	01/04/17 18:48	1
Perfluorohexanoic acid (PFHxA)	25		2.0	0.78	ng/L		01/03/17 15:04	01/04/17 18:48	1
Perfluoroheptanoic acid (PFHpA)	22		2.0	0.80	ng/L		01/03/17 15:04	01/04/17 18:48	1
Perfluorooctanoic acid (PFOA)	32		2.0	0.74	ng/L		01/03/17 15:04	01/04/17 18:48	1
Perfluorobutanesulfonic acid (PFBS)	5.5		2.0	0.91	ng/L		01/03/17 15:04	01/04/17 18:48	1
Perfluorohexanesulfonic acid (PFHxS)	200		2.0	0.86	ng/L		01/03/17 15:04	01/04/17 18:48	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	3	*	25 - 150				01/03/17 15:04	01/04/17 18:48	1
13C4 PFBA	25		25 - 150				01/03/17 15:04	01/04/17 18:48	1
13C2 PFHxA	76		25 - 150				01/03/17 15:04	01/04/17 18:48	1
13C4 PFOA	81		25 - 150				01/03/17 15:04	01/04/17 18:48	1
13C5 PFNA	63		25 - 150				01/03/17 15:04	01/04/17 18:48	1
13C2 PFDA	73		25 - 150				01/03/17 15:04	01/04/17 18:48	1
13C2 PFUnA	72		25 - 150				01/03/17 15:04	01/04/17 18:48	1
13C2 PFDoA	81		25 - 150				01/03/17 15:04	01/04/17 18:48	1
18O2 PFHxS	94		25 - 150				01/03/17 15:04	01/04/17 18:48	1
13C4-PFHpA	81		25 - 150				01/03/17 15:04	01/04/17 18:48	1
13C5 PFPeA	60		25 - 150				01/03/17 15:04	01/04/17 18:48	1

Method: 537 (modified) - Perfluorinated Hydrocarbons - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	380		9.9	6.3	ng/L		01/03/17 15:04	01/05/17 12:38	5
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOS	138		25 - 150				01/03/17 15:04	01/05/17 12:38	5

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-137

Date Collected: 12/20/16 11:15

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-2

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	4.5	B	1.9	0.45	ng/L		01/03/17 15:04	01/04/17 18:55	1
Perfluoropentanoic acid (PFPeA)	4.9		1.9	0.96	ng/L		01/03/17 15:04	01/04/17 18:55	1
Perfluorohexanoic acid (PFHxA)	4.1		1.9	0.76	ng/L		01/03/17 15:04	01/04/17 18:55	1
Perfluoroheptanoic acid (PFHpA)	2.4		1.9	0.78	ng/L		01/03/17 15:04	01/04/17 18:55	1
Perfluorooctanoic acid (PFOA)	5.8		1.9	0.73	ng/L		01/03/17 15:04	01/04/17 18:55	1
Perfluorobutanesulfonic acid (PFBS)	2.0		1.9	0.89	ng/L		01/03/17 15:04	01/04/17 18:55	1
Perfluorohexanesulfonic acid (PFHxS)	26		1.9	0.85	ng/L		01/03/17 15:04	01/04/17 18:55	1
Perfluorooctanesulfonic acid (PFOS)	130		1.9	1.2	ng/L		01/03/17 15:04	01/04/17 18:55	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	2	*	25 - 150				01/03/17 15:04	01/04/17 18:55	1
13C4 PFBA	18	*	25 - 150				01/03/17 15:04	01/04/17 18:55	1
13C2 PFHxA	63		25 - 150				01/03/17 15:04	01/04/17 18:55	1
13C4 PFOA	65		25 - 150				01/03/17 15:04	01/04/17 18:55	1
13C5 PFNA	56		25 - 150				01/03/17 15:04	01/04/17 18:55	1
13C2 PFDA	61		25 - 150				01/03/17 15:04	01/04/17 18:55	1
13C2 PFUnA	63		25 - 150				01/03/17 15:04	01/04/17 18:55	1
13C2 PFDoA	68		25 - 150				01/03/17 15:04	01/04/17 18:55	1
18O2 PFHxS	96		25 - 150				01/03/17 15:04	01/04/17 18:55	1
13C4 PFOS	122		25 - 150				01/03/17 15:04	01/04/17 18:55	1
13C4-PFHpA	74		25 - 150				01/03/17 15:04	01/04/17 18:55	1
13C5 PFPeA	47		25 - 150				01/03/17 15:04	01/04/17 18:55	1

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: P-308A

Date Collected: 12/20/16 12:30

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-3

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	6.5	B	2.1	0.47	ng/L		01/03/17 15:04	01/04/17 19:03	1
Perfluoropentanoic acid (PFPeA)	<1.0		2.1	1.0	ng/L		01/03/17 15:04	01/04/17 19:03	1
Perfluorohexanoic acid (PFHxA)	0.96	J	2.1	0.81	ng/L		01/03/17 15:04	01/04/17 19:03	1
Perfluoroheptanoic acid (PFHpA)	<0.82		2.1	0.82	ng/L		01/03/17 15:04	01/04/17 19:03	1
Perfluorooctanoic acid (PFOA)	2.7		2.1	0.77	ng/L		01/03/17 15:04	01/04/17 19:03	1
Perfluorobutanesulfonic acid (PFBS)	1.7	J	2.1	0.94	ng/L		01/03/17 15:04	01/04/17 19:03	1
Perfluorohexanesulfonic acid (PFHxS)	7.3		2.1	0.89	ng/L		01/03/17 15:04	01/04/17 19:03	1
Perfluorooctanesulfonic acid (PFOS)	1.9	J	2.1	1.3	ng/L		01/03/17 15:04	01/04/17 19:03	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 FOSA	3	*	25 - 150				01/03/17 15:04	01/04/17 19:03	1
13C4 PFBA	29		25 - 150				01/03/17 15:04	01/04/17 19:03	1
13C2 PFHxA	85		25 - 150				01/03/17 15:04	01/04/17 19:03	1
13C4 PFOA	84		25 - 150				01/03/17 15:04	01/04/17 19:03	1
13C5 PFNA	75		25 - 150				01/03/17 15:04	01/04/17 19:03	1
13C2 PFDA	79		25 - 150				01/03/17 15:04	01/04/17 19:03	1
13C2 PFUnA	83		25 - 150				01/03/17 15:04	01/04/17 19:03	1
13C2 PFDoA	89		25 - 150				01/03/17 15:04	01/04/17 19:03	1
18O2 PFHxS	105		25 - 150				01/03/17 15:04	01/04/17 19:03	1
13C4 PFOS	117		25 - 150				01/03/17 15:04	01/04/17 19:03	1
13C4-PFHpA	89		25 - 150				01/03/17 15:04	01/04/17 19:03	1
13C5 PFPeA	71		25 - 150				01/03/17 15:04	01/04/17 19:03	1

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-308

Date Collected: 12/20/16 13:05

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-4

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	40	B	2.0	0.47	ng/L		01/03/17 15:04	01/04/17 19:10	1
Perfluoropentanoic acid (PFPeA)	110		2.0	1.0	ng/L		01/03/17 15:04	01/04/17 19:10	1
Perfluorohexanoic acid (PFHxA)	120		2.0	0.80	ng/L		01/03/17 15:04	01/04/17 19:10	1
Perfluoroheptanoic acid (PFHpA)	47		2.0	0.82	ng/L		01/03/17 15:04	01/04/17 19:10	1
Perfluorooctanoic acid (PFOA)	40		2.0	0.76	ng/L		01/03/17 15:04	01/04/17 19:10	1
Perfluorobutanesulfonic acid (PFBS)	19		2.0	0.93	ng/L		01/03/17 15:04	01/04/17 19:10	1
Perfluorohexanesulfonic acid (PFHxS)	230		2.0	0.88	ng/L		01/03/17 15:04	01/04/17 19:10	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	4	*	25 - 150				01/03/17 15:04	01/04/17 19:10	1
13C4 PFBA	32		25 - 150				01/03/17 15:04	01/04/17 19:10	1
13C2 PFHxA	91		25 - 150				01/03/17 15:04	01/04/17 19:10	1
13C4 PFOA	115		25 - 150				01/03/17 15:04	01/04/17 19:10	1
13C5 PFNA	44		25 - 150				01/03/17 15:04	01/04/17 19:10	1
13C2 PFDA	110		25 - 150				01/03/17 15:04	01/04/17 19:10	1
13C2 PFUnA	100		25 - 150				01/03/17 15:04	01/04/17 19:10	1
13C2 PFDoA	100		25 - 150				01/03/17 15:04	01/04/17 19:10	1
18O2 PFHxS	102		25 - 150				01/03/17 15:04	01/04/17 19:10	1
13C4-PFHpA	96		25 - 150				01/03/17 15:04	01/04/17 19:10	1
13C5 PFPeA	75		25 - 150				01/03/17 15:04	01/04/17 19:10	1

Method: 537 (modified) - Perfluorinated Hydrocarbons - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	6000		100	65	ng/L		01/03/17 15:04	01/05/17 11:53	50
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOS	141		25 - 150				01/03/17 15:04	01/05/17 11:53	50

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: P-134A

Date Collected: 12/20/16 14:10

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-5

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.79	J B	2.0	0.45	ng/L		01/03/17 15:04	01/04/17 19:18	1
Perfluoropentanoic acid (PFPeA)	<0.97		2.0	0.97	ng/L		01/03/17 15:04	01/04/17 19:18	1
Perfluorohexanoic acid (PFHxA)	<0.77		2.0	0.77	ng/L		01/03/17 15:04	01/04/17 19:18	1
Perfluoroheptanoic acid (PFHpA)	<0.79		2.0	0.79	ng/L		01/03/17 15:04	01/04/17 19:18	1
Perfluorooctanoic acid (PFOA)	<0.73		2.0	0.73	ng/L		01/03/17 15:04	01/04/17 19:18	1
Perfluorobutanesulfonic acid (PFBS)	<0.90		2.0	0.90	ng/L		01/03/17 15:04	01/04/17 19:18	1
Perfluorohexanesulfonic acid (PFHxS)	6.6		2.0	0.85	ng/L		01/03/17 15:04	01/04/17 19:18	1
Perfluorooctanesulfonic acid (PFOS)	5.3		2.0	1.3	ng/L		01/03/17 15:04	01/04/17 19:18	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 FOSA	2	*	25 - 150				01/03/17 15:04	01/04/17 19:18	1
13C4 PFBA	28		25 - 150				01/03/17 15:04	01/04/17 19:18	1
13C2 PFHxA	91		25 - 150				01/03/17 15:04	01/04/17 19:18	1
13C4 PFOA	96		25 - 150				01/03/17 15:04	01/04/17 19:18	1
13C5 PFNA	74		25 - 150				01/03/17 15:04	01/04/17 19:18	1
13C2 PFDA	73		25 - 150				01/03/17 15:04	01/04/17 19:18	1
13C2 PFUnA	77		25 - 150				01/03/17 15:04	01/04/17 19:18	1
13C2 PFDoA	87		25 - 150				01/03/17 15:04	01/04/17 19:18	1
18O2 PFHxS	110		25 - 150				01/03/17 15:04	01/04/17 19:18	1
13C4 PFOS	125		25 - 150				01/03/17 15:04	01/04/17 19:18	1
13C4-PFHpA	100		25 - 150				01/03/17 15:04	01/04/17 19:18	1
13C5 PFPeA	73		25 - 150				01/03/17 15:04	01/04/17 19:18	1

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-134

Date Collected: 12/20/16 15:00

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-6

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	2.3	B	2.1	0.48	ng/L		01/03/17 15:04	01/04/17 19:25	1
Perfluoropentanoic acid (PFPeA)	1.0	J	2.1	1.0	ng/L		01/03/17 15:04	01/04/17 19:25	1
Perfluorohexanoic acid (PFHxA)	1.4	J	2.1	0.82	ng/L		01/03/17 15:04	01/04/17 19:25	1
Perfluoroheptanoic acid (PFHpA)	<0.83		2.1	0.83	ng/L		01/03/17 15:04	01/04/17 19:25	1
Perfluorooctanoic acid (PFOA)	2.0	J	2.1	0.78	ng/L		01/03/17 15:04	01/04/17 19:25	1
Perfluorobutanesulfonic acid (PFBS)	2.0	J	2.1	0.95	ng/L		01/03/17 15:04	01/04/17 19:25	1
Perfluorohexanesulfonic acid (PFHxS)	14		2.1	0.90	ng/L		01/03/17 15:04	01/04/17 19:25	1
Perfluorooctanesulfonic acid (PFOS)	150	F1	2.1	1.3	ng/L		01/03/17 15:04	01/04/17 19:25	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
¹³ C8 FOSA	3	*	25 - 150				01/03/17 15:04	01/04/17 19:25	1
¹³ C4 PFBA	41		25 - 150				01/03/17 15:04	01/04/17 19:25	1
¹³ C2 PFHxA	103		25 - 150				01/03/17 15:04	01/04/17 19:25	1
¹³ C4 PFOA	117		25 - 150				01/03/17 15:04	01/04/17 19:25	1
¹³ C5 PFNA	95		25 - 150				01/03/17 15:04	01/04/17 19:25	1
¹³ C2 PFDA	105		25 - 150				01/03/17 15:04	01/04/17 19:25	1
¹³ C2 PFUnA	110		25 - 150				01/03/17 15:04	01/04/17 19:25	1
¹³ C2 PFDoA	116		25 - 150				01/03/17 15:04	01/04/17 19:25	1
¹⁸ O2 PFHxS	119		25 - 150				01/03/17 15:04	01/04/17 19:25	1
¹³ C4 PFOS	128		25 - 150				01/03/17 15:04	01/04/17 19:25	1
¹³ C4-PFHpA	115		25 - 150				01/03/17 15:04	01/04/17 19:25	1
¹³ C5 PFPeA	91		25 - 150				01/03/17 15:04	01/04/17 19:25	1

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: EQ. BLANK

Date Collected: 12/20/16 15:35

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-7

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.46		2.0	0.46	ng/L		01/03/17 15:04	01/04/17 20:10	1
Perfluoropentanoic acid (PFPeA)	<1.0		2.0	1.0	ng/L		01/03/17 15:04	01/04/17 20:10	1
Perfluorohexanoic acid (PFHxA)	<0.79		2.0	0.79	ng/L		01/03/17 15:04	01/04/17 20:10	1
Perfluoroheptanoic acid (PFHpA)	<0.81		2.0	0.81	ng/L		01/03/17 15:04	01/04/17 20:10	1
Perfluorooctanoic acid (PFOA)	<0.76		2.0	0.76	ng/L		01/03/17 15:04	01/04/17 20:10	1
Perfluorobutanesulfonic acid (PFBS)	<0.93		2.0	0.93	ng/L		01/03/17 15:04	01/04/17 20:10	1
Perfluorohexanesulfonic acid (PFHxS)	<0.88		2.0	0.88	ng/L		01/03/17 15:04	01/04/17 20:10	1
Perfluorooctanesulfonic acid (PFOS)	<1.3		2.0	1.3	ng/L		01/03/17 15:04	01/04/17 20:10	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	10	*	25 - 150	01/03/17 15:04	01/04/17 20:10	1
13C4 PFBA	107		25 - 150	01/03/17 15:04	01/04/17 20:10	1
13C2 PFHxA	138		25 - 150	01/03/17 15:04	01/04/17 20:10	1
13C4 PFOA	138		25 - 150	01/03/17 15:04	01/04/17 20:10	1
13C5 PFNA	139		25 - 150	01/03/17 15:04	01/04/17 20:10	1
13C2 PFDA	159	*	25 - 150	01/03/17 15:04	01/04/17 20:10	1
13C2 PFUnA	163	*	25 - 150	01/03/17 15:04	01/04/17 20:10	1
13C2 PFDoA	156	*	25 - 150	01/03/17 15:04	01/04/17 20:10	1
18O2 PFHxS	131		25 - 150	01/03/17 15:04	01/04/17 20:10	1
13C4 PFOS	141		25 - 150	01/03/17 15:04	01/04/17 20:10	1
13C4-PFHpA	135		25 - 150	01/03/17 15:04	01/04/17 20:10	1
13C5 PFPeA	142		25 - 150	01/03/17 15:04	01/04/17 20:10	1

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: P-133A

Date Collected: 12/21/16 08:55

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-8

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	6.9	B	2.1	0.47	ng/L		01/03/17 15:04	01/04/17 20:18	1
Perfluoropentanoic acid (PFPeA)	<1.0		2.1	1.0	ng/L		01/03/17 15:04	01/04/17 20:18	1
Perfluorohexanoic acid (PFHxA)	<0.81		2.1	0.81	ng/L		01/03/17 15:04	01/04/17 20:18	1
Perfluoroheptanoic acid (PFHpA)	<0.83		2.1	0.83	ng/L		01/03/17 15:04	01/04/17 20:18	1
Perfluorooctanoic acid (PFOA)	4.9		2.1	0.77	ng/L		01/03/17 15:04	01/04/17 20:18	1
Perfluorobutanesulfonic acid (PFBS)	6.2		2.1	0.95	ng/L		01/03/17 15:04	01/04/17 20:18	1
Perfluorohexanesulfonic acid (PFHxS)	18		2.1	0.90	ng/L		01/03/17 15:04	01/04/17 20:18	1
Perfluorooctanesulfonic acid (PFOS)	4.8		2.1	1.3	ng/L		01/03/17 15:04	01/04/17 20:18	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 FOSA	6	*	25 - 150				01/03/17 15:04	01/04/17 20:18	1
13C4 PFBA	40		25 - 150				01/03/17 15:04	01/04/17 20:18	1
13C2 PFHxA	90		25 - 150				01/03/17 15:04	01/04/17 20:18	1
13C4 PFOA	90		25 - 150				01/03/17 15:04	01/04/17 20:18	1
13C5 PFNA	77		25 - 150				01/03/17 15:04	01/04/17 20:18	1
13C2 PFDA	78		25 - 150				01/03/17 15:04	01/04/17 20:18	1
13C2 PFUnA	79		25 - 150				01/03/17 15:04	01/04/17 20:18	1
13C2 PFDoA	85		25 - 150				01/03/17 15:04	01/04/17 20:18	1
18O2 PFHxS	122		25 - 150				01/03/17 15:04	01/04/17 20:18	1
13C4 PFOS	138		25 - 150				01/03/17 15:04	01/04/17 20:18	1
13C4-PFHpA	95		25 - 150				01/03/17 15:04	01/04/17 20:18	1
13C5 PFPeA	80		25 - 150				01/03/17 15:04	01/04/17 20:18	1

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-133B

Date Collected: 12/21/16 09:20

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-9

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	3.8	B	1.9	0.44	ng/L		01/03/17 15:04	01/04/17 20:25	1
Perfluoropentanoic acid (PFPeA)	1.3	J	1.9	0.95	ng/L		01/03/17 15:04	01/04/17 20:25	1
Perfluorohexanoic acid (PFHxA)	1.5	J	1.9	0.76	ng/L		01/03/17 15:04	01/04/17 20:25	1
Perfluoroheptanoic acid (PFHpA)	1.3	J	1.9	0.77	ng/L		01/03/17 15:04	01/04/17 20:25	1
Perfluorooctanoic acid (PFOA)	8.6		1.9	0.72	ng/L		01/03/17 15:04	01/04/17 20:25	1
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.9	0.88	ng/L		01/03/17 15:04	01/04/17 20:25	1
Perfluorohexanesulfonic acid (PFHxS)	29		1.9	0.84	ng/L		01/03/17 15:04	01/04/17 20:25	1
Perfluorooctanesulfonic acid (PFOS)	85		1.9	1.2	ng/L		01/03/17 15:04	01/04/17 20:25	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	6	*	25 - 150				01/03/17 15:04	01/04/17 20:25	1
13C4 PFBA	40		25 - 150				01/03/17 15:04	01/04/17 20:25	1
13C2 PFHxA	99		25 - 150				01/03/17 15:04	01/04/17 20:25	1
13C4 PFOA	101		25 - 150				01/03/17 15:04	01/04/17 20:25	1
13C5 PFNA	85		25 - 150				01/03/17 15:04	01/04/17 20:25	1
13C2 PFDA	76		25 - 150				01/03/17 15:04	01/04/17 20:25	1
13C2 PFUnA	75		25 - 150				01/03/17 15:04	01/04/17 20:25	1
13C2 PFDoA	84		25 - 150				01/03/17 15:04	01/04/17 20:25	1
18O2 PFHxS	125		25 - 150				01/03/17 15:04	01/04/17 20:25	1
13C4 PFOS	142		25 - 150				01/03/17 15:04	01/04/17 20:25	1
13C4-PFHpA	105		25 - 150				01/03/17 15:04	01/04/17 20:25	1
13C5 PFPeA	87		25 - 150				01/03/17 15:04	01/04/17 20:25	1

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-133B DUP

Lab Sample ID: 320-24645-10

Date Collected: 12/21/16 00:00

Matrix: Ground Water

Date Received: 12/23/16 10:50

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	3.5	B	2.0	0.45	ng/L		01/03/17 15:04	01/04/17 20:33	1
Perfluoropentanoic acid (PFPeA)	1.3	J	2.0	0.97	ng/L		01/03/17 15:04	01/04/17 20:33	1
Perfluorohexanoic acid (PFHxA)	1.5	J	2.0	0.77	ng/L		01/03/17 15:04	01/04/17 20:33	1
Perfluoroheptanoic acid (PFHpA)	1.5	J	2.0	0.78	ng/L		01/03/17 15:04	01/04/17 20:33	1
Perfluorooctanoic acid (PFOA)	9.0		2.0	0.73	ng/L		01/03/17 15:04	01/04/17 20:33	1
Perfluorobutanesulfonic acid (PFBS)	1.4	J	2.0	0.90	ng/L		01/03/17 15:04	01/04/17 20:33	1
Perfluorohexanesulfonic acid (PFHxS)	30		2.0	0.85	ng/L		01/03/17 15:04	01/04/17 20:33	1
Perfluorooctanesulfonic acid (PFOS)	94		2.0	1.2	ng/L		01/03/17 15:04	01/04/17 20:33	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	5	*	25 - 150				01/03/17 15:04	01/04/17 20:33	1
13C4 PFBA	43		25 - 150				01/03/17 15:04	01/04/17 20:33	1
13C2 PFHxA	101		25 - 150				01/03/17 15:04	01/04/17 20:33	1
13C4 PFOA	100		25 - 150				01/03/17 15:04	01/04/17 20:33	1
13C5 PFNA	79		25 - 150				01/03/17 15:04	01/04/17 20:33	1
13C2 PFDA	79		25 - 150				01/03/17 15:04	01/04/17 20:33	1
13C2 PFUnA	80		25 - 150				01/03/17 15:04	01/04/17 20:33	1
13C2 PFDoA	95		25 - 150				01/03/17 15:04	01/04/17 20:33	1
18O2 PFHxS	127		25 - 150				01/03/17 15:04	01/04/17 20:33	1
13C4 PFOS	146		25 - 150				01/03/17 15:04	01/04/17 20:33	1
13C4-PFHpA	104		25 - 150				01/03/17 15:04	01/04/17 20:33	1
13C5 PFPeA	92		25 - 150				01/03/17 15:04	01/04/17 20:33	1

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-136B

Date Collected: 12/21/16 10:40

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-11

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	110	B	1.9	0.44	ng/L		01/03/17 15:04	01/04/17 20:40	1
Perfluoropentanoic acid (PFPeA)	260		1.9	0.96	ng/L		01/03/17 15:04	01/04/17 20:40	1
Perfluorohexanoic acid (PFHxA)	310		1.9	0.76	ng/L		01/03/17 15:04	01/04/17 20:40	1
Perfluoroheptanoic acid (PFHpA)	150		1.9	0.78	ng/L		01/03/17 15:04	01/04/17 20:40	1
Perfluorooctanoic acid (PFOA)	67		1.9	0.72	ng/L		01/03/17 15:04	01/04/17 20:40	1
Perfluorobutanesulfonic acid (PFBS)	47		1.9	0.89	ng/L		01/03/17 15:04	01/04/17 20:40	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	6	*	25 - 150	01/03/17 15:04	01/04/17 20:40	1
13C4 PFBA	33		25 - 150	01/03/17 15:04	01/04/17 20:40	1
13C2 PFHxA	85		25 - 150	01/03/17 15:04	01/04/17 20:40	1
13C4 PFOA	107		25 - 150	01/03/17 15:04	01/04/17 20:40	1
13C5 PFNA	52		25 - 150	01/03/17 15:04	01/04/17 20:40	1
13C2 PFDA	76		25 - 150	01/03/17 15:04	01/04/17 20:40	1
13C2 PFUnA	75		25 - 150	01/03/17 15:04	01/04/17 20:40	1
13C2 PFDoA	85		25 - 150	01/03/17 15:04	01/04/17 20:40	1
18O2 PFHxS	78		25 - 150	01/03/17 15:04	01/04/17 20:40	1
13C4-PFHpA	70		25 - 150	01/03/17 15:04	01/04/17 20:40	1
13C5 PFPeA	77		25 - 150	01/03/17 15:04	01/04/17 20:40	1

Method: 537 (modified) - Perfluorinated Hydrocarbons - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	1100		19	8.4	ng/L		01/03/17 15:04	01/05/17 12:00	10
Perfluorooctanesulfonic acid (PFOS)	1900		19	12	ng/L		01/03/17 15:04	01/05/17 12:00	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	141		25 - 150	01/03/17 15:04	01/05/17 12:00	10
13C4 PFOS	149		25 - 150	01/03/17 15:04	01/05/17 12:00	10

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-117

Date Collected: 12/21/16 11:30

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-12

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	700	B	200	45	ng/L		01/03/17 15:04	01/05/17 11:45	100
Perfluoropentanoic acid (PFPeA)	2600		200	97	ng/L		01/03/17 15:04	01/05/17 11:45	100
Perfluorohexanoic acid (PFHxA)	2200		200	77	ng/L		01/03/17 15:04	01/05/17 11:45	100
Perfluoroheptanoic acid (PFHpA)	1300		200	79	ng/L		01/03/17 15:04	01/05/17 11:45	100
Perfluorooctanoic acid (PFOA)	920		200	73	ng/L		01/03/17 15:04	01/05/17 11:45	100
Perfluorobutanesulfonic acid (PFBS)	300		200	90	ng/L		01/03/17 15:04	01/05/17 11:45	100
Perfluorohexanesulfonic acid (PFHxS)	7600		200	85	ng/L		01/03/17 15:04	01/05/17 11:45	100
Perfluorooctanesulfonic acid (PFOS)	31000		200	130	ng/L		01/03/17 15:04	01/05/17 11:45	100
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	34		25 - 150				01/03/17 15:04	01/05/17 11:45	100
13C4 PFBA	138		25 - 150				01/03/17 15:04	01/05/17 11:45	100
13C2 PFHxA	144		25 - 150				01/03/17 15:04	01/05/17 11:45	100
13C4 PFOA	147		25 - 150				01/03/17 15:04	01/05/17 11:45	100
13C5 PFNA	112		25 - 150				01/03/17 15:04	01/05/17 11:45	100
13C2 PFDA	164	*	25 - 150				01/03/17 15:04	01/05/17 11:45	100
13C2 PFUnA	160	*	25 - 150				01/03/17 15:04	01/05/17 11:45	100
13C2 PFDoA	167	*	25 - 150				01/03/17 15:04	01/05/17 11:45	100
18O2 PFHxS	143		25 - 150				01/03/17 15:04	01/05/17 11:45	100
13C4 PFOS	133		25 - 150				01/03/17 15:04	01/05/17 11:45	100
13C4-PFHpA	132		25 - 150				01/03/17 15:04	01/05/17 11:45	100
13C5 PFPeA	157	*	25 - 150				01/03/17 15:04	01/05/17 11:45	100

Client Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-145

Date Collected: 12/21/16 12:20

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-13

Matrix: Ground Water

Method: 537 (modified) - Perfluorinated Hydrocarbons

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1.9	B	1.9	0.44	ng/L		01/03/17 15:04	01/05/17 13:23	1
Perfluoropentanoic acid (PFPeA)	1.1	J	1.9	0.95	ng/L		01/03/17 15:04	01/05/17 13:23	1
Perfluorohexanoic acid (PFHxA)	1.6	J	1.9	0.76	ng/L		01/03/17 15:04	01/05/17 13:23	1
Perfluoroheptanoic acid (PFHpA)	1.3	J	1.9	0.77	ng/L		01/03/17 15:04	01/05/17 13:23	1
Perfluorooctanoic acid (PFOA)	25		1.9	0.72	ng/L		01/03/17 15:04	01/05/17 13:23	1
Perfluorobutanesulfonic acid (PFBS)	1.7	J	1.9	0.88	ng/L		01/03/17 15:04	01/05/17 13:23	1
Perfluorohexanesulfonic acid (PFHxS)	230		1.9	0.84	ng/L		01/03/17 15:04	01/05/17 13:23	1
Perfluorooctanesulfonic acid (PFOS)	36		1.9	1.2	ng/L		01/03/17 15:04	01/05/17 13:23	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
¹³ C8 FOSA	8	*	25 - 150				01/03/17 15:04	01/05/17 13:23	1
¹³ C4 PFBA	45		25 - 150				01/03/17 15:04	01/05/17 13:23	1
¹³ C2 PFHxA	101		25 - 150				01/03/17 15:04	01/05/17 13:23	1
¹³ C4 PFOA	95		25 - 150				01/03/17 15:04	01/05/17 13:23	1
¹³ C5 PFNA	84		25 - 150				01/03/17 15:04	01/05/17 13:23	1
¹³ C2 PFDA	87		25 - 150				01/03/17 15:04	01/05/17 13:23	1
¹³ C2 PFUnA	95		25 - 150				01/03/17 15:04	01/05/17 13:23	1
¹³ C2 PFDoA	92		25 - 150				01/03/17 15:04	01/05/17 13:23	1
¹⁸ O2 PFHxS	104		25 - 150				01/03/17 15:04	01/05/17 13:23	1
¹³ C4 PFOS	128		25 - 150				01/03/17 15:04	01/05/17 13:23	1
¹³ C4-PFHpA	86		25 - 150				01/03/17 15:04	01/05/17 13:23	1
¹³ C5 PFPeA	95		25 - 150				01/03/17 15:04	01/05/17 13:23	1

Isotope Dilution Summary

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Method: 537 (modified) - Perfluorinated Hydrocarbons

Matrix: Ground Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	3C8 FOS/	3C4 PFBA/	3C2 PFHx	3C4 PFO/	3C5 PFNA/	3C2 PFDA/	3C2 PFUn	3C2 PFDo
		(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-24645-1	OW-141	3 *	25	76	81	63	73	72	81
320-24645-1 - DL	OW-141								
320-24645-2	OW-137	2 *	18 *	63	65	56	61	63	68
320-24645-3	P-308A	3 *	29	85	84	75	79	83	89
320-24645-4	OW-308	4 *	32	91	115	44	110	100	100
320-24645-4 - DL	OW-308								
320-24645-5	P-134A	2 *	28	91	96	74	73	77	87
320-24645-6	OW-134	3 *	41	103	117	95	105	110	116
320-24645-6 MS	OW-134	3 *	42	98	98	69	87	96	108
320-24645-6 MSD	OW-134	2 *	40	95	100	72	81	82	94
320-24645-7	EQ. BLANK	10 *	107	138	138	139	159 *	163 *	156 *
320-24645-8	P-133A	6 *	40	90	90	77	78	79	85
320-24645-9	OW-133B	6 *	40	99	101	85	76	75	84
320-24645-10	OW-133B DUP	5 *	43	101	100	79	79	80	95
320-24645-11	OW-136B	6 *	33	85	107	52	76	75	85
320-24645-11 - DL	OW-136B								
320-24645-12	OW-117	34	138	144	147	112	164 *	160 *	167 *
320-24645-13	OW-145	8 *	45	101	95	84	87	95	92

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	3O2 PFHx	3C4 PFO/	3C4-PFHp	3C5 PFPe
		(25-150)	(25-150)	(25-150)	(25-150)
320-24645-1	OW-141	94		81	60
320-24645-1 - DL	OW-141		138		
320-24645-2	OW-137	96	122	74	47
320-24645-3	P-308A	105	117	89	71
320-24645-4	OW-308	102		96	75
320-24645-4 - DL	OW-308		141		
320-24645-5	P-134A	110	125	100	73
320-24645-6	OW-134	119	128	115	91
320-24645-6 MS	OW-134	121	130	103	89
320-24645-6 MSD	OW-134	116	121	101	84
320-24645-7	EQ. BLANK	131	141	135	142
320-24645-8	P-133A	122	138	95	80
320-24645-9	OW-133B	125	142	105	87
320-24645-10	OW-133B DUP	127	146	104	92
320-24645-11	OW-136B	78		70	77
320-24645-11 - DL	OW-136B	141	149		
320-24645-12	OW-117	143	133	132	157 *
320-24645-13	OW-145	104	128	86	95

Surrogate Legend

- 13C8 FOSA = 13C8 FOSA
- 13C4 PFBA = 13C4 PFBA
- 13C2 PFHxA = 13C2 PFHxA
- 13C4 PFOA = 13C4 PFOA
- 13C5 PFNA = 13C5 PFNA
- 13C2 PFDA = 13C2 PFDA
- 13C2 PFUnA = 13C2 PFUnA
- 13C2 PFDoA = 13C2 PFDoA

TestAmerica Sacramento

Isotope Dilution Summary

Client: Hyde Environmental, Inc.
 Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

18O2 PFHxS = 18O2 PFHxS
 13C4 PFOS = 13C4 PFOS
 13C4-PFHpA = 13C4-PFHpA
 13C5 PFPeA = 13C5 PFPeA

Method: 537 (modified) - Perfluorinated Hydrocarbons

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	3C8 FOS/ (25-150)	3C4 PFB/ (25-150)	3C2 PFHx (25-150)	3C4 PFO/ (25-150)	3C5 PFNA/ (25-150)	3C2 PFD/ (25-150)	3C2 PFUn (25-150)	3C2 PFDa (25-150)
LCS 320-144783/2-A	Lab Control Sample	21 *	135	133	133	135	158 *	157 *	152 *
MB 320-144783/1-A	Method Blank	15 *	132	134	137	133	155 *	162 *	151 *

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	3O2 PFHx (25-150)	3C4 PFO: (25-150)	3C4-PFHp (25-150)	3C5 PFPe (25-150)
LCS 320-144783/2-A	Lab Control Sample	123	131	130	142
MB 320-144783/1-A	Method Blank	120	128	133	141

Surrogate Legend

13C8 FOSA = 13C8 FOSA
 13C4 PFBA = 13C4 PFBA
 13C2 PFHxA = 13C2 PFHxA
 13C4 PFOA = 13C4 PFOA
 13C5 PFNA = 13C5 PFNA
 13C2 PFDA = 13C2 PFDA
 13C2 PFUnA = 13C2 PFUnA
 13C2 PFDa = 13C2 PFDa
 18O2 PFHxS = 18O2 PFHxS
 13C4 PFOS = 13C4 PFOS
 13C4-PFHpA = 13C4-PFHpA
 13C5 PFPeA = 13C5 PFPeA

QC Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Method: 537 (modified) - Perfluorinated Hydrocarbons

Lab Sample ID: MB 320-144783/1-A

Matrix: Water

Analysis Batch: 145023

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 144783

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.525	J	2.0	0.46	ng/L		01/03/17 15:04	01/04/17 18:33	1
Perfluoropentanoic acid (PFPeA)	<0.99		2.0	0.99	ng/L		01/03/17 15:04	01/04/17 18:33	1
Perfluorohexanoic acid (PFHxA)	<0.79		2.0	0.79	ng/L		01/03/17 15:04	01/04/17 18:33	1
Perfluoroheptanoic acid (PFHpA)	<0.80		2.0	0.80	ng/L		01/03/17 15:04	01/04/17 18:33	1
Perfluorooctanoic acid (PFOA)	<0.75		2.0	0.75	ng/L		01/03/17 15:04	01/04/17 18:33	1
Perfluorobutanesulfonic acid (PFBS)	<0.92		2.0	0.92	ng/L		01/03/17 15:04	01/04/17 18:33	1
Perfluorohexanesulfonic acid (PFHxS)	<0.87		2.0	0.87	ng/L		01/03/17 15:04	01/04/17 18:33	1
Perfluorooctanesulfonic acid (PFOS)	<1.3		2.0	1.3	ng/L		01/03/17 15:04	01/04/17 18:33	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	15	*	25 - 150	01/03/17 15:04	01/04/17 18:33	1
13C4 PFBA	132		25 - 150	01/03/17 15:04	01/04/17 18:33	1
13C2 PFHxA	134		25 - 150	01/03/17 15:04	01/04/17 18:33	1
13C4 PFOA	137		25 - 150	01/03/17 15:04	01/04/17 18:33	1
13C5 PFNA	133		25 - 150	01/03/17 15:04	01/04/17 18:33	1
13C2 PFDA	155	*	25 - 150	01/03/17 15:04	01/04/17 18:33	1
13C2 PFUnA	162	*	25 - 150	01/03/17 15:04	01/04/17 18:33	1
13C2 PFDoA	151	*	25 - 150	01/03/17 15:04	01/04/17 18:33	1
18O2 PFHxS	120		25 - 150	01/03/17 15:04	01/04/17 18:33	1
13C4 PFOS	128		25 - 150	01/03/17 15:04	01/04/17 18:33	1
13C4-PFHpA	133		25 - 150	01/03/17 15:04	01/04/17 18:33	1
13C5 PFPeA	141		25 - 150	01/03/17 15:04	01/04/17 18:33	1

Lab Sample ID: LCS 320-144783/2-A

Matrix: Water

Analysis Batch: 145023

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 144783

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	40.0	43.6		ng/L		109	60 - 140
Perfluoropentanoic acid (PFPeA)	40.0	41.3		ng/L		103	60 - 140
Perfluorohexanoic acid (PFHxA)	40.0	40.1		ng/L		100	60 - 140
Perfluoroheptanoic acid (PFHpA)	40.0	39.4		ng/L		98	60 - 140
Perfluorooctanoic acid (PFOA)	40.0	40.5		ng/L		101	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.4	44.2		ng/L		125	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	36.4	36.0		ng/L		99	60 - 140
Perfluorooctanesulfonic acid (PFOS)	37.1	37.0		ng/L		100	60 - 140

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C8 FOSA	21	*	25 - 150
13C4 PFBA	135		25 - 150
13C2 PFHxA	133		25 - 150
13C4 PFOA	133		25 - 150
13C5 PFNA	135		25 - 150
13C2 PFDA	158	*	25 - 150
13C2 PFUnA	157	*	25 - 150
13C2 PFDoA	152	*	25 - 150

TestAmerica Sacramento

QC Sample Results

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Method: 537 (modified) - Perfluorinated Hydrocarbons (Continued)

Lab Sample ID: LCS 320-144783/2-A
Matrix: Water
Analysis Batch: 145023

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 144783

<i>Isotope Dilution</i>	<i>LCS %Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
18O2 PFHxS	123		25 - 150
13C4 PFOS	131		25 - 150
13C4-PFHxA	130		25 - 150
13C5 PFPeA	142		25 - 150

Lab Sample ID: 320-24645-6 MS
Matrix: Ground Water
Analysis Batch: 145023

Client Sample ID: OW-134
Prep Type: Total/NA
Prep Batch: 144783

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	2.3	B	41.2	39.1		ng/L		90	60 - 140
Perfluoropentanoic acid (PFPeA)	1.0	J	41.2	37.2		ng/L		90	60 - 140
Perfluorohexanoic acid (PFHxA)	1.4	J	41.2	37.9		ng/L		89	60 - 140
Perfluoroheptanoic acid (PFHpA)	<0.83		41.2	35.6		ng/L		86	60 - 140
Perfluorooctanoic acid (PFOA)	2.0	J	41.2	38.0		ng/L		87	60 - 140
Perfluorobutanesulfonic acid (PFBS)	2.0	J	36.4	38.2		ng/L		99	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	14		37.5	50.4		ng/L		98	60 - 140
Perfluorooctanesulfonic acid (PFOS)	150	F1	38.2	211	F1	ng/L		160	60 - 140

<i>Isotope Dilution</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
13C8 FOSA	3	*	25 - 150
13C4 PFBA	42		25 - 150
13C2 PFHxA	98		25 - 150
13C4 PFOA	98		25 - 150
13C5 PFNA	69		25 - 150
13C2 PFDA	87		25 - 150
13C2 PFUnA	96		25 - 150
13C2 PFDoA	108		25 - 150
18O2 PFHxS	121		25 - 150
13C4 PFOS	130		25 - 150
13C4-PFHxA	103		25 - 150
13C5 PFPeA	89		25 - 150

Lab Sample ID: 320-24645-6 MSD
Matrix: Ground Water
Analysis Batch: 145023

Client Sample ID: OW-134
Prep Type: Total/NA
Prep Batch: 144783

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	2.3	B	40.5	45.9		ng/L		108	60 - 140	16	30
Perfluoropentanoic acid (PFPeA)	1.0	J	40.5	42.9		ng/L		106	60 - 140	14	30
Perfluorohexanoic acid (PFHxA)	1.4	J	40.5	44.0		ng/L		105	60 - 140	15	30
Perfluoroheptanoic acid (PFHpA)	<0.83		40.5	43.1		ng/L		106	60 - 140	19	30
Perfluorooctanoic acid (PFOA)	2.0	J	40.5	44.9		ng/L		106	60 - 140	17	30
Perfluorobutanesulfonic acid (PFBS)	2.0	J	35.8	43.8		ng/L		117	50 - 150	14	30
Perfluorohexanesulfonic acid (PFHxS)	14		36.9	55.5		ng/L		113	60 - 140	10	30

TestAmerica Sacramento

QC Sample Results

Client: Hyde Environmental, Inc.
 Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Method: 537 (modified) - Perfluorinated Hydrocarbons (Continued)

Lab Sample ID: 320-24645-6 MSD
 Matrix: Ground Water
 Analysis Batch: 145023

Client Sample ID: OW-134
 Prep Type: Total/NA
 Prep Batch: 144783

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	150	F1	37.6	217	F1	ng/L		179	60 - 140	3	30
Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits								
13C8 FOSA	2	*	25 - 150								
13C4 PFBA	40		25 - 150								
13C2 PFHxA	95		25 - 150								
13C4 PFOA	100		25 - 150								
13C5 PFNA	72		25 - 150								
13C2 PFDA	81		25 - 150								
13C2 PFUnA	82		25 - 150								
13C2 PFDoA	94		25 - 150								
18O2 PFHxS	116		25 - 150								
13C4 PFOS	121		25 - 150								
13C4-PFHpA	101		25 - 150								
13C5 PFPeA	84		25 - 150								

QC Association Summary

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

LCMS

Prep Batch: 144783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-24645-1 - DL	OW-141	Total/NA	Ground Water	3535	
320-24645-1	OW-141	Total/NA	Ground Water	3535	
320-24645-2	OW-137	Total/NA	Ground Water	3535	
320-24645-3	P-308A	Total/NA	Ground Water	3535	
320-24645-4	OW-308	Total/NA	Ground Water	3535	
320-24645-4 - DL	OW-308	Total/NA	Ground Water	3535	
320-24645-5	P-134A	Total/NA	Ground Water	3535	
320-24645-6	OW-134	Total/NA	Ground Water	3535	
320-24645-7	EQ. BLANK	Total/NA	Ground Water	3535	
320-24645-8	P-133A	Total/NA	Ground Water	3535	
320-24645-9	OW-133B	Total/NA	Ground Water	3535	
320-24645-10	OW-133B DUP	Total/NA	Ground Water	3535	
320-24645-11 - DL	OW-136B	Total/NA	Ground Water	3535	
320-24645-11	OW-136B	Total/NA	Ground Water	3535	
320-24645-12	OW-117	Total/NA	Ground Water	3535	
320-24645-13	OW-145	Total/NA	Ground Water	3535	
MB 320-144783/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-144783/2-A	Lab Control Sample	Total/NA	Water	3535	
320-24645-6 MS	OW-134	Total/NA	Ground Water	3535	
320-24645-6 MSD	OW-134	Total/NA	Ground Water	3535	

Analysis Batch: 145023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-24645-1	OW-141	Total/NA	Ground Water	537 (modified)	144783
320-24645-2	OW-137	Total/NA	Ground Water	537 (modified)	144783
320-24645-3	P-308A	Total/NA	Ground Water	537 (modified)	144783
320-24645-4	OW-308	Total/NA	Ground Water	537 (modified)	144783
320-24645-5	P-134A	Total/NA	Ground Water	537 (modified)	144783
320-24645-6	OW-134	Total/NA	Ground Water	537 (modified)	144783
320-24645-7	EQ. BLANK	Total/NA	Ground Water	537 (modified)	144783
320-24645-8	P-133A	Total/NA	Ground Water	537 (modified)	144783
320-24645-9	OW-133B	Total/NA	Ground Water	537 (modified)	144783
320-24645-10	OW-133B DUP	Total/NA	Ground Water	537 (modified)	144783
320-24645-11	OW-136B	Total/NA	Ground Water	537 (modified)	144783
MB 320-144783/1-A	Method Blank	Total/NA	Water	537 (modified)	144783
LCS 320-144783/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	144783
320-24645-6 MS	OW-134	Total/NA	Ground Water	537 (modified)	144783
320-24645-6 MSD	OW-134	Total/NA	Ground Water	537 (modified)	144783

Analysis Batch: 145138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-24645-1 - DL	OW-141	Total/NA	Ground Water	537 (modified)	144783
320-24645-4 - DL	OW-308	Total/NA	Ground Water	537 (modified)	144783
320-24645-11 - DL	OW-136B	Total/NA	Ground Water	537 (modified)	144783
320-24645-12	OW-117	Total/NA	Ground Water	537 (modified)	144783
320-24645-13	OW-145	Total/NA	Ground Water	537 (modified)	144783

TestAmerica Sacramento

Lab Chronicle

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-141

Date Collected: 12/20/16 10:00

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			251.8 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		1			145023	01/04/17 18:48	(b)	TAL SAC
Total/NA	Prep	3535	DL		251.8 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)	DL	5			145138	01/05/17 12:38	(b)	TAL SAC

Client Sample ID: OW-137

Date Collected: 12/20/16 11:15

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			257 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		1			145023	01/04/17 18:55	(b)	TAL SAC

Client Sample ID: P-308A

Date Collected: 12/20/16 12:30

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			243.7 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		1			145023	01/04/17 19:03	(b)	TAL SAC

Client Sample ID: OW-308

Date Collected: 12/20/16 13:05

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			246 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		1			145023	01/04/17 19:10	(b)	TAL SAC
Total/NA	Prep	3535	DL		246 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)	DL	50			145138	01/05/17 11:53	(b)	TAL SAC

Client Sample ID: P-134A

Date Collected: 12/20/16 14:10

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			254.6 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		1			145023	01/04/17 19:18	(b)	TAL SAC

TestAmerica Sacramento

Lab Chronicle

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-134

Date Collected: 12/20/16 15:00

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			240.5 mL	0.5 mL	144783	01/03/17 15:04		TAL SAC
Total/NA	Analysis	537 (modified)		1			145023	01/04/17 19:25		TAL SAC

Client Sample ID: EQ. BLANK

Date Collected: 12/20/16 15:35

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			247.5 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		1			145023	01/04/17 20:10	(b)	TAL SAC

Client Sample ID: P-133A

Date Collected: 12/21/16 08:55

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-8

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			241.7 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		1			145023	01/04/17 20:18	(b)	TAL SAC

Client Sample ID: OW-133B

Date Collected: 12/21/16 09:20

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-9

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			259.6 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		1			145023	01/04/17 20:25	(b)	TAL SAC

Client Sample ID: OW-133B DUP

Date Collected: 12/21/16 00:00

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-10

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			255.8 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		1			145023	01/04/17 20:33	(b)	TAL SAC

Client Sample ID: OW-136B

Date Collected: 12/21/16 10:40

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-11

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			258.6 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		1			145023	01/04/17 20:40	(b)	TAL SAC
Total/NA	Prep	3535	DL		258.6 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC

TestAmerica Sacramento

Lab Chronicle

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Client Sample ID: OW-136B

Date Collected: 12/21/16 10:40

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-11

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	537 (modified)	DL	10			145138	01/05/17 12:00	(b)	TAL SAC

Client Sample ID: OW-117

Date Collected: 12/21/16 11:30

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-12

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			255 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		100			145138	01/05/17 11:45	(b)	TAL SAC

Client Sample ID: OW-145

Date Collected: 12/21/16 12:20

Date Received: 12/23/16 10:50

Lab Sample ID: 320-24645-13

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			259.9 mL	0.5 mL	144783	01/03/17 15:04	(b)	TAL SAC
Total/NA	Analysis	537 (modified)		1			145138	01/05/17 13:23	(b)	TAL SAC

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Certification Summary

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Laboratory: TestAmerica Sacramento

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-17
Oregon	NELAP	10	4040	01-29-17

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Method Summary

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Perfluorinated Hydrocarbons	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



Sample Summary

Client: Hyde Environmental, Inc.
Project/Site: Fort McCoy PFAS - FTBP1

TestAmerica Job ID: 320-24645-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-24645-1	OW-141	Ground Water	12/20/16 10:00	12/23/16 10:50
320-24645-2	OW-137	Ground Water	12/20/16 11:15	12/23/16 10:50
320-24645-3	P-308A	Ground Water	12/20/16 12:30	12/23/16 10:50
320-24645-4	OW-308	Ground Water	12/20/16 13:05	12/23/16 10:50
320-24645-5	P-134A	Ground Water	12/20/16 14:10	12/23/16 10:50
320-24645-6	OW-134	Ground Water	12/20/16 15:00	12/23/16 10:50
320-24645-7	EQ. BLANK	Ground Water	12/20/16 15:35	12/23/16 10:50
320-24645-8	P-133A	Ground Water	12/21/16 08:55	12/23/16 10:50
320-24645-9	OW-133B	Ground Water	12/21/16 09:20	12/23/16 10:50
320-24645-10	OW-133B DUP	Ground Water	12/21/16 00:00	12/23/16 10:50
320-24645-11	OW-136B	Ground Water	12/21/16 10:40	12/23/16 10:50
320-24645-12	OW-117	Ground Water	12/21/16 11:30	12/23/16 10:50
320-24645-13	OW-145	Ground Water	12/21/16 12:20	12/23/16 10:50

Login Sample Receipt Checklist

Client: Hyde Environmental, Inc.

Job Number: 320-24645-1

Login Number: 24645

List Number: 1

Creator: (b) (6)

List Source: TestAmerica Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	