

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Sacramento

880 Riverside Parkway

West Sacramento, CA 95605

Tel: (916)373-5600

TestAmerica Job ID: 320-44672-1

Client Project/Site: 2018 PFAS Phase II

Revision: 1

For:

Shannon & Wilson, Inc

2355 Hill Rd.

Fairbanks, Alaska 99709-5244

Attn: Sheila Hinkley



Authorized for release by:

12/9/2018 11:25:51 AM

David Alltucker, Project Manager I

(916)374-4383

david.alltucker@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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.

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	5
Client Sample Results	11
Isotope Dilution Summary	44
QC Sample Results	46
QC Association Summary	51
Lab Chronicle	53
Certification Summary	59
Method Summary	60
Sample Summary	61
Chain of Custody	62
Receipt Checklists	66



Definitions/Glossary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Qualifiers

LCMS

Qualifier	Qualifier Description
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.

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)

Case Narrative

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Job ID: 320-44672-1

Laboratory: TestAmerica Sacramento

Narrative

Job Narrative 320-44672-1

Receipt

The samples were received on 10/30/2018 10:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

LCMS

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

Organic Prep

Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 320-257176.

Method(s) 3535: The following samples: MW-311-15 (320-44672-4), MW-356-20 (320-44672-7), MW-194A-15 (320-44672-9), MW-189A-15 (320-44672-14), MW-155A-15 (320-44672-15), MW-152A-15 (320-44672-18) and MW-328-151 (320-44672-19) in preparation batch 320-257176 were observed to be a yellow color prior to extraction.

Method(s) 3535: The following samples: MW-357-150 (320-44672-2), MW-311-46 (320-44672-3), MW-311-15 (320-44672-4), MW-356-65 (320-44672-6), MW-356-20 (320-44672-7), MW-194B-40 (320-44672-8), MW-194A-15 (320-44672-9), MW-189A-15 (320-44672-14), MW-155A-15 (320-44672-15), MW-155B-65 (320-44672-16), MW-152B-25 (320-44672-17), MW-152A-15 (320-44672-18) and MW-328-151 (320-44672-19) in preparation batch 320-257176 were observed to contain sediment prior to extraction.

Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 320-257182.

Method(s) 3535: The following samples: MW-193A-15 (320-44672-22), GAC-193A-15 (320-44672-23), MW-151B-25 (320-44672-25), MW-150B-25 (320-44672-31) and MW-293A-15 (320-44672-33) in preparation batch 320-257182 were observed to be a light yellow color prior to extraction.

Method(s) 3535: The following samples: MW-193A-15 (320-44672-22), GAC-193A-15 (320-44672-23), MW-151B-25 (320-44672-25), MW-151A-15 (320-44672-26), MW-153B-55 (320-44672-27), MW-150B-25 (320-44672-31) and GAC2-150B-25 (320-44672-32) in preparation batch 320-257182 were observed to contain sediment prior to extraction.

Method(s) 3535: The following sample had non-settleable particulate matter which plugged the solid phase extraction disk. The amount of sample remaining plus the weight of the bottle are recorded in the "notes" field of the prep batch. The "tare weight" recorded is the weight of the emptied bottle: MW-194B-40 (320-44672-8). The reporting limits (RLs) have been adjusted proportionately.

Method(s) 3535: The following sample had non-settleable particulate matter which plugged the solid phase extraction disk. The amount of sample remaining plus the weight of the bottle are recorded in the "notes" field of the prep batch. The "tare weight" recorded is the weight of the emptied bottle: GAC-193A-15 (320-44672-23). The reporting limits (RLs) have been adjusted proportionately.

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

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-357-65

Lab Sample ID: 320-44672-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.57	J B	2.0	0.17	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-357-150

Lab Sample ID: 320-44672-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.32	J B	2.1	0.18	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-311-46

Lab Sample ID: 320-44672-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorotetradecanoic acid (PFTeA)	0.33	J	2.0	0.30	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.38	J B	2.0	0.17	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-311-15

Lab Sample ID: 320-44672-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	6.2		2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.41	J B	2.0	0.17	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-356-90

Lab Sample ID: 320-44672-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	0.81	J	2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.4	J	2.0	0.54	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-356-65

Lab Sample ID: 320-44672-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	0.85	J	2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.8	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.7	J	2.0	0.54	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-356-20

Lab Sample ID: 320-44672-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	1.3	J	2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.2	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.1	J	2.0	0.55	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-194B-40

Lab Sample ID: 320-44672-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	12		2.0	0.58	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	7.5		2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.2		2.0	0.85	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	16		2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.7	J	2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.3		2.0	0.54	ng/L	1			537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-194A-15

Lab Sample ID: 320-44672-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	8.8		2.1	0.61	ng/L			1	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.9		2.1	0.26	ng/L			1	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.5		2.1	0.90	ng/L			1	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	8.1		2.1	0.29	ng/L			1	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.2	J	2.1	0.21	ng/L			1	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.9	B	2.1	0.18	ng/L			1	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.9		2.1	0.57	ng/L			1	537 (modified)	Total/NA

Client Sample ID: MW-191B-60

Lab Sample ID: 320-44672-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.2		2.0	0.59	ng/L			1	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.6	J	2.0	0.25	ng/L			1	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		2.0	0.86	ng/L			1	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	4.1		2.0	0.27	ng/L			1	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.56	J	2.0	0.20	ng/L			1	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.9	B	2.0	0.17	ng/L			1	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.0		2.0	0.54	ng/L			1	537 (modified)	Total/NA

Client Sample ID: MW-191A-15

Lab Sample ID: 320-44672-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.43	J	2.0	0.27	ng/L			1	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.89	J	2.0	0.20	ng/L			1	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.5	B	2.0	0.17	ng/L			1	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.7	J	2.0	0.53	ng/L			1	537 (modified)	Total/NA

Client Sample ID: EB-191A-15

Lab Sample ID: 320-44672-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	1.9	0.16	ng/L			1	537 (modified)	Total/NA

Client Sample ID: MW-189B-60

Lab Sample ID: 320-44672-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	0.58	J	2.0	0.20	ng/L			1	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.1	B	2.0	0.17	ng/L			1	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.8	J	2.0	0.55	ng/L			1	537 (modified)	Total/NA

Client Sample ID: MW-189A-15

Lab Sample ID: 320-44672-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	3.7		2.1	0.60	ng/L			1	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.72	J	2.1	0.26	ng/L			1	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.5		2.1	0.87	ng/L			1	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.37	J	2.1	0.28	ng/L			1	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.4		2.1	0.21	ng/L			1	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.7	B	2.1	0.17	ng/L			1	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.2	J	2.1	0.55	ng/L			1	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-155A-15

Lab Sample ID: 320-44672-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	30		2.0	0.58	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	19		2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	16		2.0	0.85	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	57		2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.75	J	2.0	0.31	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.8	J	2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	32		2.0	0.54	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-155B-65

Lab Sample ID: 320-44672-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	37		2.0	0.57	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	25		2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	20		2.0	0.84	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	56		2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.66	J	2.0	0.31	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	20	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	24		2.0	0.53	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-152B-25

Lab Sample ID: 320-44672-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.7		2.0	0.57	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.5		2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.0		2.0	0.84	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	11		2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.2		2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.7	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.3		2.0	0.53	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-152A-15

Lab Sample ID: 320-44672-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	3.9		2.0	0.58	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.6		2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.0		2.0	0.85	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	10		2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	10	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	9.0		2.0	0.54	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-328-151

Lab Sample ID: 320-44672-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	0.34	J	2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.41	J	2.0	0.31	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.33	J B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.3	J	2.0	0.53	ng/L	1			537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: EB-328-151

Lab Sample ID: 320-44672-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.25	J B	2.0	0.17	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-316-56

Lab Sample ID: 320-44672-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	3.4		2.0	0.59	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.1		2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.4		2.0	0.86	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.0	J	2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.34	J B	2.0	0.29	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.75	J	2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.2	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.4		2.0	0.55	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-193A-15

Lab Sample ID: 320-44672-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	14		2.0	0.59	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	8.4		2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.9		2.0	0.86	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	6.8		2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.7	J	2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.4	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.5		2.0	0.55	ng/L	1			537 (modified)	Total/NA

Client Sample ID: GAC-193A-15

Lab Sample ID: 320-44672-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	7.9		1.9	0.56	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.4		1.9	0.24	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.2		1.9	0.82	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	4.4		1.9	0.26	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.94	J	1.9	0.19	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.0	B	1.9	0.16	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.8	J	1.9	0.52	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-151C-60

Lab Sample ID: 320-44672-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	12		2.0	0.57	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	9.0		2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	9.7		2.0	0.84	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	27		2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.38	J	2.0	0.31	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.2	J	2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	12	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	13		2.0	0.53	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-151B-25

Lab Sample ID: 320-44672-25

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-151B-25 (Continued)

Lab Sample ID: 320-44672-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	9.1		2.0	0.59	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	7.4		2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.1		2.0	0.86	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	28		2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.43	J	2.0	0.31	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.4	J	2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.8	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17		2.0	0.55	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-151A-15

Lab Sample ID: 320-44672-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	11		1.9	0.56	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	9.1		1.9	0.24	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.8		1.9	0.83	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	33		1.9	0.26	ng/L	1			537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.47	J	1.9	0.30	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.7	J	1.9	0.19	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	9.3	B	1.9	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	21		1.9	0.53	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-153B-55

Lab Sample ID: 320-44672-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	17		2.0	0.57	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	14		2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	14		2.0	0.84	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	42		2.0	0.27	ng/L	1			537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.39	J	2.0	0.31	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.2		2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15	B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17		2.0	0.53	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-153A-15

Lab Sample ID: 320-44672-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	55		1.9	0.56	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	28		1.9	0.24	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	15		1.9	0.82	ng/L	1			537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	36		1.9	0.26	ng/L	1			537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.50	J	1.9	0.30	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	7.0		1.9	0.19	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	27	B	1.9	0.16	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	18		1.9	0.52	ng/L	1			537 (modified)	Total/NA

Client Sample ID: MW-253A-15

Lab Sample ID: 320-44672-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	58		1.9	0.56	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	30		1.9	0.24	ng/L	1			537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-253A-15 (Continued)

Lab Sample ID: 320-44672-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	16		1.9	0.82	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	34		1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.50	J	1.9	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.2		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	26	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	18		1.9	0.52	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-150C-60

Lab Sample ID: 320-44672-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	24		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	18		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	18		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	55		1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.62	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.9		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	18	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	23		1.9	0.51	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-150B-25

Lab Sample ID: 320-44672-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	23		2.0	0.58	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	17		2.0	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	17		2.0	0.85	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	56		2.0	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.77	J	2.0	0.31	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	16	B	2.0	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	29		2.0	0.54	ng/L	1		537 (modified)	Total/NA

Client Sample ID: GAC2-150B-25

Lab Sample ID: 320-44672-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.35	J B	2.0	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.80	J	2.0	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-293A-15

Lab Sample ID: 320-44672-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	13		1.9	0.56	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	7.6		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.4		1.9	0.82	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	7.9		1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.36	J B	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.6	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.8	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.7		1.9	0.52	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-357-65

Date Collected: 10/23/18 09:47

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		11/06/18 07:29	11/08/18 10:08	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 10:08	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.84	ng/L		11/06/18 07:29	11/08/18 10:08	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 10:08	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:29	11/08/18 10:08	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 10:08	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:29	11/08/18 10:08	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 10:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 10:08	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		11/06/18 07:29	11/08/18 10:08	1
Perfluorohexanesulfonic acid (PFHxS)	0.57	J B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 10:08	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 10:08	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	92		25 - 150				11/06/18 07:29	11/08/18 10:08	1
13C2 PFHxA	99		25 - 150				11/06/18 07:29	11/08/18 10:08	1
13C4 PFHpA	99		25 - 150				11/06/18 07:29	11/08/18 10:08	1
13C4 PFOA	98		25 - 150				11/06/18 07:29	11/08/18 10:08	1
13C5 PFNA	99		25 - 150				11/06/18 07:29	11/08/18 10:08	1
13C2 PFDA	93		25 - 150				11/06/18 07:29	11/08/18 10:08	1
13C2 PFUnA	103		25 - 150				11/06/18 07:29	11/08/18 10:08	1
13C2 PFDoA	92		25 - 150				11/06/18 07:29	11/08/18 10:08	1
13C2 PFTeDA	93		25 - 150				11/06/18 07:29	11/08/18 10:08	1
13C3 PFBS	89		25 - 150				11/06/18 07:29	11/08/18 10:08	1
18O2 PFHxS	96		25 - 150				11/06/18 07:29	11/08/18 10:08	1
13C4 PFOS	100		25 - 150				11/06/18 07:29	11/08/18 10:08	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-357-150

Date Collected: 10/23/18 10:15

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.1	0.62	ng/L		11/06/18 07:29	11/08/18 10:15	1
Perfluoroheptanoic acid (PFHpA)	ND		2.1	0.27	ng/L		11/06/18 07:29	11/08/18 10:15	1
Perfluorooctanoic acid (PFOA)	ND		2.1	0.91	ng/L		11/06/18 07:29	11/08/18 10:15	1
Perfluorononanoic acid (PFNA)	ND		2.1	0.29	ng/L		11/06/18 07:29	11/08/18 10:15	1
Perfluorodecanoic acid (PFDA)	ND		2.1	0.33	ng/L		11/06/18 07:29	11/08/18 10:15	1
Perfluoroundecanoic acid (PFUnA)	ND		2.1	1.2	ng/L		11/06/18 07:29	11/08/18 10:15	1
Perfluorododecanoic acid (PFDoA)	ND		2.1	0.59	ng/L		11/06/18 07:29	11/08/18 10:15	1
Perfluorotridecanoic acid (PFTriA)	ND		2.1	1.4	ng/L		11/06/18 07:29	11/08/18 10:15	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.1	0.31	ng/L		11/06/18 07:29	11/08/18 10:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.1	0.21	ng/L		11/06/18 07:29	11/08/18 10:15	1
Perfluorohexanesulfonic acid (PFHxS)	0.32	J B	2.1	0.18	ng/L		11/06/18 07:29	11/08/18 10:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.1	0.58	ng/L		11/06/18 07:29	11/08/18 10:15	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	95		25 - 150				11/06/18 07:29	11/08/18 10:15	1
13C2 PFHxA	98		25 - 150				11/06/18 07:29	11/08/18 10:15	1
13C4 PFHpA	95		25 - 150				11/06/18 07:29	11/08/18 10:15	1
13C4 PFOA	97		25 - 150				11/06/18 07:29	11/08/18 10:15	1
13C5 PFNA	96		25 - 150				11/06/18 07:29	11/08/18 10:15	1
13C2 PFDA	96		25 - 150				11/06/18 07:29	11/08/18 10:15	1
13C2 PFUnA	91		25 - 150				11/06/18 07:29	11/08/18 10:15	1
13C2 PFDoA	82		25 - 150				11/06/18 07:29	11/08/18 10:15	1
13C2 PFTeDA	87		25 - 150				11/06/18 07:29	11/08/18 10:15	1
13C3 PFBS	92		25 - 150				11/06/18 07:29	11/08/18 10:15	1
18O2 PFHxS	92		25 - 150				11/06/18 07:29	11/08/18 10:15	1
13C4 PFOS	98		25 - 150				11/06/18 07:29	11/08/18 10:15	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-311-46

Date Collected: 10/23/18 11:50

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.59	ng/L		11/06/18 07:29	11/08/18 10:23	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.26	ng/L		11/06/18 07:29	11/08/18 10:23	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.87	ng/L		11/06/18 07:29	11/08/18 10:23	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.28	ng/L		11/06/18 07:29	11/08/18 10:23	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.32	ng/L		11/06/18 07:29	11/08/18 10:23	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 10:23	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.56	ng/L		11/06/18 07:29	11/08/18 10:23	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 10:23	1
Perfluorotetradecanoic acid (PFTeA)	0.33	J	2.0	0.30	ng/L		11/06/18 07:29	11/08/18 10:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		11/06/18 07:29	11/08/18 10:23	1
Perfluorohexanesulfonic acid (PFHxS)	0.38	J B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 10:23	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.55	ng/L		11/06/18 07:29	11/08/18 10:23	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	77		25 - 150				11/06/18 07:29	11/08/18 10:23	1
13C2 PFHxA	92		25 - 150				11/06/18 07:29	11/08/18 10:23	1
13C4 PFHpA	94		25 - 150				11/06/18 07:29	11/08/18 10:23	1
13C4 PFOA	98		25 - 150				11/06/18 07:29	11/08/18 10:23	1
13C5 PFNA	100		25 - 150				11/06/18 07:29	11/08/18 10:23	1
13C2 PFDA	94		25 - 150				11/06/18 07:29	11/08/18 10:23	1
13C2 PFUnA	98		25 - 150				11/06/18 07:29	11/08/18 10:23	1
13C2 PFDoA	89		25 - 150				11/06/18 07:29	11/08/18 10:23	1
13C2 PFTeDA	86		25 - 150				11/06/18 07:29	11/08/18 10:23	1
13C3 PFBS	88		25 - 150				11/06/18 07:29	11/08/18 10:23	1
18O2 PFHxS	97		25 - 150				11/06/18 07:29	11/08/18 10:23	1
13C4 PFOS	98		25 - 150				11/06/18 07:29	11/08/18 10:23	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-311-15

Date Collected: 10/23/18 12:15

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-4

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		11/06/18 07:29	11/08/18 10:30	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 10:30	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.84	ng/L		11/06/18 07:29	11/08/18 10:30	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 10:30	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:29	11/08/18 10:30	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 10:30	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:29	11/08/18 10:30	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 10:30	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 10:30	1
Perfluorobutanesulfonic acid (PFBS)	6.2		2.0	0.20	ng/L		11/06/18 07:29	11/08/18 10:30	1
Perfluorohexanesulfonic acid (PFHxS)	0.41	J B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 10:30	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 10:30	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	79		25 - 150				11/06/18 07:29	11/08/18 10:30	1
13C2 PFHxA	92		25 - 150				11/06/18 07:29	11/08/18 10:30	1
13C4 PFHpA	100		25 - 150				11/06/18 07:29	11/08/18 10:30	1
13C4 PFOA	98		25 - 150				11/06/18 07:29	11/08/18 10:30	1
13C5 PFNA	104		25 - 150				11/06/18 07:29	11/08/18 10:30	1
13C2 PFDA	103		25 - 150				11/06/18 07:29	11/08/18 10:30	1
13C2 PFUnA	94		25 - 150				11/06/18 07:29	11/08/18 10:30	1
13C2 PFDoA	88		25 - 150				11/06/18 07:29	11/08/18 10:30	1
13C2 PFTeDA	82		25 - 150				11/06/18 07:29	11/08/18 10:30	1
13C3 PFBS	84		25 - 150				11/06/18 07:29	11/08/18 10:30	1
18O2 PFHxS	100		25 - 150				11/06/18 07:29	11/08/18 10:30	1
13C4 PFOS	103		25 - 150				11/06/18 07:29	11/08/18 10:30	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-356-90

Date Collected: 10/23/18 13:41

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-5

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		11/06/18 07:29	11/08/18 10:38	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 10:38	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		11/06/18 07:29	11/08/18 10:38	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 10:38	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:29	11/08/18 10:38	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 10:38	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:29	11/08/18 10:38	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 10:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 10:38	1
Perfluorobutanesulfonic acid (PFBS)	0.81	J	2.0	0.20	ng/L		11/06/18 07:29	11/08/18 10:38	1
Perfluorohexanesulfonic acid (PFHxS)	3.6	B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 10:38	1
Perfluorooctanesulfonic acid (PFOS)	1.4	J	2.0	0.54	ng/L		11/06/18 07:29	11/08/18 10:38	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	92		25 - 150				11/06/18 07:29	11/08/18 10:38	1
13C2 PFHxA	97		25 - 150				11/06/18 07:29	11/08/18 10:38	1
13C4 PFHpA	97		25 - 150				11/06/18 07:29	11/08/18 10:38	1
13C4 PFOA	101		25 - 150				11/06/18 07:29	11/08/18 10:38	1
13C5 PFNA	96		25 - 150				11/06/18 07:29	11/08/18 10:38	1
13C2 PFDA	92		25 - 150				11/06/18 07:29	11/08/18 10:38	1
13C2 PFUnA	101		25 - 150				11/06/18 07:29	11/08/18 10:38	1
13C2 PFDoA	94		25 - 150				11/06/18 07:29	11/08/18 10:38	1
13C2 PFTeDA	95		25 - 150				11/06/18 07:29	11/08/18 10:38	1
13C3 PFBS	90		25 - 150				11/06/18 07:29	11/08/18 10:38	1
18O2 PFHxS	102		25 - 150				11/06/18 07:29	11/08/18 10:38	1
13C4 PFOS	101		25 - 150				11/06/18 07:29	11/08/18 10:38	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-356-65

Date Collected: 10/23/18 14:09

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-6

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		11/06/18 07:29	11/08/18 10:46	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 10:46	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		11/06/18 07:29	11/08/18 10:46	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 10:46	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:29	11/08/18 10:46	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 10:46	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:29	11/08/18 10:46	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 10:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 10:46	1
Perfluorobutanesulfonic acid (PFBS)	0.85	J	2.0	0.20	ng/L		11/06/18 07:29	11/08/18 10:46	1
Perfluorohexanesulfonic acid (PFHxS)	3.8	B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 10:46	1
Perfluorooctanesulfonic acid (PFOS)	1.7	J	2.0	0.54	ng/L		11/06/18 07:29	11/08/18 10:46	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	96		25 - 150				11/06/18 07:29	11/08/18 10:46	1
13C2 PFHxA	101		25 - 150				11/06/18 07:29	11/08/18 10:46	1
13C4 PFHpA	105		25 - 150				11/06/18 07:29	11/08/18 10:46	1
13C4 PFOA	105		25 - 150				11/06/18 07:29	11/08/18 10:46	1
13C5 PFNA	101		25 - 150				11/06/18 07:29	11/08/18 10:46	1
13C2 PFDA	88		25 - 150				11/06/18 07:29	11/08/18 10:46	1
13C2 PFUnA	100		25 - 150				11/06/18 07:29	11/08/18 10:46	1
13C2 PFDoA	95		25 - 150				11/06/18 07:29	11/08/18 10:46	1
13C2 PFTeDA	101		25 - 150				11/06/18 07:29	11/08/18 10:46	1
13C3 PFBS	89		25 - 150				11/06/18 07:29	11/08/18 10:46	1
18O2 PFHxS	101		25 - 150				11/06/18 07:29	11/08/18 10:46	1
13C4 PFOS	99		25 - 150				11/06/18 07:29	11/08/18 10:46	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-356-20

Date Collected: 10/23/18 14:36

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-7

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.59	ng/L		11/06/18 07:29	11/08/18 10:53	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.26	ng/L		11/06/18 07:29	11/08/18 10:53	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.87	ng/L		11/06/18 07:29	11/08/18 10:53	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.28	ng/L		11/06/18 07:29	11/08/18 10:53	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.32	ng/L		11/06/18 07:29	11/08/18 10:53	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 10:53	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.56	ng/L		11/06/18 07:29	11/08/18 10:53	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 10:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.30	ng/L		11/06/18 07:29	11/08/18 10:53	1
Perfluorobutanesulfonic acid (PFBS)	1.3	J	2.0	0.20	ng/L		11/06/18 07:29	11/08/18 10:53	1
Perfluorohexanesulfonic acid (PFHxS)	4.2	B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 10:53	1
Perfluorooctanesulfonic acid (PFOS)	1.1	J	2.0	0.55	ng/L		11/06/18 07:29	11/08/18 10:53	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	91		25 - 150	11/06/18 07:29	11/08/18 10:53	1
13C2 PFHxA	97		25 - 150	11/06/18 07:29	11/08/18 10:53	1
13C4 PFHpA	100		25 - 150	11/06/18 07:29	11/08/18 10:53	1
13C4 PFOA	100		25 - 150	11/06/18 07:29	11/08/18 10:53	1
13C5 PFNA	106		25 - 150	11/06/18 07:29	11/08/18 10:53	1
13C2 PFDA	92		25 - 150	11/06/18 07:29	11/08/18 10:53	1
13C2 PFUnA	97		25 - 150	11/06/18 07:29	11/08/18 10:53	1
13C2 PFDoA	94		25 - 150	11/06/18 07:29	11/08/18 10:53	1
13C2 PFTeDA	90		25 - 150	11/06/18 07:29	11/08/18 10:53	1
13C3 PFBS	92		25 - 150	11/06/18 07:29	11/08/18 10:53	1
18O2 PFHxS	104		25 - 150	11/06/18 07:29	11/08/18 10:53	1
13C4 PFOS	101		25 - 150	11/06/18 07:29	11/08/18 10:53	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-194B-40

Date Collected: 10/23/18 15:45

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-8

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	12		2.0	0.58	ng/L		11/06/18 07:29	11/08/18 11:08	1
Perfluoroheptanoic acid (PFHpA)	7.5		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 11:08	1
Perfluorooctanoic acid (PFOA)	8.2		2.0	0.85	ng/L		11/06/18 07:29	11/08/18 11:08	1
Perfluorononanoic acid (PFNA)	16		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 11:08	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:29	11/08/18 11:08	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 11:08	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:29	11/08/18 11:08	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 11:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 11:08	1
Perfluorobutanesulfonic acid (PFBS)	1.7	J	2.0	0.20	ng/L		11/06/18 07:29	11/08/18 11:08	1
Perfluorohexanesulfonic acid (PFHxS)	11	B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 11:08	1
Perfluorooctanesulfonic acid (PFOS)	7.3		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 11:08	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	36		25 - 150				11/06/18 07:29	11/08/18 11:08	1
13C2 PFHxA	37		25 - 150				11/06/18 07:29	11/08/18 11:08	1
13C4 PFHpA	41		25 - 150				11/06/18 07:29	11/08/18 11:08	1
13C4 PFOA	39		25 - 150				11/06/18 07:29	11/08/18 11:08	1
13C5 PFNA	36		25 - 150				11/06/18 07:29	11/08/18 11:08	1
13C2 PFDA	36		25 - 150				11/06/18 07:29	11/08/18 11:08	1
13C2 PFUnA	35		25 - 150				11/06/18 07:29	11/08/18 11:08	1
13C2 PFDoA	32		25 - 150				11/06/18 07:29	11/08/18 11:08	1
13C2 PFTeDA	29		25 - 150				11/06/18 07:29	11/08/18 11:08	1
13C3 PFBS	36		25 - 150				11/06/18 07:29	11/08/18 11:08	1
18O2 PFHxS	38		25 - 150				11/06/18 07:29	11/08/18 11:08	1
13C4 PFOS	37		25 - 150				11/06/18 07:29	11/08/18 11:08	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-194A-15

Date Collected: 10/23/18 16:20

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-9

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	8.8		2.1	0.61	ng/L		11/06/18 07:29	11/08/18 11:16	1
Perfluoroheptanoic acid (PFHpA)	4.9		2.1	0.26	ng/L		11/06/18 07:29	11/08/18 11:16	1
Perfluorooctanoic acid (PFOA)	5.5		2.1	0.90	ng/L		11/06/18 07:29	11/08/18 11:16	1
Perfluorononanoic acid (PFNA)	8.1		2.1	0.29	ng/L		11/06/18 07:29	11/08/18 11:16	1
Perfluorodecanoic acid (PFDA)	ND		2.1	0.33	ng/L		11/06/18 07:29	11/08/18 11:16	1
Perfluoroundecanoic acid (PFUnA)	ND		2.1	1.2	ng/L		11/06/18 07:29	11/08/18 11:16	1
Perfluorododecanoic acid (PFDoA)	ND		2.1	0.58	ng/L		11/06/18 07:29	11/08/18 11:16	1
Perfluorotridecanoic acid (PFTriA)	ND		2.1	1.4	ng/L		11/06/18 07:29	11/08/18 11:16	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.1	0.31	ng/L		11/06/18 07:29	11/08/18 11:16	1
Perfluorobutanesulfonic acid (PFBS)	1.2	J	2.1	0.21	ng/L		11/06/18 07:29	11/08/18 11:16	1
Perfluorohexanesulfonic acid (PFHxS)	6.9	B	2.1	0.18	ng/L		11/06/18 07:29	11/08/18 11:16	1
Perfluorooctanesulfonic acid (PFOS)	3.9		2.1	0.57	ng/L		11/06/18 07:29	11/08/18 11:16	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	67		25 - 150				11/06/18 07:29	11/08/18 11:16	1
13C2 PFHxA	85		25 - 150				11/06/18 07:29	11/08/18 11:16	1
13C4 PFHpA	94		25 - 150				11/06/18 07:29	11/08/18 11:16	1
13C4 PFOA	97		25 - 150				11/06/18 07:29	11/08/18 11:16	1
13C5 PFNA	94		25 - 150				11/06/18 07:29	11/08/18 11:16	1
13C2 PFDA	94		25 - 150				11/06/18 07:29	11/08/18 11:16	1
13C2 PFUnA	96		25 - 150				11/06/18 07:29	11/08/18 11:16	1
13C2 PFDoA	90		25 - 150				11/06/18 07:29	11/08/18 11:16	1
13C2 PFTeDA	75		25 - 150				11/06/18 07:29	11/08/18 11:16	1
13C3 PFBS	77		25 - 150				11/06/18 07:29	11/08/18 11:16	1
18O2 PFHxS	96		25 - 150				11/06/18 07:29	11/08/18 11:16	1
13C4 PFOS	96		25 - 150				11/06/18 07:29	11/08/18 11:16	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-191B-60

Lab Sample ID: 320-44672-10

Date Collected: 10/23/18 10:22

Matrix: Water

Date Received: 10/30/18 10:45

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	2.2		2.0	0.59	ng/L		11/06/18 07:29	11/08/18 11:23	1
Perfluoroheptanoic acid (PFHpA)	1.6	J	2.0	0.25	ng/L		11/06/18 07:29	11/08/18 11:23	1
Perfluorooctanoic acid (PFOA)	2.1		2.0	0.86	ng/L		11/06/18 07:29	11/08/18 11:23	1
Perfluorononanoic acid (PFNA)	4.1		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 11:23	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:29	11/08/18 11:23	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 11:23	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:29	11/08/18 11:23	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 11:23	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 11:23	1
Perfluorobutanesulfonic acid (PFBS)	0.56	J	2.0	0.20	ng/L		11/06/18 07:29	11/08/18 11:23	1
Perfluorohexanesulfonic acid (PFHxS)	3.9	B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 11:23	1
Perfluorooctanesulfonic acid (PFOS)	4.0		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 11:23	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	87		25 - 150				11/06/18 07:29	11/08/18 11:23	1
13C2 PFHxA	97		25 - 150				11/06/18 07:29	11/08/18 11:23	1
13C4 PFHpA	97		25 - 150				11/06/18 07:29	11/08/18 11:23	1
13C4 PFOA	99		25 - 150				11/06/18 07:29	11/08/18 11:23	1
13C5 PFNA	98		25 - 150				11/06/18 07:29	11/08/18 11:23	1
13C2 PFDA	95		25 - 150				11/06/18 07:29	11/08/18 11:23	1
13C2 PFUnA	102		25 - 150				11/06/18 07:29	11/08/18 11:23	1
13C2 PFDoA	101		25 - 150				11/06/18 07:29	11/08/18 11:23	1
13C2 PFTeDA	86		25 - 150				11/06/18 07:29	11/08/18 11:23	1
13C3 PFBS	85		25 - 150				11/06/18 07:29	11/08/18 11:23	1
18O2 PFHxS	101		25 - 150				11/06/18 07:29	11/08/18 11:23	1
13C4 PFOS	96		25 - 150				11/06/18 07:29	11/08/18 11:23	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-191A-15

Date Collected: 10/23/18 10:59

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-11

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.57	ng/L		11/06/18 07:29	11/08/18 11:31	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 11:31	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.84	ng/L		11/06/18 07:29	11/08/18 11:31	1
Perfluorononanoic acid (PFNA)	0.43	J	2.0	0.27	ng/L		11/06/18 07:29	11/08/18 11:31	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:29	11/08/18 11:31	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 11:31	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 11:31	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 11:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 11:31	1
Perfluorobutanesulfonic acid (PFBS)	0.89	J	2.0	0.20	ng/L		11/06/18 07:29	11/08/18 11:31	1
Perfluorohexanesulfonic acid (PFHxS)	4.5	B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 11:31	1
Perfluorooctanesulfonic acid (PFOS)	1.7	J	2.0	0.53	ng/L		11/06/18 07:29	11/08/18 11:31	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	86		25 - 150	11/06/18 07:29	11/08/18 11:31	1
13C2 PFHxA	97		25 - 150	11/06/18 07:29	11/08/18 11:31	1
13C4 PFHpA	97		25 - 150	11/06/18 07:29	11/08/18 11:31	1
13C4 PFOA	99		25 - 150	11/06/18 07:29	11/08/18 11:31	1
13C5 PFNA	96		25 - 150	11/06/18 07:29	11/08/18 11:31	1
13C2 PFDA	98		25 - 150	11/06/18 07:29	11/08/18 11:31	1
13C2 PFUnA	98		25 - 150	11/06/18 07:29	11/08/18 11:31	1
13C2 PFDoA	98		25 - 150	11/06/18 07:29	11/08/18 11:31	1
13C2 PFTeDA	91		25 - 150	11/06/18 07:29	11/08/18 11:31	1
13C3 PFBS	87		25 - 150	11/06/18 07:29	11/08/18 11:31	1
18O2 PFHxS	99		25 - 150	11/06/18 07:29	11/08/18 11:31	1
13C4 PFOS	98		25 - 150	11/06/18 07:29	11/08/18 11:31	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: EB-191A-15

Date Collected: 10/23/18 11:20

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-12

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.55	ng/L		11/06/18 07:29	11/08/18 11:38	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.24	ng/L		11/06/18 07:29	11/08/18 11:38	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.81	ng/L		11/06/18 07:29	11/08/18 11:38	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.26	ng/L		11/06/18 07:29	11/08/18 11:38	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		11/06/18 07:29	11/08/18 11:38	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		11/06/18 07:29	11/08/18 11:38	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		11/06/18 07:29	11/08/18 11:38	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.2	ng/L		11/06/18 07:29	11/08/18 11:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		11/06/18 07:29	11/08/18 11:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		11/06/18 07:29	11/08/18 11:38	1
Perfluorohexanesulfonic acid (PFHxS)	0.29	J B	1.9	0.16	ng/L		11/06/18 07:29	11/08/18 11:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.52	ng/L		11/06/18 07:29	11/08/18 11:38	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	90		25 - 150				11/06/18 07:29	11/08/18 11:38	1
13C2 PFHxA	88		25 - 150				11/06/18 07:29	11/08/18 11:38	1
13C4 PFHpA	96		25 - 150				11/06/18 07:29	11/08/18 11:38	1
13C4 PFOA	96		25 - 150				11/06/18 07:29	11/08/18 11:38	1
13C5 PFNA	102		25 - 150				11/06/18 07:29	11/08/18 11:38	1
13C2 PFDA	92		25 - 150				11/06/18 07:29	11/08/18 11:38	1
13C2 PFUnA	106		25 - 150				11/06/18 07:29	11/08/18 11:38	1
13C2 PFDoA	101		25 - 150				11/06/18 07:29	11/08/18 11:38	1
13C2 PFTeDA	98		25 - 150				11/06/18 07:29	11/08/18 11:38	1
13C3 PFBS	92		25 - 150				11/06/18 07:29	11/08/18 11:38	1
18O2 PFHxS	90		25 - 150				11/06/18 07:29	11/08/18 11:38	1
13C4 PFOS	99		25 - 150				11/06/18 07:29	11/08/18 11:38	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-189B-60

Date Collected: 10/23/18 12:45

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-13

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.59	ng/L		11/06/18 07:29	11/08/18 11:46	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 11:46	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.87	ng/L		11/06/18 07:29	11/08/18 11:46	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.28	ng/L		11/06/18 07:29	11/08/18 11:46	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.32	ng/L		11/06/18 07:29	11/08/18 11:46	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 11:46	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.56	ng/L		11/06/18 07:29	11/08/18 11:46	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 11:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.30	ng/L		11/06/18 07:29	11/08/18 11:46	1
Perfluorobutanesulfonic acid (PFBS)	0.58	J	2.0	0.20	ng/L		11/06/18 07:29	11/08/18 11:46	1
Perfluorohexanesulfonic acid (PFHxS)	2.1	B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 11:46	1
Perfluorooctanesulfonic acid (PFOS)	1.8	J	2.0	0.55	ng/L		11/06/18 07:29	11/08/18 11:46	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	101		25 - 150				11/06/18 07:29	11/08/18 11:46	1
13C2 PFHxA	102		25 - 150				11/06/18 07:29	11/08/18 11:46	1
13C4 PFHpA	106		25 - 150				11/06/18 07:29	11/08/18 11:46	1
13C4 PFOA	101		25 - 150				11/06/18 07:29	11/08/18 11:46	1
13C5 PFNA	100		25 - 150				11/06/18 07:29	11/08/18 11:46	1
13C2 PFDA	100		25 - 150				11/06/18 07:29	11/08/18 11:46	1
13C2 PFUnA	104		25 - 150				11/06/18 07:29	11/08/18 11:46	1
13C2 PFDoA	101		25 - 150				11/06/18 07:29	11/08/18 11:46	1
13C2 PFTeDA	106		25 - 150				11/06/18 07:29	11/08/18 11:46	1
13C3 PFBS	98		25 - 150				11/06/18 07:29	11/08/18 11:46	1
18O2 PFHxS	106		25 - 150				11/06/18 07:29	11/08/18 11:46	1
13C4 PFOS	111		25 - 150				11/06/18 07:29	11/08/18 11:46	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-189A-15

Date Collected: 10/23/18 14:19

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-14

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	3.7		2.1	0.60	ng/L		11/06/18 07:29	11/08/18 11:53	1
Perfluoroheptanoic acid (PFHpA)	0.72	J	2.1	0.26	ng/L		11/06/18 07:29	11/08/18 11:53	1
Perfluorooctanoic acid (PFOA)	3.5		2.1	0.87	ng/L		11/06/18 07:29	11/08/18 11:53	1
Perfluorononanoic acid (PFNA)	0.37	J	2.1	0.28	ng/L		11/06/18 07:29	11/08/18 11:53	1
Perfluorodecanoic acid (PFDA)	ND		2.1	0.32	ng/L		11/06/18 07:29	11/08/18 11:53	1
Perfluoroundecanoic acid (PFUnA)	ND		2.1	1.1	ng/L		11/06/18 07:29	11/08/18 11:53	1
Perfluorododecanoic acid (PFDoA)	ND		2.1	0.57	ng/L		11/06/18 07:29	11/08/18 11:53	1
Perfluorotridecanoic acid (PFTriA)	ND		2.1	1.3	ng/L		11/06/18 07:29	11/08/18 11:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.1	0.30	ng/L		11/06/18 07:29	11/08/18 11:53	1
Perfluorobutanesulfonic acid (PFBS)	5.4		2.1	0.21	ng/L		11/06/18 07:29	11/08/18 11:53	1
Perfluorohexanesulfonic acid (PFHxS)	3.7	B	2.1	0.17	ng/L		11/06/18 07:29	11/08/18 11:53	1
Perfluorooctanesulfonic acid (PFOS)	1.2	J	2.1	0.55	ng/L		11/06/18 07:29	11/08/18 11:53	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	90		25 - 150				11/06/18 07:29	11/08/18 11:53	1
13C2 PFHxA	96		25 - 150				11/06/18 07:29	11/08/18 11:53	1
13C4 PFHpA	101		25 - 150				11/06/18 07:29	11/08/18 11:53	1
13C4 PFOA	103		25 - 150				11/06/18 07:29	11/08/18 11:53	1
13C5 PFNA	106		25 - 150				11/06/18 07:29	11/08/18 11:53	1
13C2 PFDA	95		25 - 150				11/06/18 07:29	11/08/18 11:53	1
13C2 PFUnA	106		25 - 150				11/06/18 07:29	11/08/18 11:53	1
13C2 PFDoA	91		25 - 150				11/06/18 07:29	11/08/18 11:53	1
13C2 PFTeDA	88		25 - 150				11/06/18 07:29	11/08/18 11:53	1
13C3 PFBS	95		25 - 150				11/06/18 07:29	11/08/18 11:53	1
18O2 PFHxS	106		25 - 150				11/06/18 07:29	11/08/18 11:53	1
13C4 PFOS	97		25 - 150				11/06/18 07:29	11/08/18 11:53	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-155A-15

Date Collected: 10/23/18 15:32

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-15

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	30		2.0	0.58	ng/L		11/06/18 07:29	11/08/18 12:01	1
Perfluoroheptanoic acid (PFHpA)	19		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 12:01	1
Perfluorooctanoic acid (PFOA)	16		2.0	0.85	ng/L		11/06/18 07:29	11/08/18 12:01	1
Perfluorononanoic acid (PFNA)	57		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 12:01	1
Perfluorodecanoic acid (PFDA)	0.75	J	2.0	0.31	ng/L		11/06/18 07:29	11/08/18 12:01	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 12:01	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:29	11/08/18 12:01	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 12:01	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 12:01	1
Perfluorobutanesulfonic acid (PFBS)	1.8	J	2.0	0.20	ng/L		11/06/18 07:29	11/08/18 12:01	1
Perfluorohexanesulfonic acid (PFHxS)	15	B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 12:01	1
Perfluorooctanesulfonic acid (PFOS)	32		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 12:01	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	85		25 - 150				11/06/18 07:29	11/08/18 12:01	1
13C2 PFHxA	91		25 - 150				11/06/18 07:29	11/08/18 12:01	1
13C4 PFHpA	102		25 - 150				11/06/18 07:29	11/08/18 12:01	1
13C4 PFOA	99		25 - 150				11/06/18 07:29	11/08/18 12:01	1
13C5 PFNA	101		25 - 150				11/06/18 07:29	11/08/18 12:01	1
13C2 PFDA	95		25 - 150				11/06/18 07:29	11/08/18 12:01	1
13C2 PFUnA	98		25 - 150				11/06/18 07:29	11/08/18 12:01	1
13C2 PFDoA	90		25 - 150				11/06/18 07:29	11/08/18 12:01	1
13C2 PFTeDA	77		25 - 150				11/06/18 07:29	11/08/18 12:01	1
13C3 PFBS	88		25 - 150				11/06/18 07:29	11/08/18 12:01	1
18O2 PFHxS	94		25 - 150				11/06/18 07:29	11/08/18 12:01	1
13C4 PFOS	90		25 - 150				11/06/18 07:29	11/08/18 12:01	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-155B-65

Date Collected: 10/23/18 16:01

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-16

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	37		2.0	0.57	ng/L		11/06/18 07:29	11/08/18 12:08	1
Perfluoroheptanoic acid (PFHpA)	25		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 12:08	1
Perfluorooctanoic acid (PFOA)	20		2.0	0.84	ng/L		11/06/18 07:29	11/08/18 12:08	1
Perfluorononanoic acid (PFNA)	56		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 12:08	1
Perfluorodecanoic acid (PFDA)	0.66	J	2.0	0.31	ng/L		11/06/18 07:29	11/08/18 12:08	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 12:08	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 12:08	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 12:08	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 12:08	1
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	0.20	ng/L		11/06/18 07:29	11/08/18 12:08	1
Perfluorohexanesulfonic acid (PFHxS)	20	B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 12:08	1
Perfluorooctanesulfonic acid (PFOS)	24		2.0	0.53	ng/L		11/06/18 07:29	11/08/18 12:08	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	89		25 - 150				11/06/18 07:29	11/08/18 12:08	1
13C2 PFHxA	94		25 - 150				11/06/18 07:29	11/08/18 12:08	1
13C4 PFHpA	95		25 - 150				11/06/18 07:29	11/08/18 12:08	1
13C4 PFOA	102		25 - 150				11/06/18 07:29	11/08/18 12:08	1
13C5 PFNA	99		25 - 150				11/06/18 07:29	11/08/18 12:08	1
13C2 PFDA	89		25 - 150				11/06/18 07:29	11/08/18 12:08	1
13C2 PFUnA	99		25 - 150				11/06/18 07:29	11/08/18 12:08	1
13C2 PFDoA	94		25 - 150				11/06/18 07:29	11/08/18 12:08	1
13C2 PFTeDA	97		25 - 150				11/06/18 07:29	11/08/18 12:08	1
13C3 PFBS	94		25 - 150				11/06/18 07:29	11/08/18 12:08	1
18O2 PFHxS	96		25 - 150				11/06/18 07:29	11/08/18 12:08	1
13C4 PFOS	98		25 - 150				11/06/18 07:29	11/08/18 12:08	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-152B-25

Date Collected: 10/23/18 16:55

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-17

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	2.7		2.0	0.57	ng/L		11/06/18 07:29	11/08/18 12:16	1
Perfluoroheptanoic acid (PFHpA)	2.5		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 12:16	1
Perfluorooctanoic acid (PFOA)	3.0		2.0	0.84	ng/L		11/06/18 07:29	11/08/18 12:16	1
Perfluorononanoic acid (PFNA)	11		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 12:16	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:29	11/08/18 12:16	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 12:16	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 12:16	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 12:16	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 12:16	1
Perfluorobutanesulfonic acid (PFBS)	2.2		2.0	0.20	ng/L		11/06/18 07:29	11/08/18 12:16	1
Perfluorohexanesulfonic acid (PFHxS)	5.7	B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 12:16	1
Perfluorooctanesulfonic acid (PFOS)	6.3		2.0	0.53	ng/L		11/06/18 07:29	11/08/18 12:16	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	86		25 - 150	11/06/18 07:29	11/08/18 12:16	1
13C2 PFHxA	95		25 - 150	11/06/18 07:29	11/08/18 12:16	1
13C4 PFHpA	94		25 - 150	11/06/18 07:29	11/08/18 12:16	1
13C4 PFOA	99		25 - 150	11/06/18 07:29	11/08/18 12:16	1
13C5 PFNA	96		25 - 150	11/06/18 07:29	11/08/18 12:16	1
13C2 PFDA	89		25 - 150	11/06/18 07:29	11/08/18 12:16	1
13C2 PFUnA	94		25 - 150	11/06/18 07:29	11/08/18 12:16	1
13C2 PFDoA	88		25 - 150	11/06/18 07:29	11/08/18 12:16	1
13C2 PFTeDA	89		25 - 150	11/06/18 07:29	11/08/18 12:16	1
13C3 PFBS	87		25 - 150	11/06/18 07:29	11/08/18 12:16	1
18O2 PFHxS	94		25 - 150	11/06/18 07:29	11/08/18 12:16	1
13C4 PFOS	97		25 - 150	11/06/18 07:29	11/08/18 12:16	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-152A-15

Lab Sample ID: 320-44672-18

Date Collected: 10/23/18 17:25

Matrix: Water

Date Received: 10/30/18 10:45

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	3.9		2.0	0.58	ng/L		11/06/18 07:29	11/08/18 12:31	1
Perfluoroheptanoic acid (PFHpA)	2.6		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 12:31	1
Perfluorooctanoic acid (PFOA)	3.0		2.0	0.85	ng/L		11/06/18 07:29	11/08/18 12:31	1
Perfluorononanoic acid (PFNA)	10		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 12:31	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:29	11/08/18 12:31	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 12:31	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:29	11/08/18 12:31	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 12:31	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 12:31	1
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	0.20	ng/L		11/06/18 07:29	11/08/18 12:31	1
Perfluorohexanesulfonic acid (PFHxS)	10 B		2.0	0.17	ng/L		11/06/18 07:29	11/08/18 12:31	1
Perfluorooctanesulfonic acid (PFOS)	9.0		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 12:31	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	84		25 - 150				11/06/18 07:29	11/08/18 12:31	1
13C2 PFHxA	83		25 - 150				11/06/18 07:29	11/08/18 12:31	1
13C4 PFHpA	92		25 - 150				11/06/18 07:29	11/08/18 12:31	1
13C4 PFOA	102		25 - 150				11/06/18 07:29	11/08/18 12:31	1
13C5 PFNA	91		25 - 150				11/06/18 07:29	11/08/18 12:31	1
13C2 PFDA	85		25 - 150				11/06/18 07:29	11/08/18 12:31	1
13C2 PFUnA	89		25 - 150				11/06/18 07:29	11/08/18 12:31	1
13C2 PFDoA	83		25 - 150				11/06/18 07:29	11/08/18 12:31	1
13C2 PFTeDA	78		25 - 150				11/06/18 07:29	11/08/18 12:31	1
13C3 PFBS	81		25 - 150				11/06/18 07:29	11/08/18 12:31	1
18O2 PFHxS	86		25 - 150				11/06/18 07:29	11/08/18 12:31	1
13C4 PFOS	85		25 - 150				11/06/18 07:29	11/08/18 12:31	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-328-151

Lab Sample ID: 320-44672-19

Date Collected: 10/24/18 10:53

Matrix: Water

Date Received: 10/30/18 10:45

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.57	ng/L		11/06/18 07:29	11/08/18 12:38	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 12:38	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.84	ng/L		11/06/18 07:29	11/08/18 12:38	1
Perfluorononanoic acid (PFNA)	0.34	J	2.0	0.27	ng/L		11/06/18 07:29	11/08/18 12:38	1
Perfluorodecanoic acid (PFDA)	0.41	J	2.0	0.31	ng/L		11/06/18 07:29	11/08/18 12:38	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 12:38	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 12:38	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 12:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 12:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		11/06/18 07:29	11/08/18 12:38	1
Perfluorohexanesulfonic acid (PFHxS)	0.33	J B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 12:38	1
Perfluorooctanesulfonic acid (PFOS)	1.3	J	2.0	0.53	ng/L		11/06/18 07:29	11/08/18 12:38	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	84		25 - 150				11/06/18 07:29	11/08/18 12:38	1
13C2 PFHxA	88		25 - 150				11/06/18 07:29	11/08/18 12:38	1
13C4 PFHpA	89		25 - 150				11/06/18 07:29	11/08/18 12:38	1
13C4 PFOA	94		25 - 150				11/06/18 07:29	11/08/18 12:38	1
13C5 PFNA	91		25 - 150				11/06/18 07:29	11/08/18 12:38	1
13C2 PFDA	89		25 - 150				11/06/18 07:29	11/08/18 12:38	1
13C2 PFUnA	101		25 - 150				11/06/18 07:29	11/08/18 12:38	1
13C2 PFDoA	87		25 - 150				11/06/18 07:29	11/08/18 12:38	1
13C2 PFTeDA	84		25 - 150				11/06/18 07:29	11/08/18 12:38	1
13C3 PFBS	80		25 - 150				11/06/18 07:29	11/08/18 12:38	1
18O2 PFHxS	87		25 - 150				11/06/18 07:29	11/08/18 12:38	1
13C4 PFOS	87		25 - 150				11/06/18 07:29	11/08/18 12:38	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: EB-328-151

Date Collected: 10/24/18 13:24

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-20

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		11/06/18 07:29	11/08/18 12:46	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 12:46	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.86	ng/L		11/06/18 07:29	11/08/18 12:46	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 12:46	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:29	11/08/18 12:46	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 12:46	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:29	11/08/18 12:46	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 12:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 12:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		11/06/18 07:29	11/08/18 12:46	1
Perfluorohexanesulfonic acid (PFHxS)	0.25	J B	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 12:46	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 12:46	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	93		25 - 150				11/06/18 07:29	11/08/18 12:46	1
13C2 PFHxA	94		25 - 150				11/06/18 07:29	11/08/18 12:46	1
13C4 PFHpA	101		25 - 150				11/06/18 07:29	11/08/18 12:46	1
13C4 PFOA	95		25 - 150				11/06/18 07:29	11/08/18 12:46	1
13C5 PFNA	100		25 - 150				11/06/18 07:29	11/08/18 12:46	1
13C2 PFDA	93		25 - 150				11/06/18 07:29	11/08/18 12:46	1
13C2 PFUnA	101		25 - 150				11/06/18 07:29	11/08/18 12:46	1
13C2 PFDoA	98		25 - 150				11/06/18 07:29	11/08/18 12:46	1
13C2 PFTeDA	111		25 - 150				11/06/18 07:29	11/08/18 12:46	1
13C3 PFBS	92		25 - 150				11/06/18 07:29	11/08/18 12:46	1
18O2 PFHxS	103		25 - 150				11/06/18 07:29	11/08/18 12:46	1
13C4 PFOS	105		25 - 150				11/06/18 07:29	11/08/18 12:46	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-316-56

Lab Sample ID: 320-44672-21

Date Collected: 10/24/18 14:26

Matrix: Water

Date Received: 10/30/18 10:45

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	3.4		2.0	0.59	ng/L		11/06/18 07:37	11/08/18 04:14	1
Perfluoroheptanoic acid (PFHpA)	2.1		2.0	0.25	ng/L		11/06/18 07:37	11/08/18 04:14	1
Perfluorooctanoic acid (PFOA)	2.4		2.0	0.86	ng/L		11/06/18 07:37	11/08/18 04:14	1
Perfluorononanoic acid (PFNA)	1.0	J	2.0	0.27	ng/L		11/06/18 07:37	11/08/18 04:14	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.32	ng/L		11/06/18 07:37	11/08/18 04:14	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:37	11/08/18 04:14	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.56	ng/L		11/06/18 07:37	11/08/18 04:14	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:37	11/08/18 04:14	1
Perfluorotetradecanoic acid (PFTeA)	0.34	J B	2.0	0.29	ng/L		11/06/18 07:37	11/08/18 04:14	1
Perfluorobutanesulfonic acid (PFBS)	0.75	J	2.0	0.20	ng/L		11/06/18 07:37	11/08/18 04:14	1
Perfluorohexanesulfonic acid (PFHxS)	6.2	B	2.0	0.17	ng/L		11/06/18 07:37	11/08/18 04:14	1
Perfluorooctanesulfonic acid (PFOS)	2.4		2.0	0.55	ng/L		11/06/18 07:37	11/08/18 04:14	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	89		25 - 150				11/06/18 07:37	11/08/18 04:14	1
13C2 PFHxA	90		25 - 150				11/06/18 07:37	11/08/18 04:14	1
13C4 PFHpA	96		25 - 150				11/06/18 07:37	11/08/18 04:14	1
13C4 PFOA	96		25 - 150				11/06/18 07:37	11/08/18 04:14	1
13C5 PFNA	94		25 - 150				11/06/18 07:37	11/08/18 04:14	1
13C2 PFDA	94		25 - 150				11/06/18 07:37	11/08/18 04:14	1
13C2 PFUnA	93		25 - 150				11/06/18 07:37	11/08/18 04:14	1
13C2 PFDoA	95		25 - 150				11/06/18 07:37	11/08/18 04:14	1
13C2 PFTeDA	97		25 - 150				11/06/18 07:37	11/08/18 04:14	1
13C3 PFBS	83		25 - 150				11/06/18 07:37	11/08/18 04:14	1
18O2 PFHxS	96		25 - 150				11/06/18 07:37	11/08/18 04:14	1
13C4 PFOS	93		25 - 150				11/06/18 07:37	11/08/18 04:14	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-193A-15

Date Collected: 10/24/18 15:21

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-22

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	14		2.0	0.59	ng/L		11/06/18 07:37	11/08/18 04:22	1
Perfluoroheptanoic acid (PFHpA)	8.4		2.0	0.25	ng/L		11/06/18 07:37	11/08/18 04:22	1
Perfluorooctanoic acid (PFOA)	5.9		2.0	0.86	ng/L		11/06/18 07:37	11/08/18 04:22	1
Perfluorononanoic acid (PFNA)	6.8		2.0	0.27	ng/L		11/06/18 07:37	11/08/18 04:22	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.32	ng/L		11/06/18 07:37	11/08/18 04:22	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:37	11/08/18 04:22	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.56	ng/L		11/06/18 07:37	11/08/18 04:22	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:37	11/08/18 04:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:37	11/08/18 04:22	1
Perfluorobutanesulfonic acid (PFBS)	1.7	J	2.0	0.20	ng/L		11/06/18 07:37	11/08/18 04:22	1
Perfluorohexanesulfonic acid (PFHxS)	8.4	B	2.0	0.17	ng/L		11/06/18 07:37	11/08/18 04:22	1
Perfluorooctanesulfonic acid (PFOS)	7.5		2.0	0.55	ng/L		11/06/18 07:37	11/08/18 04:22	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	70		25 - 150				11/06/18 07:37	11/08/18 04:22	1
13C2 PFHxA	85		25 - 150				11/06/18 07:37	11/08/18 04:22	1
13C4 PFHpA	92		25 - 150				11/06/18 07:37	11/08/18 04:22	1
13C4 PFOA	94		25 - 150				11/06/18 07:37	11/08/18 04:22	1
13C5 PFNA	99		25 - 150				11/06/18 07:37	11/08/18 04:22	1
13C2 PFDA	97		25 - 150				11/06/18 07:37	11/08/18 04:22	1
13C2 PFUnA	98		25 - 150				11/06/18 07:37	11/08/18 04:22	1
13C2 PFDoA	97		25 - 150				11/06/18 07:37	11/08/18 04:22	1
13C2 PFTeDA	89		25 - 150				11/06/18 07:37	11/08/18 04:22	1
13C3 PFBS	71		25 - 150				11/06/18 07:37	11/08/18 04:22	1
18O2 PFHxS	92		25 - 150				11/06/18 07:37	11/08/18 04:22	1
13C4 PFOS	95		25 - 150				11/06/18 07:37	11/08/18 04:22	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: GAC-193A-15

Date Collected: 10/24/18 15:40

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-23

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	7.9		1.9	0.56	ng/L		11/06/18 07:37	11/08/18 04:29	1
Perfluoroheptanoic acid (PFHpA)	4.4		1.9	0.24	ng/L		11/06/18 07:37	11/08/18 04:29	1
Perfluorooctanoic acid (PFOA)	3.2		1.9	0.82	ng/L		11/06/18 07:37	11/08/18 04:29	1
Perfluorononanoic acid (PFNA)	4.4		1.9	0.26	ng/L		11/06/18 07:37	11/08/18 04:29	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		11/06/18 07:37	11/08/18 04:29	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		11/06/18 07:37	11/08/18 04:29	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		11/06/18 07:37	11/08/18 04:29	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.3	ng/L		11/06/18 07:37	11/08/18 04:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		11/06/18 07:37	11/08/18 04:29	1
Perfluorobutanesulfonic acid (PFBS)	0.94	J	1.9	0.19	ng/L		11/06/18 07:37	11/08/18 04:29	1
Perfluorohexanesulfonic acid (PFHxS)	5.0	B	1.9	0.16	ng/L		11/06/18 07:37	11/08/18 04:29	1
Perfluorooctanesulfonic acid (PFOS)	1.8	J	1.9	0.52	ng/L		11/06/18 07:37	11/08/18 04:29	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	52		25 - 150				11/06/18 07:37	11/08/18 04:29	1
13C2 PFHxA	57		25 - 150				11/06/18 07:37	11/08/18 04:29	1
13C4 PFHpA	63		25 - 150				11/06/18 07:37	11/08/18 04:29	1
13C4 PFOA	63		25 - 150				11/06/18 07:37	11/08/18 04:29	1
13C5 PFNA	61		25 - 150				11/06/18 07:37	11/08/18 04:29	1
13C2 PFDA	53		25 - 150				11/06/18 07:37	11/08/18 04:29	1
13C2 PFUnA	56		25 - 150				11/06/18 07:37	11/08/18 04:29	1
13C2 PFDoA	51		25 - 150				11/06/18 07:37	11/08/18 04:29	1
13C2 PFTeDA	49		25 - 150				11/06/18 07:37	11/08/18 04:29	1
13C3 PFBS	50		25 - 150				11/06/18 07:37	11/08/18 04:29	1
18O2 PFHxS	59		25 - 150				11/06/18 07:37	11/08/18 04:29	1
13C4 PFOS	57		25 - 150				11/06/18 07:37	11/08/18 04:29	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-151C-60

Date Collected: 10/24/18 10:11

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-24

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	12		2.0	0.57	ng/L		11/06/18 07:37	11/08/18 04:37	1
Perfluoroheptanoic acid (PFHpA)	9.0		2.0	0.25	ng/L		11/06/18 07:37	11/08/18 04:37	1
Perfluorooctanoic acid (PFOA)	9.7		2.0	0.84	ng/L		11/06/18 07:37	11/08/18 04:37	1
Perfluorononanoic acid (PFNA)	27		2.0	0.27	ng/L		11/06/18 07:37	11/08/18 04:37	1
Perfluorodecanoic acid (PFDA)	0.38	J	2.0	0.31	ng/L		11/06/18 07:37	11/08/18 04:37	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:37	11/08/18 04:37	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		11/06/18 07:37	11/08/18 04:37	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:37	11/08/18 04:37	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:37	11/08/18 04:37	1
Perfluorobutanesulfonic acid (PFBS)	1.2	J	2.0	0.20	ng/L		11/06/18 07:37	11/08/18 04:37	1
Perfluorohexanesulfonic acid (PFHxS)	12	B	2.0	0.17	ng/L		11/06/18 07:37	11/08/18 04:37	1
Perfluorooctanesulfonic acid (PFOS)	13		2.0	0.53	ng/L		11/06/18 07:37	11/08/18 04:37	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	91		25 - 150				11/06/18 07:37	11/08/18 04:37	1
13C2 PFHxA	93		25 - 150				11/06/18 07:37	11/08/18 04:37	1
13C4 PFHpA	97		25 - 150				11/06/18 07:37	11/08/18 04:37	1
13C4 PFOA	97		25 - 150				11/06/18 07:37	11/08/18 04:37	1
13C5 PFNA	98		25 - 150				11/06/18 07:37	11/08/18 04:37	1
13C2 PFDA	92		25 - 150				11/06/18 07:37	11/08/18 04:37	1
13C2 PFUnA	96		25 - 150				11/06/18 07:37	11/08/18 04:37	1
13C2 PFDoA	96		25 - 150				11/06/18 07:37	11/08/18 04:37	1
13C2 PFTeDA	104		25 - 150				11/06/18 07:37	11/08/18 04:37	1
13C3 PFBS	90		25 - 150				11/06/18 07:37	11/08/18 04:37	1
18O2 PFHxS	91		25 - 150				11/06/18 07:37	11/08/18 04:37	1
13C4 PFOS	90		25 - 150				11/06/18 07:37	11/08/18 04:37	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-151B-25

Date Collected: 10/24/18 10:52

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-25

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	9.1		2.0	0.59	ng/L		11/06/18 07:37	11/08/18 04:44	1
Perfluoroheptanoic acid (PFHpA)	7.4		2.0	0.25	ng/L		11/06/18 07:37	11/08/18 04:44	1
Perfluorooctanoic acid (PFOA)	8.1		2.0	0.86	ng/L		11/06/18 07:37	11/08/18 04:44	1
Perfluorononanoic acid (PFNA)	28		2.0	0.27	ng/L		11/06/18 07:37	11/08/18 04:44	1
Perfluorodecanoic acid (PFDA)	0.43	J	2.0	0.31	ng/L		11/06/18 07:37	11/08/18 04:44	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:37	11/08/18 04:44	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.56	ng/L		11/06/18 07:37	11/08/18 04:44	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:37	11/08/18 04:44	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:37	11/08/18 04:44	1
Perfluorobutanesulfonic acid (PFBS)	1.4	J	2.0	0.20	ng/L		11/06/18 07:37	11/08/18 04:44	1
Perfluorohexanesulfonic acid (PFHxS)	8.8	B	2.0	0.17	ng/L		11/06/18 07:37	11/08/18 04:44	1
Perfluorooctanesulfonic acid (PFOS)	17		2.0	0.55	ng/L		11/06/18 07:37	11/08/18 04:44	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	88		25 - 150				11/06/18 07:37	11/08/18 04:44	1
13C2 PFHxA	94		25 - 150				11/06/18 07:37	11/08/18 04:44	1
13C4 PFHpA	95		25 - 150				11/06/18 07:37	11/08/18 04:44	1
13C4 PFOA	99		25 - 150				11/06/18 07:37	11/08/18 04:44	1
13C5 PFNA	97		25 - 150				11/06/18 07:37	11/08/18 04:44	1
13C2 PFDA	95		25 - 150				11/06/18 07:37	11/08/18 04:44	1
13C2 PFUnA	103		25 - 150				11/06/18 07:37	11/08/18 04:44	1
13C2 PFDoA	93		25 - 150				11/06/18 07:37	11/08/18 04:44	1
13C2 PFTeDA	96		25 - 150				11/06/18 07:37	11/08/18 04:44	1
13C3 PFBS	88		25 - 150				11/06/18 07:37	11/08/18 04:44	1
18O2 PFHxS	96		25 - 150				11/06/18 07:37	11/08/18 04:44	1
13C4 PFOS	92		25 - 150				11/06/18 07:37	11/08/18 04:44	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-151A-15

Date Collected: 10/24/18 11:22

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-26

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	11		1.9	0.56	ng/L		11/06/18 07:37	11/08/18 04:52	1
Perfluoroheptanoic acid (PFHpA)	9.1		1.9	0.24	ng/L		11/06/18 07:37	11/08/18 04:52	1
Perfluorooctanoic acid (PFOA)	8.8		1.9	0.83	ng/L		11/06/18 07:37	11/08/18 04:52	1
Perfluorononanoic acid (PFNA)	33		1.9	0.26	ng/L		11/06/18 07:37	11/08/18 04:52	1
Perfluorodecanoic acid (PFDA)	0.47	J	1.9	0.30	ng/L		11/06/18 07:37	11/08/18 04:52	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		11/06/18 07:37	11/08/18 04:52	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		11/06/18 07:37	11/08/18 04:52	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.3	ng/L		11/06/18 07:37	11/08/18 04:52	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		11/06/18 07:37	11/08/18 04:52	1
Perfluorobutanesulfonic acid (PFBS)	1.7	J	1.9	0.19	ng/L		11/06/18 07:37	11/08/18 04:52	1
Perfluorohexanesulfonic acid (PFHxS)	9.3	B	1.9	0.17	ng/L		11/06/18 07:37	11/08/18 04:52	1
Perfluorooctanesulfonic acid (PFOS)	21		1.9	0.53	ng/L		11/06/18 07:37	11/08/18 04:52	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	84		25 - 150				11/06/18 07:37	11/08/18 04:52	1
13C2 PFHxA	89		25 - 150				11/06/18 07:37	11/08/18 04:52	1
13C4 PFHpA	94		25 - 150				11/06/18 07:37	11/08/18 04:52	1
13C4 PFOA	100		25 - 150				11/06/18 07:37	11/08/18 04:52	1
13C5 PFNA	96		25 - 150				11/06/18 07:37	11/08/18 04:52	1
13C2 PFDA	96		25 - 150				11/06/18 07:37	11/08/18 04:52	1
13C2 PFUnA	100		25 - 150				11/06/18 07:37	11/08/18 04:52	1
13C2 PFDoA	93		25 - 150				11/06/18 07:37	11/08/18 04:52	1
13C2 PFTeDA	88		25 - 150				11/06/18 07:37	11/08/18 04:52	1
13C3 PFBS	88		25 - 150				11/06/18 07:37	11/08/18 04:52	1
18O2 PFHxS	94		25 - 150				11/06/18 07:37	11/08/18 04:52	1
13C4 PFOS	91		25 - 150				11/06/18 07:37	11/08/18 04:52	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-153B-55

Date Collected: 10/24/18 12:27

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-27

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	17		2.0	0.57	ng/L		11/06/18 07:37	11/08/18 04:59	1
Perfluoroheptanoic acid (PFHpA)	14		2.0	0.25	ng/L		11/06/18 07:37	11/08/18 04:59	1
Perfluorooctanoic acid (PFOA)	14		2.0	0.84	ng/L		11/06/18 07:37	11/08/18 04:59	1
Perfluorononanoic acid (PFNA)	42		2.0	0.27	ng/L		11/06/18 07:37	11/08/18 04:59	1
Perfluorodecanoic acid (PFDA)	0.39	J	2.0	0.31	ng/L		11/06/18 07:37	11/08/18 04:59	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:37	11/08/18 04:59	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		11/06/18 07:37	11/08/18 04:59	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:37	11/08/18 04:59	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:37	11/08/18 04:59	1
Perfluorobutanesulfonic acid (PFBS)	2.2		2.0	0.20	ng/L		11/06/18 07:37	11/08/18 04:59	1
Perfluorohexanesulfonic acid (PFHxS)	15	B	2.0	0.17	ng/L		11/06/18 07:37	11/08/18 04:59	1
Perfluorooctanesulfonic acid (PFOS)	17		2.0	0.53	ng/L		11/06/18 07:37	11/08/18 04:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	89		25 - 150	11/06/18 07:37	11/08/18 04:59	1
13C2 PFHxA	92		25 - 150	11/06/18 07:37	11/08/18 04:59	1
13C4 PFHpA	92		25 - 150	11/06/18 07:37	11/08/18 04:59	1
13C4 PFOA	103		25 - 150	11/06/18 07:37	11/08/18 04:59	1
13C5 PFNA	94		25 - 150	11/06/18 07:37	11/08/18 04:59	1
13C2 PFDA	95		25 - 150	11/06/18 07:37	11/08/18 04:59	1
13C2 PFUnA	101		25 - 150	11/06/18 07:37	11/08/18 04:59	1
13C2 PFDoA	89		25 - 150	11/06/18 07:37	11/08/18 04:59	1
13C2 PFTeDA	92		25 - 150	11/06/18 07:37	11/08/18 04:59	1
13C3 PFBS	90		25 - 150	11/06/18 07:37	11/08/18 04:59	1
18O2 PFHxS	95		25 - 150	11/06/18 07:37	11/08/18 04:59	1
13C4 PFOS	102		25 - 150	11/06/18 07:37	11/08/18 04:59	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-153A-15

Date Collected: 10/24/18 12:58

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-28

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	55		1.9	0.56	ng/L		11/06/18 07:37	11/08/18 05:14	1
Perfluoroheptanoic acid (PFHpA)	28		1.9	0.24	ng/L		11/06/18 07:37	11/08/18 05:14	1
Perfluorooctanoic acid (PFOA)	15		1.9	0.82	ng/L		11/06/18 07:37	11/08/18 05:14	1
Perfluorononanoic acid (PFNA)	36		1.9	0.26	ng/L		11/06/18 07:37	11/08/18 05:14	1
Perfluorodecanoic acid (PFDA)	0.50	J	1.9	0.30	ng/L		11/06/18 07:37	11/08/18 05:14	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		11/06/18 07:37	11/08/18 05:14	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		11/06/18 07:37	11/08/18 05:14	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.3	ng/L		11/06/18 07:37	11/08/18 05:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		11/06/18 07:37	11/08/18 05:14	1
Perfluorobutanesulfonic acid (PFBS)	7.0		1.9	0.19	ng/L		11/06/18 07:37	11/08/18 05:14	1
Perfluorohexanesulfonic acid (PFHxS)	27	B	1.9	0.16	ng/L		11/06/18 07:37	11/08/18 05:14	1
Perfluorooctanesulfonic acid (PFOS)	18		1.9	0.52	ng/L		11/06/18 07:37	11/08/18 05:14	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	75		25 - 150				11/06/18 07:37	11/08/18 05:14	1
13C2 PFHxA	88		25 - 150				11/06/18 07:37	11/08/18 05:14	1
13C4 PFHpA	93		25 - 150				11/06/18 07:37	11/08/18 05:14	1
13C4 PFOA	97		25 - 150				11/06/18 07:37	11/08/18 05:14	1
13C5 PFNA	90		25 - 150				11/06/18 07:37	11/08/18 05:14	1
13C2 PFDA	94		25 - 150				11/06/18 07:37	11/08/18 05:14	1
13C2 PFUnA	100		25 - 150				11/06/18 07:37	11/08/18 05:14	1
13C2 PFDoA	97		25 - 150				11/06/18 07:37	11/08/18 05:14	1
13C2 PFTeDA	81		25 - 150				11/06/18 07:37	11/08/18 05:14	1
13C3 PFBS	76		25 - 150				11/06/18 07:37	11/08/18 05:14	1
18O2 PFHxS	87		25 - 150				11/06/18 07:37	11/08/18 05:14	1
13C4 PFOS	98		25 - 150				11/06/18 07:37	11/08/18 05:14	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-253A-15

Date Collected: 10/24/18 12:48

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-29

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	58		1.9	0.56	ng/L		11/06/18 07:37	11/08/18 05:22	1
Perfluoroheptanoic acid (PFHpA)	30		1.9	0.24	ng/L		11/06/18 07:37	11/08/18 05:22	1
Perfluorooctanoic acid (PFOA)	16		1.9	0.82	ng/L		11/06/18 07:37	11/08/18 05:22	1
Perfluorononanoic acid (PFNA)	34		1.9	0.26	ng/L		11/06/18 07:37	11/08/18 05:22	1
Perfluorodecanoic acid (PFDA)	0.50	J	1.9	0.30	ng/L		11/06/18 07:37	11/08/18 05:22	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		11/06/18 07:37	11/08/18 05:22	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		11/06/18 07:37	11/08/18 05:22	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.2	ng/L		11/06/18 07:37	11/08/18 05:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		11/06/18 07:37	11/08/18 05:22	1
Perfluorobutanesulfonic acid (PFBS)	5.2		1.9	0.19	ng/L		11/06/18 07:37	11/08/18 05:22	1
Perfluorohexanesulfonic acid (PFHxS)	26	B	1.9	0.16	ng/L		11/06/18 07:37	11/08/18 05:22	1
Perfluorooctanesulfonic acid (PFOS)	18		1.9	0.52	ng/L		11/06/18 07:37	11/08/18 05:22	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	78		25 - 150				11/06/18 07:37	11/08/18 05:22	1
13C2 PFHxA	88		25 - 150				11/06/18 07:37	11/08/18 05:22	1
13C4 PFHpA	99		25 - 150				11/06/18 07:37	11/08/18 05:22	1
13C4 PFOA	99		25 - 150				11/06/18 07:37	11/08/18 05:22	1
13C5 PFNA	99		25 - 150				11/06/18 07:37	11/08/18 05:22	1
13C2 PFDA	101		25 - 150				11/06/18 07:37	11/08/18 05:22	1
13C2 PFUnA	102		25 - 150				11/06/18 07:37	11/08/18 05:22	1
13C2 PFDoA	94		25 - 150				11/06/18 07:37	11/08/18 05:22	1
13C2 PFTeDA	87		25 - 150				11/06/18 07:37	11/08/18 05:22	1
13C3 PFBS	92		25 - 150				11/06/18 07:37	11/08/18 05:22	1
18O2 PFHxS	99		25 - 150				11/06/18 07:37	11/08/18 05:22	1
13C4 PFOS	94		25 - 150				11/06/18 07:37	11/08/18 05:22	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-150C-60

Date Collected: 10/24/18 13:55

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-30

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	24		1.9	0.55	ng/L		11/06/18 07:37	11/08/18 05:30	1
Perfluoroheptanoic acid (PFHpA)	18		1.9	0.24	ng/L		11/06/18 07:37	11/08/18 05:30	1
Perfluorooctanoic acid (PFOA)	18		1.9	0.80	ng/L		11/06/18 07:37	11/08/18 05:30	1
Perfluorononanoic acid (PFNA)	55		1.9	0.26	ng/L		11/06/18 07:37	11/08/18 05:30	1
Perfluorodecanoic acid (PFDA)	0.62	J	1.9	0.29	ng/L		11/06/18 07:37	11/08/18 05:30	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		11/06/18 07:37	11/08/18 05:30	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		11/06/18 07:37	11/08/18 05:30	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.2	ng/L		11/06/18 07:37	11/08/18 05:30	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		11/06/18 07:37	11/08/18 05:30	1
Perfluorobutanesulfonic acid (PFBS)	1.9		1.9	0.19	ng/L		11/06/18 07:37	11/08/18 05:30	1
Perfluorohexanesulfonic acid (PFHxS)	18	B	1.9	0.16	ng/L		11/06/18 07:37	11/08/18 05:30	1
Perfluorooctanesulfonic acid (PFOS)	23		1.9	0.51	ng/L		11/06/18 07:37	11/08/18 05:30	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	94		25 - 150				11/06/18 07:37	11/08/18 05:30	1
13C2 PFHxA	102		25 - 150				11/06/18 07:37	11/08/18 05:30	1
13C4 PFHpA	103		25 - 150				11/06/18 07:37	11/08/18 05:30	1
13C4 PFOA	97		25 - 150				11/06/18 07:37	11/08/18 05:30	1
13C5 PFNA	100		25 - 150				11/06/18 07:37	11/08/18 05:30	1
13C2 PFDA	102		25 - 150				11/06/18 07:37	11/08/18 05:30	1
13C2 PFUnA	110		25 - 150				11/06/18 07:37	11/08/18 05:30	1
13C2 PFDoA	99		25 - 150				11/06/18 07:37	11/08/18 05:30	1
13C2 PFTeDA	103		25 - 150				11/06/18 07:37	11/08/18 05:30	1
13C3 PFBS	93		25 - 150				11/06/18 07:37	11/08/18 05:30	1
18O2 PFHxS	102		25 - 150				11/06/18 07:37	11/08/18 05:30	1
13C4 PFOS	98		25 - 150				11/06/18 07:37	11/08/18 05:30	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-150B-25

Date Collected: 10/24/18 14:27

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-31

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	23		2.0	0.58	ng/L		11/06/18 07:37	11/08/18 05:37	1
Perfluoroheptanoic acid (PFHpA)	17		2.0	0.25	ng/L		11/06/18 07:37	11/08/18 05:37	1
Perfluorooctanoic acid (PFOA)	17		2.0	0.85	ng/L		11/06/18 07:37	11/08/18 05:37	1
Perfluorononanoic acid (PFNA)	56		2.0	0.27	ng/L		11/06/18 07:37	11/08/18 05:37	1
Perfluorodecanoic acid (PFDA)	0.77	J	2.0	0.31	ng/L		11/06/18 07:37	11/08/18 05:37	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:37	11/08/18 05:37	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:37	11/08/18 05:37	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:37	11/08/18 05:37	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:37	11/08/18 05:37	1
Perfluorobutanesulfonic acid (PFBS)	2.5		2.0	0.20	ng/L		11/06/18 07:37	11/08/18 05:37	1
Perfluorohexanesulfonic acid (PFHxS)	16	B	2.0	0.17	ng/L		11/06/18 07:37	11/08/18 05:37	1
Perfluorooctanesulfonic acid (PFOS)	29		2.0	0.54	ng/L		11/06/18 07:37	11/08/18 05:37	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	87		25 - 150				11/06/18 07:37	11/08/18 05:37	1
13C2 PFHxA	92		25 - 150				11/06/18 07:37	11/08/18 05:37	1
13C4 PFHpA	94		25 - 150				11/06/18 07:37	11/08/18 05:37	1
13C4 PFOA	102		25 - 150				11/06/18 07:37	11/08/18 05:37	1
13C5 PFNA	95		25 - 150				11/06/18 07:37	11/08/18 05:37	1
13C2 PFDA	88		25 - 150				11/06/18 07:37	11/08/18 05:37	1
13C2 PFUnA	103		25 - 150				11/06/18 07:37	11/08/18 05:37	1
13C2 PFDoA	91		25 - 150				11/06/18 07:37	11/08/18 05:37	1
13C2 PFTeDA	82		25 - 150				11/06/18 07:37	11/08/18 05:37	1
13C3 PFBS	90		25 - 150				11/06/18 07:37	11/08/18 05:37	1
18O2 PFHxS	95		25 - 150				11/06/18 07:37	11/08/18 05:37	1
13C4 PFOS	92		25 - 150				11/06/18 07:37	11/08/18 05:37	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: GAC2-150B-25

Date Collected: 10/24/18 14:37

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-32

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.57	ng/L		11/06/18 07:37	11/08/18 05:45	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		11/06/18 07:37	11/08/18 05:45	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.83	ng/L		11/06/18 07:37	11/08/18 05:45	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.26	ng/L		11/06/18 07:37	11/08/18 05:45	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.30	ng/L		11/06/18 07:37	11/08/18 05:45	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:37	11/08/18 05:45	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		11/06/18 07:37	11/08/18 05:45	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:37	11/08/18 05:45	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.28	ng/L		11/06/18 07:37	11/08/18 05:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		11/06/18 07:37	11/08/18 05:45	1
Perfluorohexanesulfonic acid (PFHxS)	0.35	J B	2.0	0.17	ng/L		11/06/18 07:37	11/08/18 05:45	1
Perfluorooctanesulfonic acid (PFOS)	0.80	J	2.0	0.53	ng/L		11/06/18 07:37	11/08/18 05:45	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	99		25 - 150	11/06/18 07:37	11/08/18 05:45	1
13C2 PFHxA	100		25 - 150	11/06/18 07:37	11/08/18 05:45	1
13C4 PFHpA	99		25 - 150	11/06/18 07:37	11/08/18 05:45	1
13C4 PFOA	100		25 - 150	11/06/18 07:37	11/08/18 05:45	1
13C5 PFNA	104		25 - 150	11/06/18 07:37	11/08/18 05:45	1
13C2 PFDA	100		25 - 150	11/06/18 07:37	11/08/18 05:45	1
13C2 PFUnA	110		25 - 150	11/06/18 07:37	11/08/18 05:45	1
13C2 PFDoA	101		25 - 150	11/06/18 07:37	11/08/18 05:45	1
13C2 PFTeDA	91		25 - 150	11/06/18 07:37	11/08/18 05:45	1
13C3 PFBS	89		25 - 150	11/06/18 07:37	11/08/18 05:45	1
18O2 PFHxS	98		25 - 150	11/06/18 07:37	11/08/18 05:45	1
13C4 PFOS	95		25 - 150	11/06/18 07:37	11/08/18 05:45	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-293A-15

Date Collected: 10/24/18 15:11

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-33

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	13		1.9	0.56	ng/L		11/06/18 07:37	11/08/18 05:52	1
Perfluoroheptanoic acid (PFHpA)	7.6		1.9	0.24	ng/L		11/06/18 07:37	11/08/18 05:52	1
Perfluorooctanoic acid (PFOA)	5.4		1.9	0.82	ng/L		11/06/18 07:37	11/08/18 05:52	1
Perfluorononanoic acid (PFNA)	7.9		1.9	0.26	ng/L		11/06/18 07:37	11/08/18 05:52	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		11/06/18 07:37	11/08/18 05:52	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		11/06/18 07:37	11/08/18 05:52	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		11/06/18 07:37	11/08/18 05:52	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9	1.3	ng/L		11/06/18 07:37	11/08/18 05:52	1
Perfluorotetradecanoic acid (PFTeA)	0.36	J B	1.9	0.28	ng/L		11/06/18 07:37	11/08/18 05:52	1
Perfluorobutanesulfonic acid (PFBS)	1.6	J	1.9	0.19	ng/L		11/06/18 07:37	11/08/18 05:52	1
Perfluorohexanesulfonic acid (PFHxS)	8.8	B	1.9	0.16	ng/L		11/06/18 07:37	11/08/18 05:52	1
Perfluorooctanesulfonic acid (PFOS)	2.7		1.9	0.52	ng/L		11/06/18 07:37	11/08/18 05:52	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C5 PFPeA	66		25 - 150				11/06/18 07:37	11/08/18 05:52	1
13C2 PFHxA	83		25 - 150				11/06/18 07:37	11/08/18 05:52	1
13C4 PFHpA	90		25 - 150				11/06/18 07:37	11/08/18 05:52	1
13C4 PFOA	94		25 - 150				11/06/18 07:37	11/08/18 05:52	1
13C5 PFNA	92		25 - 150				11/06/18 07:37	11/08/18 05:52	1
13C2 PFDA	94		25 - 150				11/06/18 07:37	11/08/18 05:52	1
13C2 PFUnA	98		25 - 150				11/06/18 07:37	11/08/18 05:52	1
13C2 PFDoA	92		25 - 150				11/06/18 07:37	11/08/18 05:52	1
13C2 PFTeDA	93		25 - 150				11/06/18 07:37	11/08/18 05:52	1
13C3 PFBS	75		25 - 150				11/06/18 07:37	11/08/18 05:52	1
18O2 PFHxS	87		25 - 150				11/06/18 07:37	11/08/18 05:52	1
13C4 PFOS	93		25 - 150				11/06/18 07:37	11/08/18 05:52	1

TestAmerica Sacramento

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFPeA (25-150)	PFHxA (25-150)	PFHpA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)	PFDoA (25-150)
320-44672-1	MW-357-65	92	99	99	98	99	93	103	92
320-44672-2	MW-357-150	95	98	95	97	96	96	91	82
320-44672-3	MW-311-46	77	92	94	98	100	94	98	89
320-44672-4	MW-311-15	79	92	100	98	104	103	94	88
320-44672-5	MW-356-90	92	97	97	101	96	92	101	94
320-44672-6	MW-356-65	96	101	105	105	101	88	100	95
320-44672-7	MW-356-20	91	97	100	100	106	92	97	94
320-44672-8	MW-194B-40	36	37	41	39	36	36	35	32
320-44672-9	MW-194A-15	67	85	94	97	94	94	96	90
320-44672-10	MW-191B-60	87	97	97	99	98	95	102	101
320-44672-11	MW-191A-15	86	97	97	99	96	98	98	98
320-44672-12	EB-191A-15	90	88	96	96	102	92	106	101
320-44672-13	MW-189B-60	101	102	106	101	100	100	104	101
320-44672-14	MW-189A-15	90	96	101	103	106	95	106	91
320-44672-15	MW-155A-15	85	91	102	99	101	95	98	90
320-44672-16	MW-155B-65	89	94	95	102	99	89	99	94
320-44672-17	MW-152B-25	86	95	94	99	96	89	94	88
320-44672-18	MW-152A-15	84	83	92	102	91	85	89	83
320-44672-19	MW-328-151	84	88	89	94	91	89	101	87
320-44672-20	EB-328-151	93	94	101	95	100	93	101	98
320-44672-21	MW-316-56	89	90	96	96	94	94	93	95
320-44672-22	MW-193A-15	70	85	92	94	99	97	98	97
320-44672-23	GAC-193A-15	52	57	63	63	61	53	56	51
320-44672-24	MW-151C-60	91	93	97	97	98	92	96	96
320-44672-25	MW-151B-25	88	94	95	99	97	95	103	93
320-44672-26	MW-151A-15	84	89	94	100	96	96	100	93
320-44672-27	MW-153B-55	89	92	92	103	94	95	101	89
320-44672-28	MW-153A-15	75	88	93	97	90	94	100	97
320-44672-29	MW-253A-15	78	88	99	99	99	101	102	94
320-44672-30	MW-150C-60	94	102	103	97	100	102	110	99
320-44672-31	MW-150B-25	87	92	94	102	95	88	103	91
320-44672-32	GAC2-150B-25	99	100	99	100	104	100	110	101
320-44672-33	MW-293A-15	66	83	90	94	92	94	98	92
LCS 320-257176/2-A	Lab Control Sample	93	96	99	99	98	94	96	95
LCS 320-257182/2-A	Lab Control Sample	96	99	99	97	102	101	111	96
LCSD 320-257176/3-A	Lab Control Sample Dup	91	95	96	95	96	87	98	93
LCSD 320-257182/3-A	Lab Control Sample Dup	90	95	98	99	100	91	107	96
MB 320-257176/1-A	Method Blank	89	93	94	93	99	92	99	90
MB 320-257182/1-A	Method Blank	94	94	99	100	98	95	105	99

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)			
		PFTDA (25-150)	3C3-PFB: (25-150)	PFHxS (25-150)	PFOS (25-150)
320-44672-1	MW-357-65	93	89	96	100
320-44672-2	MW-357-150	87	92	92	98
320-44672-3	MW-311-46	86	88	97	98
320-44672-4	MW-311-15	82	84	100	103
320-44672-5	MW-356-90	95	90	102	101
320-44672-6	MW-356-65	101	89	101	99
320-44672-7	MW-356-20	90	92	104	101

TestAmerica Sacramento

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)			
		PFTDA (25-150)	3C3-PFB: (25-150)	PFHxS (25-150)	PFOS (25-150)
320-44672-8	MW-194B-40	29	36	38	37
320-44672-9	MW-194A-15	75	77	96	96
320-44672-10	MW-191B-60	86	85	101	96
320-44672-11	MW-191A-15	91	87	99	98
320-44672-12	EB-191A-15	98	92	90	99
320-44672-13	MW-189B-60	106	98	106	111
320-44672-14	MW-189A-15	88	95	106	97
320-44672-15	MW-155A-15	77	88	94	90
320-44672-16	MW-155B-65	97	94	96	98
320-44672-17	MW-152B-25	89	87	94	97
320-44672-18	MW-152A-15	78	81	86	85
320-44672-19	MW-328-151	84	80	87	87
320-44672-20	EB-328-151	111	92	103	105
320-44672-21	MW-316-56	97	83	96	93
320-44672-22	MW-193A-15	89	71	92	95
320-44672-23	GAC-193A-15	49	50	59	57
320-44672-24	MW-151C-60	104	90	91	90
320-44672-25	MW-151B-25	96	88	96	92
320-44672-26	MW-151A-15	88	88	94	91
320-44672-27	MW-153B-55	92	90	95	102
320-44672-28	MW-153A-15	81	76	87	98
320-44672-29	MW-253A-15	87	92	99	94
320-44672-30	MW-150C-60	103	93	102	98
320-44672-31	MW-150B-25	82	90	95	92
320-44672-32	GAC2-150B-25	91	89	98	95
320-44672-33	MW-293A-15	93	75	87	93
LCS 320-257176/2-A	Lab Control Sample	98	92	98	95
LCS 320-257182/2-A	Lab Control Sample	101	91	94	102
LCSD 320-257176/3-A	Lab Control Sample Dup	104	85	91	100
LCSD 320-257182/3-A	Lab Control Sample Dup	101	89	87	94
MB 320-257176/1-A	Method Blank	97	83	94	102
MB 320-257182/1-A	Method Blank	99	88	96	94

Surrogate Legend

PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
PFHpA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDaA = 13C2 PFDaA
PFTDA = 13C2 PFTeDA
13C3-PFBs = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS

TestAmerica Sacramento

QC Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-257176/1-A

Matrix: Water

Analysis Batch: 257728

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 257176

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		11/06/18 07:29	11/08/18 09:45	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		11/06/18 07:29	11/08/18 09:45	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		11/06/18 07:29	11/08/18 09:45	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		11/06/18 07:29	11/08/18 09:45	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:29	11/08/18 09:45	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:29	11/08/18 09:45	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:29	11/08/18 09:45	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:29	11/08/18 09:45	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		11/06/18 07:29	11/08/18 09:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		11/06/18 07:29	11/08/18 09:45	1
Perfluorohexanesulfonic acid (PFHxS)	0.308	J	2.0	0.17	ng/L		11/06/18 07:29	11/08/18 09:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		11/06/18 07:29	11/08/18 09:45	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	89		25 - 150	11/06/18 07:29	11/08/18 09:45	1
13C2 PFHxA	93		25 - 150	11/06/18 07:29	11/08/18 09:45	1
13C4 PFHpA	94		25 - 150	11/06/18 07:29	11/08/18 09:45	1
13C4 PFOA	93		25 - 150	11/06/18 07:29	11/08/18 09:45	1
13C5 PFNA	99		25 - 150	11/06/18 07:29	11/08/18 09:45	1
13C2 PFDA	92		25 - 150	11/06/18 07:29	11/08/18 09:45	1
13C2 PFUnA	99		25 - 150	11/06/18 07:29	11/08/18 09:45	1
13C2 PFDoA	90		25 - 150	11/06/18 07:29	11/08/18 09:45	1
13C2 PFTeDA	97		25 - 150	11/06/18 07:29	11/08/18 09:45	1
13C3 PFBS	83		25 - 150	11/06/18 07:29	11/08/18 09:45	1
18O2 PFHxS	94		25 - 150	11/06/18 07:29	11/08/18 09:45	1
13C4 PFOS	102		25 - 150	11/06/18 07:29	11/08/18 09:45	1

Lab Sample ID: LCS 320-257176/2-A

Matrix: Water

Analysis Batch: 257728

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 257176

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorohexanoic acid (PFHxA)	40.0	39.0		ng/L		97	66 - 126
Perfluoroheptanoic acid (PFHpA)	40.0	39.3		ng/L		98	66 - 126
Perfluorooctanoic acid (PFOA)	40.0	38.3		ng/L		96	64 - 124
Perfluorononanoic acid (PFNA)	40.0	42.3		ng/L		106	68 - 128
Perfluorodecanoic acid (PFDA)	40.0	41.9		ng/L		105	69 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	40.1		ng/L		100	60 - 120
Perfluorododecanoic acid (PFDoA)	40.0	38.7		ng/L		97	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	40.7		ng/L		102	72 - 132
Perfluorotetradecanoic acid (PFTeA)	40.0	37.2		ng/L		93	68 - 128
Perfluorobutanesulfonic acid (PFBS)	35.4	36.6		ng/L		104	73 - 133
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.4		ng/L		95	63 - 123

TestAmerica Sacramento

QC Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-257176/2-A

Matrix: Water

Analysis Batch: 257728

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 257176

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	37.1	37.4		ng/L		101	67 - 127

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C5 PFPeA	93		25 - 150
13C2 PFHxA	96		25 - 150
13C4 PFHpA	99		25 - 150
13C4 PFOA	99		25 - 150
13C5 PFNA	98		25 - 150
13C2 PFDA	94		25 - 150
13C2 PFUnA	96		25 - 150
13C2 PFDoA	95		25 - 150
13C2 PFTeDA	98		25 - 150
13C3 PFBS	92		25 - 150
18O2 PFHxS	98		25 - 150
13C4 PFOS	95		25 - 150

Lab Sample ID: LCSD 320-257176/3-A

Matrix: Water

Analysis Batch: 257728

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 257176

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	39.1		ng/L		98	66 - 126	0	30
Perfluoroheptanoic acid (PFHpA)	40.0	39.6		ng/L		99	66 - 126	1	30
Perfluorooctanoic acid (PFOA)	40.0	39.1		ng/L		98	64 - 124	2	30
Perfluorononanoic acid (PFNA)	40.0	39.5		ng/L		99	68 - 128	7	30
Perfluorodecanoic acid (PFDA)	40.0	46.3		ng/L		116	69 - 129	10	30
Perfluoroundecanoic acid (PFUnA)	40.0	40.9		ng/L		102	60 - 120	2	30
Perfluorododecanoic acid (PFDoA)	40.0	37.6		ng/L		94	71 - 131	3	30
Perfluorotridecanoic acid (PFTriA)	40.0	40.3		ng/L		101	72 - 132	1	30
Perfluorotetradecanoic acid (PFTeA)	40.0	34.4		ng/L		86	68 - 128	8	30
Perfluorobutanesulfonic acid (PFBS)	35.4	41.9		ng/L		118	73 - 133	13	30
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.2		ng/L		94	63 - 123	1	30
Perfluorooctanesulfonic acid (PFOS)	37.1	34.4		ng/L		93	67 - 127	8	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C5 PFPeA	91		25 - 150
13C2 PFHxA	95		25 - 150
13C4 PFHpA	96		25 - 150
13C4 PFOA	95		25 - 150
13C5 PFNA	96		25 - 150
13C2 PFDA	87		25 - 150
13C2 PFUnA	98		25 - 150

TestAmerica Sacramento

QC Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-257176/3-A

Matrix: Water

Analysis Batch: 257728

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 257176

Isotope Dilution	LCSD		Limits
	%Recovery	Qualifier	
13C2 PFDoA	93		25 - 150
13C2 PFTeDA	104		25 - 150
13C3 PFBS	85		25 - 150
18O2 PFHxS	91		25 - 150
13C4 PFOS	100		25 - 150

Lab Sample ID: MB 320-257182/1-A

Matrix: Water

Analysis Batch: 257722

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 257182

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		11/06/18 07:37	11/08/18 03:52	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		11/06/18 07:37	11/08/18 03:52	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		11/06/18 07:37	11/08/18 03:52	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		11/06/18 07:37	11/08/18 03:52	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		11/06/18 07:37	11/08/18 03:52	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		11/06/18 07:37	11/08/18 03:52	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		11/06/18 07:37	11/08/18 03:52	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		11/06/18 07:37	11/08/18 03:52	1
Perfluorotetradecanoic acid (PFTeA)	0.355	J	2.0	0.29	ng/L		11/06/18 07:37	11/08/18 03:52	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		11/06/18 07:37	11/08/18 03:52	1
Perfluorohexanesulfonic acid (PFHxS)	0.267	J	2.0	0.17	ng/L		11/06/18 07:37	11/08/18 03:52	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		11/06/18 07:37	11/08/18 03:52	1

Isotope Dilution	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C5 PFPeA	94		25 - 150	11/06/18 07:37	11/08/18 03:52	1
13C2 PFHxA	94		25 - 150	11/06/18 07:37	11/08/18 03:52	1
13C4 PFHpA	99		25 - 150	11/06/18 07:37	11/08/18 03:52	1
13C4 PFOA	100		25 - 150	11/06/18 07:37	11/08/18 03:52	1
13C5 PFNA	98		25 - 150	11/06/18 07:37	11/08/18 03:52	1
13C2 PFDA	95		25 - 150	11/06/18 07:37	11/08/18 03:52	1
13C2 PFUnA	105		25 - 150	11/06/18 07:37	11/08/18 03:52	1
13C2 PFDoA	99		25 - 150	11/06/18 07:37	11/08/18 03:52	1
13C2 PFTeDA	99		25 - 150	11/06/18 07:37	11/08/18 03:52	1
13C3 PFBS	88		25 - 150	11/06/18 07:37	11/08/18 03:52	1
18O2 PFHxS	96		25 - 150	11/06/18 07:37	11/08/18 03:52	1
13C4 PFOS	94		25 - 150	11/06/18 07:37	11/08/18 03:52	1

Lab Sample ID: LCS 320-257182/2-A

Matrix: Water

Analysis Batch: 257722

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 257182

Analyte	Spike Added	LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Perfluorohexanoic acid (PFHxA)	40.0	37.7		ng/L		94	66 - 126
Perfluoroheptanoic acid (PFHpA)	40.0	39.4		ng/L		99	66 - 126
Perfluorooctanoic acid (PFOA)	40.0	38.7		ng/L		97	64 - 124
Perfluorononanoic acid (PFNA)	40.0	39.1		ng/L		98	68 - 128
Perfluorodecanoic acid (PFDA)	40.0	40.8		ng/L		102	69 - 129

TestAmerica Sacramento

QC Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-257182/2-A

Matrix: Water

Analysis Batch: 257722

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 257182

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroundecanoic acid (PFUnA)	40.0	38.1		ng/L		95	60 - 120
Perfluorododecanoic acid (PFDoA)	40.0	40.4		ng/L		101	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	40.4		ng/L		101	72 - 132
Perfluorotetradecanoic acid (PFTeA)	40.0	37.5		ng/L		94	68 - 128
Perfluorobutanesulfonic acid (PFBS)	35.4	37.5		ng/L		106	73 - 133
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.7		ng/L		98	63 - 123
Perfluorooctanesulfonic acid (PFOS)	37.1	34.1		ng/L		92	67 - 127

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C5 PFPeA	96		25 - 150
13C2 PFHxA	99		25 - 150
13C4 PFHpA	99		25 - 150
13C4 PFOA	97		25 - 150
13C5 PFNA	102		25 - 150
13C2 PFDA	101		25 - 150
13C2 PFUnA	111		25 - 150
13C2 PFDoA	96		25 - 150
13C2 PFTeDA	101		25 - 150
13C3 PFBS	91		25 - 150
18O2 PFHxS	94		25 - 150
13C4 PFOS	102		25 - 150

Lab Sample ID: LCSD 320-257182/3-A

Matrix: Water

Analysis Batch: 257722

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 257182

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Perfluorohexanoic acid (PFHxA)	40.0	36.4		ng/L		91	66 - 126	4	30
Perfluoroheptanoic acid (PFHpA)	40.0	38.5		ng/L		96	66 - 126	2	30
Perfluorooctanoic acid (PFOA)	40.0	38.0		ng/L		95	64 - 124	2	30
Perfluorononanoic acid (PFNA)	40.0	36.9		ng/L		92	68 - 128	6	30
Perfluorodecanoic acid (PFDA)	40.0	44.1		ng/L		110	69 - 129	8	30
Perfluoroundecanoic acid (PFUnA)	40.0	36.5		ng/L		91	60 - 120	4	30
Perfluorododecanoic acid (PFDoA)	40.0	37.3		ng/L		93	71 - 131	8	30
Perfluorotridecanoic acid (PFTriA)	40.0	43.8		ng/L		110	72 - 132	8	30
Perfluorotetradecanoic acid (PFTeA)	40.0	34.2		ng/L		86	68 - 128	9	30
Perfluorobutanesulfonic acid (PFBS)	35.4	37.1		ng/L		105	73 - 133	1	30
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.9		ng/L		99	63 - 123	1	30

TestAmerica Sacramento

QC Sample Results

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-257182/3-A

Matrix: Water

Analysis Batch: 257722

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 257182

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	37.1	35.4		ng/L		95	67 - 127	4	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C5 PFPeA	90		25 - 150
13C2 PFHxA	95		25 - 150
13C4 PFHpA	98		25 - 150
13C4 PFOA	99		25 - 150
13C5 PFNA	100		25 - 150
13C2 PFDA	91		25 - 150
13C2 PFUnA	107		25 - 150
13C2 PFDoA	96		25 - 150
13C2 PFTeDA	101		25 - 150
13C3 PFBS	89		25 - 150
18O2 PFHxS	87		25 - 150
13C4 PFOS	94		25 - 150

TestAmerica Sacramento

QC Association Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

LCMS

Prep Batch: 257176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-44672-1	MW-357-65	Total/NA	Water	3535	
320-44672-2	MW-357-150	Total/NA	Water	3535	
320-44672-3	MW-311-46	Total/NA	Water	3535	
320-44672-4	MW-311-15	Total/NA	Water	3535	
320-44672-5	MW-356-90	Total/NA	Water	3535	
320-44672-6	MW-356-65	Total/NA	Water	3535	
320-44672-7	MW-356-20	Total/NA	Water	3535	
320-44672-8	MW-194B-40	Total/NA	Water	3535	
320-44672-9	MW-194A-15	Total/NA	Water	3535	
320-44672-10	MW-191B-60	Total/NA	Water	3535	
320-44672-11	MW-191A-15	Total/NA	Water	3535	
320-44672-12	EB-191A-15	Total/NA	Water	3535	
320-44672-13	MW-189B-60	Total/NA	Water	3535	
320-44672-14	MW-189A-15	Total/NA	Water	3535	
320-44672-15	MW-155A-15	Total/NA	Water	3535	
320-44672-16	MW-155B-65	Total/NA	Water	3535	
320-44672-17	MW-152B-25	Total/NA	Water	3535	
320-44672-18	MW-152A-15	Total/NA	Water	3535	
320-44672-19	MW-328-151	Total/NA	Water	3535	
320-44672-20	EB-328-151	Total/NA	Water	3535	
MB 320-257176/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-257176/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-257176/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Prep Batch: 257182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-44672-21	MW-316-56	Total/NA	Water	3535	
320-44672-22	MW-193A-15	Total/NA	Water	3535	
320-44672-23	GAC-193A-15	Total/NA	Water	3535	
320-44672-24	MW-151C-60	Total/NA	Water	3535	
320-44672-25	MW-151B-25	Total/NA	Water	3535	
320-44672-26	MW-151A-15	Total/NA	Water	3535	
320-44672-27	MW-153B-55	Total/NA	Water	3535	
320-44672-28	MW-153A-15	Total/NA	Water	3535	
320-44672-29	MW-253A-15	Total/NA	Water	3535	
320-44672-30	MW-150C-60	Total/NA	Water	3535	
320-44672-31	MW-150B-25	Total/NA	Water	3535	
320-44672-32	GAC2-150B-25	Total/NA	Water	3535	
320-44672-33	MW-293A-15	Total/NA	Water	3535	
MB 320-257182/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-257182/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-257182/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 257722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-44672-21	MW-316-56	Total/NA	Water	537 (modified)	257182
320-44672-22	MW-193A-15	Total/NA	Water	537 (modified)	257182
320-44672-23	GAC-193A-15	Total/NA	Water	537 (modified)	257182
320-44672-24	MW-151C-60	Total/NA	Water	537 (modified)	257182
320-44672-25	MW-151B-25	Total/NA	Water	537 (modified)	257182
320-44672-26	MW-151A-15	Total/NA	Water	537 (modified)	257182

TestAmerica Sacramento

QC Association Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

LCMS (Continued)

Analysis Batch: 257722 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-44672-27	MW-153B-55	Total/NA	Water	537 (modified)	257182
320-44672-28	MW-153A-15	Total/NA	Water	537 (modified)	257182
320-44672-29	MW-253A-15	Total/NA	Water	537 (modified)	257182
320-44672-30	MW-150C-60	Total/NA	Water	537 (modified)	257182
320-44672-31	MW-150B-25	Total/NA	Water	537 (modified)	257182
320-44672-32	GAC2-150B-25	Total/NA	Water	537 (modified)	257182
320-44672-33	MW-293A-15	Total/NA	Water	537 (modified)	257182
MB 320-257182/1-A	Method Blank	Total/NA	Water	537 (modified)	257182
LCS 320-257182/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	257182
LCSD 320-257182/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	257182

Analysis Batch: 257728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-44672-1	MW-357-65	Total/NA	Water	537 (modified)	257176
320-44672-2	MW-357-150	Total/NA	Water	537 (modified)	257176
320-44672-3	MW-311-46	Total/NA	Water	537 (modified)	257176
320-44672-4	MW-311-15	Total/NA	Water	537 (modified)	257176
320-44672-5	MW-356-90	Total/NA	Water	537 (modified)	257176
320-44672-6	MW-356-65	Total/NA	Water	537 (modified)	257176
320-44672-7	MW-356-20	Total/NA	Water	537 (modified)	257176
320-44672-8	MW-194B-40	Total/NA	Water	537 (modified)	257176
320-44672-9	MW-194A-15	Total/NA	Water	537 (modified)	257176
320-44672-10	MW-191B-60	Total/NA	Water	537 (modified)	257176
320-44672-11	MW-191A-15	Total/NA	Water	537 (modified)	257176
320-44672-12	EB-191A-15	Total/NA	Water	537 (modified)	257176
320-44672-13	MW-189B-60	Total/NA	Water	537 (modified)	257176
320-44672-14	MW-189A-15	Total/NA	Water	537 (modified)	257176
320-44672-15	MW-155A-15	Total/NA	Water	537 (modified)	257176
320-44672-16	MW-155B-65	Total/NA	Water	537 (modified)	257176
320-44672-17	MW-152B-25	Total/NA	Water	537 (modified)	257176
320-44672-18	MW-152A-15	Total/NA	Water	537 (modified)	257176
320-44672-19	MW-328-151	Total/NA	Water	537 (modified)	257176
320-44672-20	EB-328-151	Total/NA	Water	537 (modified)	257176
MB 320-257176/1-A	Method Blank	Total/NA	Water	537 (modified)	257176
LCS 320-257176/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	257176
LCSD 320-257176/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	257176

TestAmerica Sacramento

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-357-65

Date Collected: 10/23/18 09:47

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-1

Matrix: 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			251.5 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 10:08	JRB	TAL SAC

Client Sample ID: MW-357-150

Date Collected: 10/23/18 10:15

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-2

Matrix: 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			233.7 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 10:15	JRB	TAL SAC

Client Sample ID: MW-311-46

Date Collected: 10/23/18 11:50

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-3

Matrix: 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			244.5 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 10:23	JRB	TAL SAC

Client Sample ID: MW-311-15

Date Collected: 10/23/18 12:15

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-4

Matrix: 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			252 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 10:30	JRB	TAL SAC

Client Sample ID: MW-356-90

Date Collected: 10/23/18 13:41

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-5

Matrix: 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			250.8 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 10:38	JRB	TAL SAC

Client Sample ID: MW-356-65

Date Collected: 10/23/18 14:09

Date Received: 10/30/18 10:45

Lab Sample ID: 320-44672-6

Matrix: 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			250.8 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 10:46	JRB	TAL SAC

TestAmerica Sacramento

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-356-20

Lab Sample ID: 320-44672-7

Date Collected: 10/23/18 14:36

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			245 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 10:53	JRB	TAL SAC

Client Sample ID: MW-194B-40

Lab Sample ID: 320-44672-8

Date Collected: 10/23/18 15:45

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			248.6 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 11:08	JRB	TAL SAC

Client Sample ID: MW-194A-15

Lab Sample ID: 320-44672-9

Date Collected: 10/23/18 16:20

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			235.9 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 11:16	JRB	TAL SAC

Client Sample ID: MW-191B-60

Lab Sample ID: 320-44672-10

Date Collected: 10/23/18 10:22

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			247.8 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 11:23	JRB	TAL SAC

Client Sample ID: MW-191A-15

Lab Sample ID: 320-44672-11

Date Collected: 10/23/18 10:59

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			253.8 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 11:31	JRB	TAL SAC

Client Sample ID: EB-191A-15

Lab Sample ID: 320-44672-12

Date Collected: 10/23/18 11:20

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			261.9 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 11:38	JRB	TAL SAC

TestAmerica Sacramento

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-189B-60

Lab Sample ID: 320-44672-13

Date Collected: 10/23/18 12:45

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			245.3 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 11:46	JRB	TAL SAC

Client Sample ID: MW-189A-15

Lab Sample ID: 320-44672-14

Date Collected: 10/23/18 14:19

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			243.3 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 11:53	JRB	TAL SAC

Client Sample ID: MW-155A-15

Lab Sample ID: 320-44672-15

Date Collected: 10/23/18 15:32

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			250.4 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 12:01	JRB	TAL SAC

Client Sample ID: MW-155B-65

Lab Sample ID: 320-44672-16

Date Collected: 10/23/18 16:01

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			253.8 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 12:08	JRB	TAL SAC

Client Sample ID: MW-152B-25

Lab Sample ID: 320-44672-17

Date Collected: 10/23/18 16:55

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			253.2 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 12:16	JRB	TAL SAC

Client Sample ID: MW-152A-15

Lab Sample ID: 320-44672-18

Date Collected: 10/23/18 17:25

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			250 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 12:31	JRB	TAL SAC

TestAmerica Sacramento

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-328-151

Lab Sample ID: 320-44672-19

Date Collected: 10/24/18 10:53

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			252.5 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 12:38	JRB	TAL SAC

Client Sample ID: EB-328-151

Lab Sample ID: 320-44672-20

Date Collected: 10/24/18 13:24

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			248.2 mL	10.00 mL	257176	11/06/18 07:29	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257728	11/08/18 12:46	JRB	TAL SAC

Client Sample ID: MW-316-56

Lab Sample ID: 320-44672-21

Date Collected: 10/24/18 14:26

Matrix: Water

Date Received: 10/30/18 10:45

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	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 04:14	D1R	TAL SAC

Client Sample ID: MW-193A-15

Lab Sample ID: 320-44672-22

Date Collected: 10/24/18 15:21

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			245.8 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 04:22	D1R	TAL SAC

Client Sample ID: GAC-193A-15

Lab Sample ID: 320-44672-23

Date Collected: 10/24/18 15:40

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			258.3 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 04:29	D1R	TAL SAC

Client Sample ID: MW-151C-60

Lab Sample ID: 320-44672-24

Date Collected: 10/24/18 10:11

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			252.8 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 04:37	D1R	TAL SAC

TestAmerica Sacramento

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-151B-25

Lab Sample ID: 320-44672-25

Date Collected: 10/24/18 10:52

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			247.6 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 04:44	D1R	TAL SAC

Client Sample ID: MW-151A-15

Lab Sample ID: 320-44672-26

Date Collected: 10/24/18 11:22

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			257.1 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 04:52	D1R	TAL SAC

Client Sample ID: MW-153B-55

Lab Sample ID: 320-44672-27

Date Collected: 10/24/18 12:27

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			252.8 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 04:59	D1R	TAL SAC

Client Sample ID: MW-153A-15

Lab Sample ID: 320-44672-28

Date Collected: 10/24/18 12:58

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			257.9 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 05:14	D1R	TAL SAC

Client Sample ID: MW-253A-15

Lab Sample ID: 320-44672-29

Date Collected: 10/24/18 12:48

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			260.2 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 05:22	D1R	TAL SAC

Client Sample ID: MW-150C-60

Lab Sample ID: 320-44672-30

Date Collected: 10/24/18 13:55

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			264.5 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 05:30	D1R	TAL SAC

TestAmerica Sacramento

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Client Sample ID: MW-150B-25

Lab Sample ID: 320-44672-31

Date Collected: 10/24/18 14:27

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			250 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 05:37	D1R	TAL SAC

Client Sample ID: GAC2-150B-25

Lab Sample ID: 320-44672-32

Date Collected: 10/24/18 14:37

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			255.1 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 05:45	D1R	TAL SAC

Client Sample ID: MW-293A-15

Lab Sample ID: 320-44672-33

Date Collected: 10/24/18 15:11

Matrix: Water

Date Received: 10/30/18 10:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			258.8 mL	10.00 mL	257182	11/06/18 07:37	SK	TAL SAC
Total/NA	Analysis	537 (modified)		1			257722	11/08/18 05:52	D1R	TAL SAC

Laboratory References:

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

Accreditation/Certification Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Laboratory: TestAmerica Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	17-020	01-20-21
ANAB	DoD ELAP		L2468	01-20-21
Arizona	State Program	9	AZ0708	08-11-19
Arkansas DEQ	State Program	6	88-0691	06-17-19
California	State Program	9	2897	01-31-19
Colorado	State Program	8	CA00044	08-31-19
Connecticut	State Program	1	PH-0691	06-30-19
Florida	NELAP	4	E87570	06-30-19
Georgia	State Program	4	N/A	01-28-19
Hawaii	State Program	9	N/A	01-29-19
Illinois	NELAP	5	200060	03-17-19
Kansas	NELAP	7	E-10375	11-30-18
Louisiana	NELAP	6	30612	06-30-19
Maine	State Program	1	CA0004	04-14-20
Michigan	State Program	5	9947	01-31-20
Nevada	State Program	9	CA00044	07-31-19
New Hampshire	NELAP	1	2997	04-18-19
New Jersey	NELAP	2	CA005	06-30-19
New York	NELAP	2	11666	03-31-19
Oregon	NELAP	10	4040	01-29-19
Pennsylvania	NELAP	3	68-01272	03-31-19
Texas	NELAP	6	T104704399	05-31-19
US Fish & Wildlife	Federal		LE148388-0	07-31-19
USDA	Federal		P330-18-00239	01-17-21
USEPA UCMR	Federal	1	CA00044	12-31-20
Utah	NELAP	8	CA00044	02-28-19
Vermont	State Program	1	VT-4040	04-30-19
Virginia	NELAP	3	460278	03-14-19
Washington	State Program	10	C581	05-05-19
West Virginia (DW)	State Program	3	9930C	12-31-18
Wyoming	State Program	8	8TMS-L	01-28-19

Method Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Sample Summary

Client: Shannon & Wilson, Inc
Project/Site: 2018 PFAS Phase II

TestAmerica Job ID: 320-44672-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-44672-1	MW-357-65	Water	10/23/18 09:47	10/30/18 10:45
320-44672-2	MW-357-150	Water	10/23/18 10:15	10/30/18 10:45
320-44672-3	MW-311-46	Water	10/23/18 11:50	10/30/18 10:45
320-44672-4	MW-311-15	Water	10/23/18 12:15	10/30/18 10:45
320-44672-5	MW-356-90	Water	10/23/18 13:41	10/30/18 10:45
320-44672-6	MW-356-65	Water	10/23/18 14:09	10/30/18 10:45
320-44672-7	MW-356-20	Water	10/23/18 14:36	10/30/18 10:45
320-44672-8	MW-194B-40	Water	10/23/18 15:45	10/30/18 10:45
320-44672-9	MW-194A-15	Water	10/23/18 16:20	10/30/18 10:45
320-44672-10	MW-191B-60	Water	10/23/18 10:22	10/30/18 10:45
320-44672-11	MW-191A-15	Water	10/23/18 10:59	10/30/18 10:45
320-44672-12	EB-191A-15	Water	10/23/18 11:20	10/30/18 10:45
320-44672-13	MW-189B-60	Water	10/23/18 12:45	10/30/18 10:45
320-44672-14	MW-189A-15	Water	10/23/18 14:19	10/30/18 10:45
320-44672-15	MW-155A-15	Water	10/23/18 15:32	10/30/18 10:45
320-44672-16	MW-155B-65	Water	10/23/18 16:01	10/30/18 10:45
320-44672-17	MW-152B-25	Water	10/23/18 16:55	10/30/18 10:45
320-44672-18	MW-152A-15	Water	10/23/18 17:25	10/30/18 10:45
320-44672-19	MW-328-151	Water	10/24/18 10:53	10/30/18 10:45
320-44672-20	EB-328-151	Water	10/24/18 13:24	10/30/18 10:45
320-44672-21	MW-316-56	Water	10/24/18 14:26	10/30/18 10:45
320-44672-22	MW-193A-15	Water	10/24/18 15:21	10/30/18 10:45
320-44672-23	GAC-193A-15	Water	10/24/18 15:40	10/30/18 10:45
320-44672-24	MW-151C-60	Water	10/24/18 10:11	10/30/18 10:45
320-44672-25	MW-151B-25	Water	10/24/18 10:52	10/30/18 10:45
320-44672-26	MW-151A-15	Water	10/24/18 11:22	10/30/18 10:45
320-44672-27	MW-153B-55	Water	10/24/18 12:27	10/30/18 10:45
320-44672-28	MW-153A-15	Water	10/24/18 12:58	10/30/18 10:45
320-44672-29	MW-253A-15	Water	10/24/18 12:48	10/30/18 10:45
320-44672-30	MW-150C-60	Water	10/24/18 13:55	10/30/18 10:45
320-44672-31	MW-150B-25	Water	10/24/18 14:27	10/30/18 10:45
320-44672-32	GAC2-150B-25	Water	10/24/18 14:37	10/30/18 10:45
320-44672-33	MW-293A-15	Water	10/24/18 15:11	10/30/18 10:45

TestAmerica Sacramento

CHAIN-OF-CUSTODY RECORD

Page 1 of 4
Laboratory Test America
Attn: David

Analytical Methods (include preservative if used)

Turn Around Time:
☒ Normal ☐ Rush
Please Specify

Quote No:

J-Flags: ☐ Yes ☐ No

Sample Identity	Lab No.	Time	Date Sampled	PFAS EPA 537 x12 Analytes				Total Number of Containers	Remarks/Matrix Composition/Grab? Sample Containers
MW-357-65		9:47	10/23/18	X				2	Groundwater
MW-357-150		10:15							
MW-311-46		11:50							
MW-311-15		12:15							
MW-356-90		13:41							
MW-356-65		14:09							
MW-356-20		14:36							
MW-194B-40		15:45							
MW-194A-15		16:20							
MW-191B-60		10:22							



320-44672 Chain of Custody

Project Information Number: <u>101965-001</u> Name: <u>2018 PFAS Phase II</u> Contact: <u>SMH</u> Ongoing Project? Yes ☒ No ☐ Sampler: <u>KLC, CAB</u>		Sample Receipt Total No. of Containers: <u>66</u> COC Seals Intact? <u>Y/N/NA</u> <u>yes</u> Received Good Cond./Cold <u>yes</u> Temp: <u>2.6°C</u> Delivery Method: <u>Goldstreak</u>		Relinquished By: 1. Signature: <u>[Signature]</u> Time: <u>15:00</u> Printed Name: <u>Sheila Hinckley</u> Date: <u>10/23/18</u> Company: <u>Shannon & Wilson, Inc.</u>		Relinquished By: 2. Signature: _____ Time: _____ Printed Name: _____ Date: _____ Company: _____		Relinquished By: 3. Signature: _____ Time: _____ Printed Name: _____ Date: _____ Company: _____	
Notes: <u>Bill to SWI</u>		Received By: 1. Signature: <u>[Signature]</u> Time: <u>14:15</u> Printed Name: <u>David</u> Date: <u>10/30/18</u> Company: <u>Test America</u>		Received By: 2. Signature: _____ Time: _____ Printed Name: _____ Date: _____ Company: _____		Received By: 3. Signature: _____ Time: _____ Printed Name: _____ Date: _____ Company: _____			

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

No. 35637

CHAIN-OF-CUSTODY RECORD

Page 2 of 4
 Laboratory Test America
 Attn: David

Analytical Methods (include preservative if used)

Turn Around Time:
☒ Normal ☐ Rush
 Please Specify

Quote No:
J-Flags: ☐ Yes ☐ No

Sample Identity	Lab No.	Time	Date Sampled	Analytical Methods (include preservative if used)					Total Number of Containers	Remarks/Matrix Composition/Grab? Sample Containers
MW-191A-15		10:59	10/23/18	X					2	Groundwater
EB-191A-15		11:20								
MW-189B-60		12:45								
MW-189A-15		14:19								
MW-155A-15		15:32								
MW-155B-65		16:01								
MW-152B-25		16:55								
MW-152A-15		17:25								
MW-328-151		10:53	10/24/18							
EB-328-151		13:24								

Project Information		Sample Receipt		Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.	
Number:		Total No. of Containers:		Signature:	Time: 1500	Signature:	Time:	Signature:	Time:
Name:		COC Seal Intact? Y/N/NA		Printed Name:	Date: 10/24/18	Printed Name:	Date:	Printed Name:	Date:
Contact:		Received Good Cond./Cold		Company:	Shannon & Wilson, Inc.	Company:		Company:	
Ongoing Project? Yes ☐ No ☐		Temp:							
Sampler:		Delivery Method:							
Notes:				Received By: 1.		Received By: 2.		Received By: 3.	
see page 1				Signature:	Time: 1045	Signature:	Time:	Signature:	Time:
				Printed Name:	Date: 10/24/18	Printed Name:	Date:	Printed Name:	Date:
				Company:	AA-Sac	Company:		Company:	

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
 Yellow - w/shipment - for consignee files
 Pink - Shannon & Wilson - job file

400 N. 34th Street, Suite 100
Seattle, WA 98103
(206) 632-8020

2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600

2255 S.W. Canyon Road
Portland, OR 97201-2498
(503) 223-6147

2043 Westport Center Drive
St. Louis, MO 63146-3564
(314) 699-9660

5430 Fairbanks Street, Suite 3
Anchorage, AK 99518
(907) 561-2120

1321 Bannock Street, Suite 200
Denver, CO 80204
(303) 825-3800

CHAIN-OF-CUSTODY RECORD

2705 Saint Andrews Loop, Suite A
Pasco, WA 99301-3378
(509) 946-6309

Page 3 of 4
Laboratory Test America
Attn: David

Analysis Parameters/Sample Container Description
(include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	Comp	Grab	PFAS EPA 537	H2 Analytes	Total Number of Containers	Remarks/Matrix
MW-316-56		14:26	10/24/18			X		2	Groundwater
MW-193A-15		15:21							
MW-193A-15		15:44							
GAC193A-15		15:40							
MW-151C-60		10:11							
MW-151B-25		10:52							
MW-151A-15		11:22							
MW-153B-55		12:27							
MW-153A-15		12:58							
MW-253A-15		12:48							

Project Information	Sample Receipt
Project Number:	Total Number of Containers
Project Name:	DOC Seals/Intact? Y/N/NA
Contact:	Received Good Cond./Cold
Ongoing Project? Yes ☐ No ☐	Delivery Method:
Sampler:	(attach shipping bill, if any)

Instructions
Requested Turnaround Time:
Special Instructions:

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - Job File

Relinquished By: 1.	Relinquished By: 2.	Relinquished By: 3.
Signature: <u>[Signature]</u> Time: <u>15:50</u>	Signature: _____ Time: _____	Signature: _____ Time: _____
Printed Name: <u>Sheila Hinckley</u> Date: <u>10/24/18</u>	Printed Name: _____ Date: _____	Printed Name: _____ Date: _____
Company: <u>Shannon & Wilson, Inc.</u>	Company: _____	Company: _____
Received By: 1.	Received By: 2.	Received By: 3.
Signature: <u>[Signature]</u> Time: <u>16:45</u>	Signature: _____ Time: _____	Signature: _____ Time: _____
Printed Name: <u>David H</u> Date: <u>10/30/18</u>	Printed Name: _____ Date: _____	Printed Name: _____ Date: _____
Company: <u>IASe</u>	Company: _____	Company: _____

No. 34278

CHAIN-OF-CUSTODY RECORD

Page 4 of 4
Laboratory Test America
Attn: David

Analytical Methods (include preservative if used)

Turn Around Time:
☒ Normal ☐ Rush
Please Specify

Quote No:

J-Flags: ☐ Yes ☐ No

Sample Identity	Lab No.	Time	Date Sampled	Analytical Methods (include preservative if used)					Total Number of Containers	Remarks/Matrix Composition/Grab? Sample Containers
MW-150C-60		13:55	6/24/18	X					2	Groundwater
MW-150B-25		14:27	↓	↓					↓	↓
GAC2-150B-25		14:37	↓	↓					↓	↓
MW-293A-15		15:11	10/24/18							

Project Information		Sample Receipt		Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.	
Number:		Total No. of Containers:		Signature:	Time: 1500	Signature:	Time:	Signature:	Time:
Name:		COC Seals/Intact? Y/N/NA		Printed Name:	Date: 10/29/18	Printed Name:	Date:	Printed Name:	Date:
Contact:		Received Good Cond./Cold		Company:	Shannon & Wilson, Inc.	Company:		Company:	
Ongoing Project? Yes ☐ No ☐		Temp:							
Sampler:		Delivery Method:							
Notes:				Received By: 1.		Received By: 2.		Received By: 3.	
see page 1		Signature:	Time: 1645	Signature:	Time:	Signature:	Time:		
		Printed Name:	Date: 10/30/18	Printed Name:	Date:	Printed Name:	Date:		
		Company:		Company:		Company:			

Distribution: White - w/shipment - returned to Shannon & Wilson w/ laboratory report
Yellow - w/shipment - for consignee files
Pink - Shannon & Wilson - job file

Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-44672-1

Login Number: 44672

List Source: TestAmerica Sacramento

List Number: 1

Creator: Gooch, Mayce

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ 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?	True	
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 $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	