

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Sacramento

880 Riverside Parkway

West Sacramento, CA 95605

Tel: (916)373-5600

TestAmerica Job ID: 320-48065-1

Client Project/Site: Dillingham

For:

Shannon & Wilson, Inc

2355 Hill Rd.

Fairbanks, Alaska 99709-5244

Attn: Amber Masters



Authorized for release by:

3/14/2019 12:51:59 PM

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 9

Isotope Dilution Summary 32

QC Sample Results 33

QC Association Summary 36

Lab Chronicle 38

Certification Summary 42

Method Summary 43

Sample Summary 44

Chain of Custody 45

Receipt Checklists 48



Definitions/Glossary

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Qualifiers

LCMS

Qualifier	Qualifier Description
I	Value is EMPC (estimated maximum possible concentration).
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: PFAS

TestAmerica Job ID: 320-48065-1

Job ID: 320-48065-1

Laboratory: TestAmerica Sacramento

Narrative

Job Narrative 320-48065-1

Receipt

The samples were received on 3/5/2019 11:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

LCMS

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

Organic Prep

Method(s) PFAS Prep: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-280411.

Method(s) PFAS Prep: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-280414.

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: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191240

Lab Sample ID: 320-48065-1

No Detections.

Client Sample ID: 191320

Lab Sample ID: 320-48065-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	10		2.0	0.92	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15		2.0	0.87	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluoroheptanoic acid (PFHpA)	13		2.0	0.80	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanoic acid (PFOA)	13		2.0	0.75	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	43		2.0	1.3	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorononanoic acid (PFNA)	2.8		2.0	0.65	ng/L	1			WS-LC-0025 At1	Total/NA

Client Sample ID: 291320

Lab Sample ID: 320-48065-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	14		2.0	0.92	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15		2.0	0.87	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluoroheptanoic acid (PFHpA)	13		2.0	0.80	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanoic acid (PFOA)	12		2.0	0.75	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	38		2.0	1.3	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorononanoic acid (PFNA)	2.9		2.0	0.65	ng/L	1			WS-LC-0025 At1	Total/NA

Client Sample ID: 191210.1

Lab Sample ID: 320-48065-4

No Detections.

Client Sample ID: 191210

Lab Sample ID: 320-48065-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	5.0		2.0	1.3	ng/L	1			WS-LC-0025 At1	Total/NA

Client Sample ID: 191290

Lab Sample ID: 320-48065-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	0.87	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.9		2.0	0.80	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanoic acid (PFOA)	3.7		2.0	0.75	ng/L	1			WS-LC-0025 At1	Total/NA

Client Sample ID: 191710

Lab Sample ID: 320-48065-7

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191710 (Continued)

Lab Sample ID: 320-48065-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	48		2.0	0.92	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	140		2.0	0.87	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluoroheptanoic acid (PFHpA)	24		2.0	0.80	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanoic acid (PFOA)	25		2.0	0.75	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	64		2.0	1.3	ng/L	1			WS-LC-0025 At1	Total/NA

Client Sample ID: 191170

Lab Sample ID: 320-48065-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.93	J	2.0	0.80	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanoic acid (PFOA)	1.6	J	2.0	0.75	ng/L	1			WS-LC-0025 At1	Total/NA

Client Sample ID: 291170

Lab Sample ID: 320-48065-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.76	J	2.0	0.75	ng/L	1			WS-LC-0025 At1	Total/NA

Client Sample ID: 191300

Lab Sample ID: 320-48065-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	1.9	J I	2.0	0.92	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	7.6		2.0	0.87	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluoroheptanoic acid (PFHpA)	39		2.0	0.80	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanoic acid (PFOA)	36		2.0	0.75	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.7		2.0	1.3	ng/L	1			WS-LC-0025 At1	Total/NA

Client Sample ID: 191720

Lab Sample ID: 320-48065-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	47		2.0	0.92	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	140		2.0	0.87	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluoroheptanoic acid (PFHpA)	22		2.0	0.80	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanoic acid (PFOA)	22		2.0	0.75	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	58		2.0	1.3	ng/L	1			WS-LC-0025 At1	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 171260

Lab Sample ID: 320-48065-12

No Detections.

Client Sample ID: 191280

Lab Sample ID: 320-48065-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	1.8	J	2.0	0.87	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.2		2.0	0.80	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanoic acid (PFOA)	2.6		2.0	0.75	ng/L	1			WS-LC-0025 At1	Total/NA

Client Sample ID: 191700

Lab Sample ID: 320-48065-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	34		2.0	0.92	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	88		2.0	0.87	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluoroheptanoic acid (PFHpA)	16		2.0	0.80	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanoic acid (PFOA)	15		2.0	0.75	ng/L	1			WS-LC-0025 At1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	37		2.0	1.3	ng/L	1			WS-LC-0025 At1	Total/NA

Client Sample ID: 171240

Lab Sample ID: 320-48065-15

No Detections.

Client Sample ID: 171180

Lab Sample ID: 320-48065-16

No Detections.

Client Sample ID: 200070

Lab Sample ID: 320-48065-17

No Detections.

Client Sample ID: 200040

Lab Sample ID: 320-48065-18

No Detections.

Client Sample ID: 171410

Lab Sample ID: 320-48065-19

No Detections.

Client Sample ID: 171400

Lab Sample ID: 320-48065-20

No Detections.

Client Sample ID: 171270

Lab Sample ID: 320-48065-21

No Detections.

Client Sample ID: 162620

Lab Sample ID: 320-48065-22

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Detection Summary

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 162620 (Continued)

Lab Sample ID: 320-48065-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	1.1	J	2.0	0.87	ng/L	1		WS-LC-0025 At1	Total/NA

Client Sample ID: 162620-POST

Lab Sample ID: 320-48065-23

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191240

Date Collected: 02/26/19 15:19

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-1

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:21	03/09/19 18:29	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:21	03/09/19 18:29	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:21	03/09/19 18:29	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:21	03/09/19 18:29	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:21	03/09/19 18:29	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:21	03/09/19 18:29	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	102		25 - 150				03/08/19 11:21	03/09/19 18:29	1
13C4 PFHpA	104		25 - 150				03/08/19 11:21	03/09/19 18:29	1
13C4 PFOA	103		25 - 150				03/08/19 11:21	03/09/19 18:29	1
13C4 PFOS	90		25 - 150				03/08/19 11:21	03/09/19 18:29	1
13C5 PFNA	102		25 - 150				03/08/19 11:21	03/09/19 18:29	1
13C3 PFBS	94		25 - 150				03/08/19 11:21	03/09/19 18:29	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191320

Date Collected: 02/26/19 12:46

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-2

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	10		2.0	0.92	ng/L		03/08/19 11:21	03/09/19 18:48	1
Perfluorohexanesulfonic acid (PFHxS)	15		2.0	0.87	ng/L		03/08/19 11:21	03/09/19 18:48	1
Perfluoroheptanoic acid (PFHpA)	13		2.0	0.80	ng/L		03/08/19 11:21	03/09/19 18:48	1
Perfluorooctanoic acid (PFOA)	13		2.0	0.75	ng/L		03/08/19 11:21	03/09/19 18:48	1
Perfluorooctanesulfonic acid (PFOS)	43		2.0	1.3	ng/L		03/08/19 11:21	03/09/19 18:48	1
Perfluorononanoic acid (PFNA)	2.8		2.0	0.65	ng/L		03/08/19 11:21	03/09/19 18:48	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	98		25 - 150				03/08/19 11:21	03/09/19 18:48	1
13C4 PFHpA	101		25 - 150				03/08/19 11:21	03/09/19 18:48	1
13C4 PFOA	99		25 - 150				03/08/19 11:21	03/09/19 18:48	1
13C4 PFOS	93		25 - 150				03/08/19 11:21	03/09/19 18:48	1
13C5 PFNA	94		25 - 150				03/08/19 11:21	03/09/19 18:48	1
13C3 PFBS	92		25 - 150				03/08/19 11:21	03/09/19 18:48	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 291320

Date Collected: 02/26/19 12:36

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-3

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	14		2.0	0.92	ng/L		03/08/19 11:21	03/09/19 19:06	1
Perfluorohexanesulfonic acid (PFHxS)	15		2.0	0.87	ng/L		03/08/19 11:21	03/09/19 19:06	1
Perfluoroheptanoic acid (PFHpA)	13		2.0	0.80	ng/L		03/08/19 11:21	03/09/19 19:06	1
Perfluorooctanoic acid (PFOA)	12		2.0	0.75	ng/L		03/08/19 11:21	03/09/19 19:06	1
Perfluorooctanesulfonic acid (PFOS)	38		2.0	1.3	ng/L		03/08/19 11:21	03/09/19 19:06	1
Perfluorononanoic acid (PFNA)	2.9		2.0	0.65	ng/L		03/08/19 11:21	03/09/19 19:06	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	96		25 - 150				03/08/19 11:21	03/09/19 19:06	1
13C4 PFHpA	97		25 - 150				03/08/19 11:21	03/09/19 19:06	1
13C4 PFOA	97		25 - 150				03/08/19 11:21	03/09/19 19:06	1
13C4 PFOS	95		25 - 150				03/08/19 11:21	03/09/19 19:06	1
13C5 PFNA	99		25 - 150				03/08/19 11:21	03/09/19 19:06	1
13C3 PFBS	93		25 - 150				03/08/19 11:21	03/09/19 19:06	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191210.1

Date Collected: 02/26/19 11:45

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-4

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:21	03/09/19 19:25	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:21	03/09/19 19:25	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:21	03/09/19 19:25	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:21	03/09/19 19:25	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:21	03/09/19 19:25	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:21	03/09/19 19:25	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	97		25 - 150				03/08/19 11:21	03/09/19 19:25	1
13C4 PFHpA	103		25 - 150				03/08/19 11:21	03/09/19 19:25	1
13C4 PFOA	99		25 - 150				03/08/19 11:21	03/09/19 19:25	1
13C4 PFOS	95		25 - 150				03/08/19 11:21	03/09/19 19:25	1
13C5 PFNA	100		25 - 150				03/08/19 11:21	03/09/19 19:25	1
13C3 PFBS	93		25 - 150				03/08/19 11:21	03/09/19 19:25	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191210

Date Collected: 02/26/19 11:11

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-5

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:21	03/09/19 19:43	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:21	03/09/19 19:43	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:21	03/09/19 19:43	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:21	03/09/19 19:43	1
Perfluorooctanesulfonic acid (PFOS)	5.0		2.0	1.3	ng/L		03/08/19 11:21	03/09/19 19:43	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:21	03/09/19 19:43	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	95		25 - 150				03/08/19 11:21	03/09/19 19:43	1
13C4 PFHpA	96		25 - 150				03/08/19 11:21	03/09/19 19:43	1
13C4 PFOA	93		25 - 150				03/08/19 11:21	03/09/19 19:43	1
13C4 PFOS	93		25 - 150				03/08/19 11:21	03/09/19 19:43	1
13C5 PFNA	97		25 - 150				03/08/19 11:21	03/09/19 19:43	1
13C3 PFBS	83		25 - 150				03/08/19 11:21	03/09/19 19:43	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191290

Date Collected: 02/27/19 10:00

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-6

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:21	03/09/19 20:20	1
Perfluorohexanesulfonic acid (PFHxS)	2.4		2.0	0.87	ng/L		03/08/19 11:21	03/09/19 20:20	1
Perfluoroheptanoic acid (PFHpA)	3.9		2.0	0.80	ng/L		03/08/19 11:21	03/09/19 20:20	1
Perfluorooctanoic acid (PFOA)	3.7		2.0	0.75	ng/L		03/08/19 11:21	03/09/19 20:20	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:21	03/09/19 20:20	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:21	03/09/19 20:20	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	107		25 - 150				03/08/19 11:21	03/09/19 20:20	1
13C4 PFHpA	106		25 - 150				03/08/19 11:21	03/09/19 20:20	1
13C4 PFOA	104		25 - 150				03/08/19 11:21	03/09/19 20:20	1
13C4 PFOS	101		25 - 150				03/08/19 11:21	03/09/19 20:20	1
13C5 PFNA	108		25 - 150				03/08/19 11:21	03/09/19 20:20	1
13C3 PFBS	101		25 - 150				03/08/19 11:21	03/09/19 20:20	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191710
Date Collected: 02/27/19 15:14
Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-7
Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	48		2.0	0.92	ng/L		03/08/19 11:21	03/09/19 20:38	1
Perfluorohexanesulfonic acid (PFHxS)	140		2.0	0.87	ng/L		03/08/19 11:21	03/09/19 20:38	1
Perfluoroheptanoic acid (PFHpA)	24		2.0	0.80	ng/L		03/08/19 11:21	03/09/19 20:38	1
Perfluorooctanoic acid (PFOA)	25		2.0	0.75	ng/L		03/08/19 11:21	03/09/19 20:38	1
Perfluorooctanesulfonic acid (PFOS)	64		2.0	1.3	ng/L		03/08/19 11:21	03/09/19 20:38	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:21	03/09/19 20:38	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	99		25 - 150				03/08/19 11:21	03/09/19 20:38	1
13C4 PFHpA	99		25 - 150				03/08/19 11:21	03/09/19 20:38	1
13C4 PFOA	97		25 - 150				03/08/19 11:21	03/09/19 20:38	1
13C4 PFOS	96		25 - 150				03/08/19 11:21	03/09/19 20:38	1
13C5 PFNA	102		25 - 150				03/08/19 11:21	03/09/19 20:38	1
13C3 PFBS	93		25 - 150				03/08/19 11:21	03/09/19 20:38	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191170

Date Collected: 02/27/19 16:39

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-8

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:21	03/09/19 20:57	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:21	03/09/19 20:57	1
Perfluoroheptanoic acid (PFHpA)	0.93	J	2.0	0.80	ng/L		03/08/19 11:21	03/09/19 20:57	1
Perfluorooctanoic acid (PFOA)	1.6	J	2.0	0.75	ng/L		03/08/19 11:21	03/09/19 20:57	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:21	03/09/19 20:57	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:21	03/09/19 20:57	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	98		25 - 150				03/08/19 11:21	03/09/19 20:57	1
13C4 PFHpA	100		25 - 150				03/08/19 11:21	03/09/19 20:57	1
13C4 PFOA	95		25 - 150				03/08/19 11:21	03/09/19 20:57	1
13C4 PFOS	90		25 - 150				03/08/19 11:21	03/09/19 20:57	1
13C5 PFNA	99		25 - 150				03/08/19 11:21	03/09/19 20:57	1
13C3 PFBS	92		25 - 150				03/08/19 11:21	03/09/19 20:57	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 291170
Date Collected: 02/27/19 16:29
Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-9
Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/09/19 22:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:26	03/09/19 22:48	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/09/19 22:48	1
Perfluorooctanoic acid (PFOA)	0.76	J	2.0	0.75	ng/L		03/08/19 11:26	03/09/19 22:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/09/19 22:48	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/09/19 22:48	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	95		25 - 150				03/08/19 11:26	03/09/19 22:48	1
13C4 PFHpA	103		25 - 150				03/08/19 11:26	03/09/19 22:48	1
13C4 PFOA	95		25 - 150				03/08/19 11:26	03/09/19 22:48	1
13C4 PFOS	89		25 - 150				03/08/19 11:26	03/09/19 22:48	1
13C5 PFNA	97		25 - 150				03/08/19 11:26	03/09/19 22:48	1
13C3 PFBS	88		25 - 150				03/08/19 11:26	03/09/19 22:48	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191300

Date Collected: 02/27/19 17:35

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-10

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	1.9	J I	2.0	0.92	ng/L		03/08/19 11:26	03/09/19 23:06	1
Perfluorohexanesulfonic acid (PFHxS)	7.6		2.0	0.87	ng/L		03/08/19 11:26	03/09/19 23:06	1
Perfluoroheptanoic acid (PFHpA)	39		2.0	0.80	ng/L		03/08/19 11:26	03/09/19 23:06	1
Perfluorooctanoic acid (PFOA)	36		2.0	0.75	ng/L		03/08/19 11:26	03/09/19 23:06	1
Perfluorooctanesulfonic acid (PFOS)	2.7		2.0	1.3	ng/L		03/08/19 11:26	03/09/19 23:06	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/09/19 23:06	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	101		25 - 150				03/08/19 11:26	03/09/19 23:06	1
13C4 PFHpA	98		25 - 150				03/08/19 11:26	03/09/19 23:06	1
13C4 PFOA	93		25 - 150				03/08/19 11:26	03/09/19 23:06	1
13C4 PFOS	91		25 - 150				03/08/19 11:26	03/09/19 23:06	1
13C5 PFNA	102		25 - 150				03/08/19 11:26	03/09/19 23:06	1
13C3 PFBS	97		25 - 150				03/08/19 11:26	03/09/19 23:06	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191720

Date Collected: 02/28/19 10:40

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-11

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	47		2.0	0.92	ng/L		03/08/19 11:26	03/09/19 23:24	1
Perfluorohexanesulfonic acid (PFHxS)	140		2.0	0.87	ng/L		03/08/19 11:26	03/09/19 23:24	1
Perfluoroheptanoic acid (PFHpA)	22		2.0	0.80	ng/L		03/08/19 11:26	03/09/19 23:24	1
Perfluorooctanoic acid (PFOA)	22		2.0	0.75	ng/L		03/08/19 11:26	03/09/19 23:24	1
Perfluorooctanesulfonic acid (PFOS)	58		2.0	1.3	ng/L		03/08/19 11:26	03/09/19 23:24	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/09/19 23:24	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	98		25 - 150				03/08/19 11:26	03/09/19 23:24	1
13C4 PFHpA	106		25 - 150				03/08/19 11:26	03/09/19 23:24	1
13C4 PFOA	96		25 - 150				03/08/19 11:26	03/09/19 23:24	1
13C4 PFOS	97		25 - 150				03/08/19 11:26	03/09/19 23:24	1
13C5 PFNA	102		25 - 150				03/08/19 11:26	03/09/19 23:24	1
13C3 PFBS	94		25 - 150				03/08/19 11:26	03/09/19 23:24	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 171260

Date Collected: 02/28/19 13:50

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-12

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/09/19 23:43	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:26	03/09/19 23:43	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/09/19 23:43	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:26	03/09/19 23:43	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/09/19 23:43	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/09/19 23:43	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	101		25 - 150				03/08/19 11:26	03/09/19 23:43	1
13C4 PFHpA	104		25 - 150				03/08/19 11:26	03/09/19 23:43	1
13C4 PFOA	100		25 - 150				03/08/19 11:26	03/09/19 23:43	1
13C4 PFOS	96		25 - 150				03/08/19 11:26	03/09/19 23:43	1
13C5 PFNA	91		25 - 150				03/08/19 11:26	03/09/19 23:43	1
13C3 PFBS	95		25 - 150				03/08/19 11:26	03/09/19 23:43	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191280

Date Collected: 02/28/19 15:23

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-13

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/10/19 00:01	1
Perfluorohexanesulfonic acid (PFHxS)	1.8	J	2.0	0.87	ng/L		03/08/19 11:26	03/10/19 00:01	1
Perfluoroheptanoic acid (PFHpA)	2.2		2.0	0.80	ng/L		03/08/19 11:26	03/10/19 00:01	1
Perfluorooctanoic acid (PFOA)	2.6		2.0	0.75	ng/L		03/08/19 11:26	03/10/19 00:01	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/10/19 00:01	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/10/19 00:01	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	104		25 - 150				03/08/19 11:26	03/10/19 00:01	1
13C4 PFHpA	106		25 - 150				03/08/19 11:26	03/10/19 00:01	1
13C4 PFOA	100		25 - 150				03/08/19 11:26	03/10/19 00:01	1
13C4 PFOS	98		25 - 150				03/08/19 11:26	03/10/19 00:01	1
13C5 PFNA	104		25 - 150				03/08/19 11:26	03/10/19 00:01	1
13C3 PFBS	97		25 - 150				03/08/19 11:26	03/10/19 00:01	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191700

Date Collected: 02/28/19 16:50

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-14

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	34		2.0	0.92	ng/L		03/08/19 11:26	03/10/19 00:20	1
Perfluorohexanesulfonic acid (PFHxS)	88		2.0	0.87	ng/L		03/08/19 11:26	03/10/19 00:20	1
Perfluoroheptanoic acid (PFHpA)	16		2.0	0.80	ng/L		03/08/19 11:26	03/10/19 00:20	1
Perfluorooctanoic acid (PFOA)	15		2.0	0.75	ng/L		03/08/19 11:26	03/10/19 00:20	1
Perfluorooctanesulfonic acid (PFOS)	37		2.0	1.3	ng/L		03/08/19 11:26	03/10/19 00:20	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/10/19 00:20	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	95		25 - 150				03/08/19 11:26	03/10/19 00:20	1
13C4 PFHpA	101		25 - 150				03/08/19 11:26	03/10/19 00:20	1
13C4 PFOA	103		25 - 150				03/08/19 11:26	03/10/19 00:20	1
13C4 PFOS	93		25 - 150				03/08/19 11:26	03/10/19 00:20	1
13C5 PFNA	99		25 - 150				03/08/19 11:26	03/10/19 00:20	1
13C3 PFBS	92		25 - 150				03/08/19 11:26	03/10/19 00:20	1

TestAmerica Sacramento

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 171240

Date Collected: 02/28/19 17:46

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-15

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/10/19 00:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:26	03/10/19 00:38	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/10/19 00:38	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:26	03/10/19 00:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/10/19 00:38	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/10/19 00:38	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	92		25 - 150				03/08/19 11:26	03/10/19 00:38	1
13C4 PFHpA	97		25 - 150				03/08/19 11:26	03/10/19 00:38	1
13C4 PFOA	92		25 - 150				03/08/19 11:26	03/10/19 00:38	1
13C4 PFOS	93		25 - 150				03/08/19 11:26	03/10/19 00:38	1
13C5 PFNA	101		25 - 150				03/08/19 11:26	03/10/19 00:38	1
13C3 PFBS	89		25 - 150				03/08/19 11:26	03/10/19 00:38	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 171180

Date Collected: 02/28/19 18:50

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-16

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/10/19 01:15	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:26	03/10/19 01:15	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/10/19 01:15	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:26	03/10/19 01:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/10/19 01:15	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/10/19 01:15	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	107		25 - 150				03/08/19 11:26	03/10/19 01:15	1
13C4 PFHpA	108		25 - 150				03/08/19 11:26	03/10/19 01:15	1
13C4 PFOA	106		25 - 150				03/08/19 11:26	03/10/19 01:15	1
13C4 PFOS	104		25 - 150				03/08/19 11:26	03/10/19 01:15	1
13C5 PFNA	101		25 - 150				03/08/19 11:26	03/10/19 01:15	1
13C3 PFBS	98		25 - 150				03/08/19 11:26	03/10/19 01:15	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 200070

Date Collected: 03/01/19 18:56

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-17

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/10/19 01:34	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:26	03/10/19 01:34	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/10/19 01:34	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:26	03/10/19 01:34	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/10/19 01:34	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/10/19 01:34	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	102		25 - 150				03/08/19 11:26	03/10/19 01:34	1
13C4 PFHpA	106		25 - 150				03/08/19 11:26	03/10/19 01:34	1
13C4 PFOA	98		25 - 150				03/08/19 11:26	03/10/19 01:34	1
13C4 PFOS	99		25 - 150				03/08/19 11:26	03/10/19 01:34	1
13C5 PFNA	105		25 - 150				03/08/19 11:26	03/10/19 01:34	1
13C3 PFBS	97		25 - 150				03/08/19 11:26	03/10/19 01:34	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 200040

Date Collected: 03/02/19 10:05

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-18

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/10/19 01:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:26	03/10/19 01:52	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/10/19 01:52	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:26	03/10/19 01:52	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/10/19 01:52	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/10/19 01:52	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	106		25 - 150				03/08/19 11:26	03/10/19 01:52	1
13C4 PFHpA	106		25 - 150				03/08/19 11:26	03/10/19 01:52	1
13C4 PFOA	107		25 - 150				03/08/19 11:26	03/10/19 01:52	1
13C4 PFOS	101		25 - 150				03/08/19 11:26	03/10/19 01:52	1
13C5 PFNA	104		25 - 150				03/08/19 11:26	03/10/19 01:52	1
13C3 PFBS	101		25 - 150				03/08/19 11:26	03/10/19 01:52	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 171410

Date Collected: 03/01/19 14:42

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-19

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/10/19 03:11	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:26	03/10/19 03:11	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/10/19 03:11	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:26	03/10/19 03:11	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/10/19 03:11	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/10/19 03:11	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	102		25 - 150				03/08/19 11:26	03/10/19 03:11	1
13C4 PFHpA	101		25 - 150				03/08/19 11:26	03/10/19 03:11	1
13C4 PFOA	100		25 - 150				03/08/19 11:26	03/10/19 03:11	1
13C4 PFOS	97		25 - 150				03/08/19 11:26	03/10/19 03:11	1
13C5 PFNA	99		25 - 150				03/08/19 11:26	03/10/19 03:11	1
13C3 PFBS	97		25 - 150				03/08/19 11:26	03/10/19 03:11	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 171400

Date Collected: 03/01/19 19:43

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-20

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/10/19 03:29	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:26	03/10/19 03:29	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/10/19 03:29	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:26	03/10/19 03:29	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/10/19 03:29	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/10/19 03:29	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	98		25 - 150				03/08/19 11:26	03/10/19 03:29	1
13C4 PFHpA	101		25 - 150				03/08/19 11:26	03/10/19 03:29	1
13C4 PFOA	97		25 - 150				03/08/19 11:26	03/10/19 03:29	1
13C4 PFOS	92		25 - 150				03/08/19 11:26	03/10/19 03:29	1
13C5 PFNA	96		25 - 150				03/08/19 11:26	03/10/19 03:29	1
13C3 PFBS	94		25 - 150				03/08/19 11:26	03/10/19 03:29	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 171270

Date Collected: 03/01/19 13:01

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-21

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/10/19 03:47	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:26	03/10/19 03:47	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/10/19 03:47	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:26	03/10/19 03:47	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/10/19 03:47	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/10/19 03:47	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	100		25 - 150				03/08/19 11:26	03/10/19 03:47	1
13C4 PFHpA	103		25 - 150				03/08/19 11:26	03/10/19 03:47	1
13C4 PFOA	97		25 - 150				03/08/19 11:26	03/10/19 03:47	1
13C4 PFOS	93		25 - 150				03/08/19 11:26	03/10/19 03:47	1
13C5 PFNA	97		25 - 150				03/08/19 11:26	03/10/19 03:47	1
13C3 PFBS	94		25 - 150				03/08/19 11:26	03/10/19 03:47	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 162620

Date Collected: 03/01/19 11:04

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-22

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/10/19 04:06	1
Perfluorohexanesulfonic acid (PFHxS)	1.1	J	2.0	0.87	ng/L		03/08/19 11:26	03/10/19 04:06	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/10/19 04:06	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:26	03/10/19 04:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/10/19 04:06	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/10/19 04:06	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	73		25 - 150				03/08/19 11:26	03/10/19 04:06	1
13C4 PFHpA	71		25 - 150				03/08/19 11:26	03/10/19 04:06	1
13C4 PFOA	69		25 - 150				03/08/19 11:26	03/10/19 04:06	1
13C4 PFOS	54		25 - 150				03/08/19 11:26	03/10/19 04:06	1
13C5 PFNA	63		25 - 150				03/08/19 11:26	03/10/19 04:06	1
13C3 PFBS	68		25 - 150				03/08/19 11:26	03/10/19 04:06	1

Client Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 162620-POST

Date Collected: 03/01/19 11:15

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-23

Matrix: Water

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/10/19 04:24	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:26	03/10/19 04:24	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/10/19 04:24	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:26	03/10/19 04:24	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/10/19 04:24	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/10/19 04:24	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	65		25 - 150				03/08/19 11:26	03/10/19 04:24	1
13C4 PFHpA	67		25 - 150				03/08/19 11:26	03/10/19 04:24	1
13C4 PFOA	62		25 - 150				03/08/19 11:26	03/10/19 04:24	1
13C4 PFOS	52		25 - 150				03/08/19 11:26	03/10/19 04:24	1
13C5 PFNA	59		25 - 150				03/08/19 11:26	03/10/19 04:24	1
13C3 PFBS	62		25 - 150				03/08/19 11:26	03/10/19 04:24	1

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)					
		PFHxS (25-150)	PFHpA (25-150)	PFOA (25-150)	PFOS (25-150)	PFNA (25-150)	3C3-PFBs (25-150)
320-48065-1	191240	102	104	103	90	102	94
320-48065-2	191320	98	101	99	93	94	92
320-48065-3	291320	96	97	97	95	99	93
320-48065-4	191210.1	97	103	99	95	100	93
320-48065-5	191210	95	96	93	93	97	83
320-48065-6	191290	107	106	104	101	108	101
320-48065-7	191710	99	99	97	96	102	93
320-48065-8	191170	98	100	95	90	99	92
320-48065-9	291170	95	103	95	89	97	88
320-48065-10	191300	101	98	93	91	102	97
320-48065-11	191720	98	106	96	97	102	94
320-48065-12	171260	101	104	100	96	91	95
320-48065-13	191280	104	106	100	98	104	97
320-48065-14	191700	95	101	103	93	99	92
320-48065-15	171240	92	97	92	93	101	89
320-48065-16	171180	107	108	106	104	101	98
320-48065-17	200070	102	106	98	99	105	97
320-48065-18	200040	106	106	107	101	104	101
320-48065-19	171410	102	101	100	97	99	97
320-48065-20	171400	98	101	97	92	96	94
320-48065-21	171270	100	103	97	93	97	94
320-48065-22	162620	73	71	69	54	63	68
320-48065-23	162620-POST	65	67	62	52	59	62
LCS 320-280411/2-A	Lab Control Sample	109	107	103	109	98	103
LCS 320-280414/2-A	Lab Control Sample	98	100	93	96	95	95
LCSD 320-280411/3-A	Lab Control Sample Dup	94	97	98	99	94	94
LCSD 320-280414/3-A	Lab Control Sample Dup	95	94	92	95	96	94
MB 320-280411/1-A	Method Blank	108	102	107	101	102	101
MB 320-280414/1-A	Method Blank	96	97	94	93	99	91

Surrogate Legend

PFHxS = 18O2 PFHxS

PFHpA = 13C4 PFHpA

PFOA = 13C4 PFOA

PFOS = 13C4 PFOS

PFNA = 13C5 PFNA

13C3-PFBS = 13C3 PFBS

QC Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-280411/1-A

Matrix: Water

Analysis Batch: 280591

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 280411

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:21	03/09/19 13:34	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:21	03/09/19 13:34	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:21	03/09/19 13:34	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:21	03/09/19 13:34	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:21	03/09/19 13:34	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:21	03/09/19 13:34	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	108		25 - 150	03/08/19 11:21	03/09/19 13:34	1
13C4 PFHpA	102		25 - 150	03/08/19 11:21	03/09/19 13:34	1
13C4 PFOA	107		25 - 150	03/08/19 11:21	03/09/19 13:34	1
13C4 PFOS	101		25 - 150	03/08/19 11:21	03/09/19 13:34	1
13C5 PFNA	102		25 - 150	03/08/19 11:21	03/09/19 13:34	1
13C3 PFBS	101		25 - 150	03/08/19 11:21	03/09/19 13:34	1

Lab Sample ID: LCS 320-280411/2-A

Matrix: Water

Analysis Batch: 280591

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 280411

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanesulfonic acid (PFBS)	17.7	17.1		ng/L		97	72 - 151
Perfluorohexanesulfonic acid (PFHxS)	18.2	16.7		ng/L		92	73 - 157
Perfluoroheptanoic acid (PFHpA)	20.0	18.2		ng/L		91	71 - 138
Perfluorooctanoic acid (PFOA)	20.0	21.0		ng/L		105	70 - 140
Perfluorooctanesulfonic acid (PFOS)	18.6	17.2		ng/L		93	69 - 144
Perfluorononanoic acid (PFNA)	20.0	21.1		ng/L		106	73 - 147

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
18O2 PFHxS	109		25 - 150
13C4 PFHpA	107		25 - 150
13C4 PFOA	103		25 - 150
13C4 PFOS	109		25 - 150
13C5 PFNA	98		25 - 150
13C3 PFBS	103		25 - 150

Lab Sample ID: LCSD 320-280411/3-A

Matrix: Water

Analysis Batch: 280591

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 280411

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Perfluorobutanesulfonic acid (PFBS)	17.7	18.6		ng/L		105	72 - 151	8	30
Perfluorohexanesulfonic acid (PFHxS)	18.2	17.7		ng/L		97	73 - 157	6	30
Perfluoroheptanoic acid (PFHpA)	20.0	19.7		ng/L		98	71 - 138	8	30
Perfluorooctanoic acid (PFOA)	20.0	22.6		ng/L		113	70 - 140	7	30

TestAmerica Sacramento

QC Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-280411/3-A

Matrix: Water

Analysis Batch: 280591

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 280411

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	18.6	17.7		ng/L		96	69 - 144	3	30
Perfluorononanoic acid (PFNA)	20.0	19.3		ng/L		96	73 - 147	9	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
18O2 PFHxS	94		25 - 150
13C4 PFHpA	97		25 - 150
13C4 PFOA	98		25 - 150
13C4 PFOS	99		25 - 150
13C5 PFNA	94		25 - 150
13C3 PFBS	94		25 - 150

Lab Sample ID: MB 320-280414/1-A

Matrix: Water

Analysis Batch: 280593

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 280414

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.92	ng/L		03/08/19 11:26	03/09/19 21:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.87	ng/L		03/08/19 11:26	03/09/19 21:52	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.80	ng/L		03/08/19 11:26	03/09/19 21:52	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.75	ng/L		03/08/19 11:26	03/09/19 21:52	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	1.3	ng/L		03/08/19 11:26	03/09/19 21:52	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.65	ng/L		03/08/19 11:26	03/09/19 21:52	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	96		25 - 150	03/08/19 11:26	03/09/19 21:52	1
13C4 PFHpA	97		25 - 150	03/08/19 11:26	03/09/19 21:52	1
13C4 PFOA	94		25 - 150	03/08/19 11:26	03/09/19 21:52	1
13C4 PFOS	93		25 - 150	03/08/19 11:26	03/09/19 21:52	1
13C5 PFNA	99		25 - 150	03/08/19 11:26	03/09/19 21:52	1
13C3 PFBS	91		25 - 150	03/08/19 11:26	03/09/19 21:52	1

Lab Sample ID: LCS 320-280414/2-A

Matrix: Water

Analysis Batch: 280593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 280414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanesulfonic acid (PFBS)	17.7	17.7		ng/L		100	72 - 151
Perfluorohexanesulfonic acid (PFHxS)	18.2	16.9		ng/L		93	73 - 157
Perfluoroheptanoic acid (PFHpA)	20.0	18.3		ng/L		92	71 - 138
Perfluorooctanoic acid (PFOA)	20.0	22.3		ng/L		111	70 - 140
Perfluorooctanesulfonic acid (PFOS)	18.6	17.9		ng/L		96	69 - 144
Perfluorononanoic acid (PFNA)	20.0	19.9		ng/L		100	73 - 147

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
18O2 PFHxS	98		25 - 150
13C4 PFHpA	100		25 - 150

TestAmerica Sacramento

QC Sample Results

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Method: WS-LC-0025 At1 - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-280414/2-A

Matrix: Water

Analysis Batch: 280593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 280414

	LCS	LCS	
Isotope Dilution	%Recovery	Qualifier	Limits
13C4 PFOA	93		25 - 150
13C4 PFOS	96		25 - 150
13C5 PFNA	95		25 - 150
13C3 PFBS	95		25 - 150

Lab Sample ID: LCSD 320-280414/3-A

Matrix: Water

Analysis Batch: 280593

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 280414

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanesulfonic acid (PFBS)	17.7	17.7		ng/L		100	72 - 151	0	30
Perfluorohexanesulfonic acid (PFHxS)	18.2	18.0		ng/L		99	73 - 157	6	30
Perfluoroheptanoic acid (PFHpA)	20.0	19.1		ng/L		96	71 - 138	4	30
Perfluorooctanoic acid (PFOA)	20.0	21.8		ng/L		109	70 - 140	2	30
Perfluorooctanesulfonic acid (PFOS)	18.6	17.6		ng/L		95	69 - 144	2	30
Perfluorononanoic acid (PFNA)	20.0	19.7		ng/L		98	73 - 147	1	30

	LCSD	LCSD	
Isotope Dilution	%Recovery	Qualifier	Limits
18O2 PFHxS	95		25 - 150
13C4 PFHpA	94		25 - 150
13C4 PFOA	92		25 - 150
13C4 PFOS	95		25 - 150
13C5 PFNA	96		25 - 150
13C3 PFBS	94		25 - 150

QC Association Summary

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

LCMS

Prep Batch: 280411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-48065-1	191240	Total/NA	Water	PFAS Prep	
320-48065-2	191320	Total/NA	Water	PFAS Prep	
320-48065-3	291320	Total/NA	Water	PFAS Prep	
320-48065-4	191210.1	Total/NA	Water	PFAS Prep	
320-48065-5	191210	Total/NA	Water	PFAS Prep	
320-48065-6	191290	Total/NA	Water	PFAS Prep	
320-48065-7	191710	Total/NA	Water	PFAS Prep	
320-48065-8	191170	Total/NA	Water	PFAS Prep	
MB 320-280411/1-A	Method Blank	Total/NA	Water	PFAS Prep	
LCS 320-280411/2-A	Lab Control Sample	Total/NA	Water	PFAS Prep	
LCSD 320-280411/3-A	Lab Control Sample Dup	Total/NA	Water	PFAS Prep	

Prep Batch: 280414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-48065-9	291170	Total/NA	Water	PFAS Prep	
320-48065-10	191300	Total/NA	Water	PFAS Prep	
320-48065-11	191720	Total/NA	Water	PFAS Prep	
320-48065-12	171260	Total/NA	Water	PFAS Prep	
320-48065-13	191280	Total/NA	Water	PFAS Prep	
320-48065-14	191700	Total/NA	Water	PFAS Prep	
320-48065-15	171240	Total/NA	Water	PFAS Prep	
320-48065-16	171180	Total/NA	Water	PFAS Prep	
320-48065-17	200070	Total/NA	Water	PFAS Prep	
320-48065-18	200040	Total/NA	Water	PFAS Prep	
320-48065-19	171410	Total/NA	Water	PFAS Prep	
320-48065-20	171400	Total/NA	Water	PFAS Prep	
320-48065-21	171270	Total/NA	Water	PFAS Prep	
320-48065-22	162620	Total/NA	Water	PFAS Prep	
320-48065-23	162620-POST	Total/NA	Water	PFAS Prep	
MB 320-280414/1-A	Method Blank	Total/NA	Water	PFAS Prep	
LCS 320-280414/2-A	Lab Control Sample	Total/NA	Water	PFAS Prep	
LCSD 320-280414/3-A	Lab Control Sample Dup	Total/NA	Water	PFAS Prep	

Analysis Batch: 280591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-48065-1	191240	Total/NA	Water	WS-LC-0025 At1	280411
320-48065-2	191320	Total/NA	Water	WS-LC-0025 At1	280411
320-48065-3	291320	Total/NA	Water	WS-LC-0025 At1	280411
320-48065-4	191210.1	Total/NA	Water	WS-LC-0025 At1	280411
320-48065-5	191210	Total/NA	Water	WS-LC-0025 At1	280411
320-48065-6	191290	Total/NA	Water	WS-LC-0025 At1	280411
320-48065-7	191710	Total/NA	Water	WS-LC-0025 At1	280411
320-48065-8	191170	Total/NA	Water	WS-LC-0025 At1	280411
MB 320-280411/1-A	Method Blank	Total/NA	Water	WS-LC-0025 At1	280411

TestAmerica Sacramento

QC Association Summary

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

LCMS (Continued)

Analysis Batch: 280591 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-280411/2-A	Lab Control Sample	Total/NA	Water	WS-LC-0025 At1	280411
LCSD 320-280411/3-A	Lab Control Sample Dup	Total/NA	Water	WS-LC-0025 At1	280411

Analysis Batch: 280593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-48065-9	291170	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-10	191300	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-11	191720	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-12	171260	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-13	191280	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-14	191700	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-15	171240	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-16	171180	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-17	200070	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-18	200040	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-19	171410	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-20	171400	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-21	171270	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-22	162620	Total/NA	Water	WS-LC-0025 At1	280414
320-48065-23	162620-POST	Total/NA	Water	WS-LC-0025 At1	280414
MB 320-280414/1-A	Method Blank	Total/NA	Water	WS-LC-0025 At1	280414
LCS 320-280414/2-A	Lab Control Sample	Total/NA	Water	WS-LC-0025 At1	280414
LCSD 320-280414/3-A	Lab Control Sample Dup	Total/NA	Water	WS-LC-0025 At1	280414

TestAmerica Sacramento

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191240

Date Collected: 02/26/19 15:19

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-1

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	PFAS Prep			1.00 mL	1.66 mL	280411	03/08/19 11:21	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280591	03/09/19 18:29	D1R	TAL SAC

Client Sample ID: 191320

Date Collected: 02/26/19 12:46

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-2

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	PFAS Prep			1.00 mL	1.66 mL	280411	03/08/19 11:21	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280591	03/09/19 18:48	D1R	TAL SAC

Client Sample ID: 291320

Date Collected: 02/26/19 12:36

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-3

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	PFAS Prep			1.00 mL	1.66 mL	280411	03/08/19 11:21	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280591	03/09/19 19:06	D1R	TAL SAC

Client Sample ID: 191210.1

Date Collected: 02/26/19 11:45

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-4

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	PFAS Prep			1.00 mL	1.66 mL	280411	03/08/19 11:21	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280591	03/09/19 19:25	D1R	TAL SAC

Client Sample ID: 191210

Date Collected: 02/26/19 11:11

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-5

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	PFAS Prep			1.00 mL	1.66 mL	280411	03/08/19 11:21	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280591	03/09/19 19:43	D1R	TAL SAC

Client Sample ID: 191290

Date Collected: 02/27/19 10:00

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-6

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	PFAS Prep			1.00 mL	1.66 mL	280411	03/08/19 11:21	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280591	03/09/19 20:20	D1R	TAL SAC

TestAmerica Sacramento

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191710

Date Collected: 02/27/19 15:14

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-7

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	PFAS Prep			1.00 mL	1.66 mL	280411	03/08/19 11:21	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280591	03/09/19 20:38	D1R	TAL SAC

Client Sample ID: 191170

Date Collected: 02/27/19 16:39

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-8

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	PFAS Prep			1.00 mL	1.66 mL	280411	03/08/19 11:21	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280591	03/09/19 20:57	D1R	TAL SAC

Client Sample ID: 291170

Date Collected: 02/27/19 16:29

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-9

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/09/19 22:48	D1R	TAL SAC

Client Sample ID: 191300

Date Collected: 02/27/19 17:35

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-10

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/09/19 23:06	D1R	TAL SAC

Client Sample ID: 191720

Date Collected: 02/28/19 10:40

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-11

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/09/19 23:24	D1R	TAL SAC

Client Sample ID: 171260

Date Collected: 02/28/19 13:50

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-12

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/09/19 23:43	D1R	TAL SAC

TestAmerica Sacramento

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 191280

Date Collected: 02/28/19 15:23

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-13

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/10/19 00:01	D1R	TAL SAC

Client Sample ID: 191700

Date Collected: 02/28/19 16:50

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-14

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/10/19 00:20	D1R	TAL SAC

Client Sample ID: 171240

Date Collected: 02/28/19 17:46

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-15

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/10/19 00:38	D1R	TAL SAC

Client Sample ID: 171180

Date Collected: 02/28/19 18:50

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-16

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/10/19 01:15	D1R	TAL SAC

Client Sample ID: 200070

Date Collected: 03/01/19 18:56

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-17

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/10/19 01:34	D1R	TAL SAC

Client Sample ID: 200040

Date Collected: 03/02/19 10:05

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-18

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/10/19 01:52	D1R	TAL SAC

TestAmerica Sacramento

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Client Sample ID: 171410

Date Collected: 03/01/19 14:42

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-19

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/10/19 03:11	D1R	TAL SAC

Client Sample ID: 171400

Date Collected: 03/01/19 19:43

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-20

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/10/19 03:29	D1R	TAL SAC

Client Sample ID: 171270

Date Collected: 03/01/19 13:01

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-21

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/10/19 03:47	D1R	TAL SAC

Client Sample ID: 162620

Date Collected: 03/01/19 11:04

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-22

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/10/19 04:06	D1R	TAL SAC

Client Sample ID: 162620-POST

Date Collected: 03/01/19 11:15

Date Received: 03/05/19 16:05

Lab Sample ID: 320-48065-23

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	PFAS Prep			1.00 mL	1.66 mL	280414	03/08/19 11:26	JRM	TAL SAC
Total/NA	Analysis	WS-LC-0025 At1		1			280593	03/10/19 04:24	D1R	TAL SAC

Laboratory References:

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

TestAmerica Sacramento

Accreditation/Certification Summary

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

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 / DOE		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	01-31-20
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	01-29-20
Illinois	NELAP	5	200060	03-17-19 *
Kansas	NELAP	7	E-10375	10-31-19
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	01-29-20
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	12-31-19
Wyoming	State Program	8	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Sacramento

Method Summary

Client: Shannon & Wilson, Inc
Project/Site: PFAS

TestAmerica Job ID: 320-48065-1

Method	Method Description	Protocol	Laboratory
WS-LC-0025 At1	Fluorinated Alkyl Substances	TAL-SAC	TAL SAC
PFAS Prep	Preparation, Direct Inject PFAS	TAL-SAC	TAL SAC

Protocol References:

TAL-SAC = TestAmerica Laboratories, West Sacramento, Facility Standard Operating Procedure.

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: PFAS

TestAmerica Job ID: 320-48065-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-48065-1	191240	Water	02/26/19 15:19	03/05/19 16:05
320-48065-2	191320	Water	02/26/19 12:46	03/05/19 16:05
320-48065-3	291320	Water	02/26/19 12:36	03/05/19 16:05
320-48065-4	191210.1	Water	02/26/19 11:45	03/05/19 16:05
320-48065-5	191210	Water	02/26/19 11:11	03/05/19 16:05
320-48065-6	191290	Water	02/27/19 10:00	03/05/19 16:05
320-48065-7	191710	Water	02/27/19 15:14	03/05/19 16:05
320-48065-8	191170	Water	02/27/19 16:39	03/05/19 16:05
320-48065-9	291170	Water	02/27/19 16:29	03/05/19 16:05
320-48065-10	191300	Water	02/27/19 17:35	03/05/19 16:05
320-48065-11	191720	Water	02/28/19 10:40	03/05/19 16:05
320-48065-12	171260	Water	02/28/19 13:50	03/05/19 16:05
320-48065-13	191280	Water	02/28/19 15:23	03/05/19 16:05
320-48065-14	191700	Water	02/28/19 16:50	03/05/19 16:05
320-48065-15	171240	Water	02/28/19 17:46	03/05/19 16:05
320-48065-16	171180	Water	02/28/19 18:50	03/05/19 16:05
320-48065-17	200070	Water	03/01/19 18:56	03/05/19 16:05
320-48065-18	200040	Water	03/02/19 10:05	03/05/19 16:05
320-48065-19	171410	Water	03/01/19 14:42	03/05/19 16:05
320-48065-20	171400	Water	03/01/19 19:43	03/05/19 16:05
320-48065-21	171270	Water	03/01/19 13:01	03/05/19 16:05
320-48065-22	162620	Water	03/01/19 11:04	03/05/19 16:05
320-48065-23	162620-POST	Water	03/01/19 11:15	03/05/19 16:05

CHAIN-OF-CUSTODY RECORD

Page 1 of 3
Laboratory Test America
Attn: D. Alltucker

Analytical Methods (include preservative if used)



320-48065 Chain of Custody

Turn Around Time:
☒ Normal ☐ Rush
Please Specify

Quote No:

J-Flags: ☒ Yes ☐ No

Sample Identity	Lab No.	Time	Date Sampled	Total	Remarks/Matrix Composition/Grab? Sample Containers
191240		1519	2/26/19	2	Groundwater
191320		1246		2	
291320		1236		2	
191210,1		1145		2	
191210		1111		2	
191290		1000	2/27/19	2	
191710		1514		2	
191170		1639		2	
291170		1629		2	
191300		1735		2	

Project Information		Sample Receipt		Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.	
Number: <u>102581-003</u>		Total No. of Containers: <u>46</u>		Signature: <u>[Signature]</u> Time: <u>1245</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
Name: <u>Dillingham</u>		COC Seals/Intact? Y/N/NA		Printed Name: <u>H. Masters</u> Date: <u>3/14/19</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
Contact: <u>MDU</u>		Received Good Cond./Cold		Company: <u>Shannon + Wilson, Inc.</u>		Company: _____		Company: _____	
Ongoing Project? Yes ☒ No ☐		Temp: _____		Received By: 1.		Received By: 2.		Received By: 3.	
Sampler: <u>SMH</u>		Delivery Method: _____		Signature: <u>[Signature]</u> Time: <u>1125</u>		Signature: _____ Time: _____		Signature: _____ Time: _____	
Notes:		Printed Name: <u>Jennifer Dillingham</u> Date: <u>3/14/19</u>		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____		Printed Name: _____ Date: _____	
		Company: <u>TAWSC</u>		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

CHAIN-OF-CUSTODY RECORD

Page 2 of 3

Laboratory _____
Attn: _____

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
191720		1040	2/28/19	X						2	ground waters
171260		1350		X						2	
191280		1523		X						2	
191700		1650		X						2	
171240		1746		X						2	
171180		1850		X						2	
200070		1856	3/1/19	X						2	
200040		1005	3/2/19	X						2	
171410		1442	3/1/19	X						2	
171400		1943	3/1/19	X						2	

Project Information		Sample Receipt		Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.			
Number:		Total No. of Containers:		Signature:	Time: 12-15	Signature:	Time:	Signature:	Time:		
Name:		COC Seals/Intact? Y/N/NA		Printed Name:	Date: 3/4/19	Printed Name:	Date:	Printed Name:	Date:		
Contact:		Received Good Cond./Cold		Company:		Company:		Company:			
Ongoing Project? Yes ☐ No ☐		Temp:		Shannon + Wilson, Inc							
Sampler:		Delivery Method:		Received By: 1.		Received By: 2.		Received By: 3.			
Notes: A Seal			Signature:		Time: 1125	Signature:		Time:	Signature:		Time:
			Printed Name:		Date: 3/4/19	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

CHAIN-OF-CUSTODY RECORD

Laboratory Test America Page 3 of 3
Attn: D. Alltucker

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
171270		1301	3/1/19	X				2	groundwater
162620		1104	3/1/19	X				2	
162620-PST		1115	3/1/19	X				2	

Project Information		Sample Receipt		Relinquished By: 1.		Relinquished By: 2.		Relinquished By: 3.	
Number:		Total No. of Containers:		Signature:	Time: <u>1245</u>	Signature:	Time:	Signature:	Time:
Name:		COC Seals/Intact? Y/N/NA	<u>X</u>	Printed Name:	Date: <u>3/1/19</u>	Printed Name:	Date:	Printed Name:	Date:
Contact:		Received Good Cond./Cold		Company:		Company:		Company:	
Ongoing Project? Yes ☐ No ☐		Temp:		A. Masters					
Sampler:		Delivery Method:		Shannon & Wilson Inc.					
Notes:				Received By: 1.		Received By: 2.		Received By: 3.	
See [signature] [signature]				Signature:	Time: <u>1130</u>	Signature:	Time:	Signature:	Time:
				Printed Name:	Date: <u>3/1/19</u>	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

3.4°C

No. 35798

Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-48065-1

Login Number: 48065

List Source: TestAmerica Sacramento

List Number: 1

Creator: Horner, Nathaniel A

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	seals
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	