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ANALYTICAL REPORT

Eurofins Sacramento
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West Sacramento, CA 95605
Tel: (916)373-5600

Laboratory Job ID: 320-89053-1
Client Project/Site: King Salmon DOT&PF

For:
Shannon & Wilson, Inc
2355 Hill Rd.
Fairbanks, Alaska 99709-5244

Attn: Michael X Jaramillo

Authorized for release by:
7/5/2022 2:08:21 PM

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Definitions/Glossary

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

Qualifiers

LCMS

Qualifier	Qualifier Description
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.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Job ID: 320-89053-1

Laboratory: Eurofins Sacramento

Narrative

Job Narrative
320-89053-1

Receipt
The samples were received on 6/14/2022 11:29 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 7.0º C.

Receipt Exceptions

The following sample(s) was received at the laboratory outside the required temperature criteria: Cooler was received out of temp at 7.0C. No temp blank was provided. Gel packs were next to the samples but were not in contact with samples. AKNPW-012 (320-89053-1), AKNPW-112 (320-89053-2), AKNPW-011 (320-89053-3), AKNPW-007 (320-89053-4) and AKNPW-008 (320-89053-5).

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

Organic Prep
Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-596280.

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: King Salmon DOT&PF

Job ID: 320-89053-1

Client Sample ID: AKNPW-012 — Lab Sample ID: 320-89053-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	18		1.8	0.53	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.4		1.8	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	23		1.8	0.77	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.1		1.8	0.18	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	14		1.8	0.52	ng/L	1		EPA 537(Mod)	Total/NA

Client Sample ID: AKNPW-112 — Lab Sample ID: 320-89053-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	19		1.8	0.52	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.3		1.8	0.22	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	24		1.8	0.76	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.2		1.8	0.18	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	14		1.8	0.51	ng/L	1		EPA 537(Mod)	Total/NA

Client Sample ID: AKNPW-011 — Lab Sample ID: 320-89053-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	6.0		1.8	0.52	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.0	J	1.8	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	7.5		1.8	0.77	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.1	J	1.8	0.18	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.6		1.8	0.51	ng/L	1		EPA 537(Mod)	Total/NA

Client Sample ID: AKNPW-007 — Lab Sample ID: 320-89053-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	3.0		1.8	0.53	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.0		1.8	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	4.0		1.8	0.77	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.53	J	1.8	0.18	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.5		1.8	0.52	ng/L	1		EPA 537(Mod)	Total/NA

Client Sample ID: AKNPW-008 — Lab Sample ID: 320-89053-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	4.0		1.8	0.52	ng/L	1		EPA 537(Mod)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.1	J	1.8	0.23	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorooctanoic acid (PFOA)	3.9		1.8	0.77	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.94	J	1.8	0.18	ng/L	1		EPA 537(Mod)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.0		1.8	0.51	ng/L	1		EPA 537(Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

Client Sample ID: AKNPW-012

Date Collected: 06/12/22 13:40
Date Received: 06/14/22 11:29

Lab Sample ID: 320-89053-1

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**18**		1.8	0.53	ng/L		06/17/22 12:51	07/02/22 03:13	1
Perfluoroheptanoic acid (PFHpA)	**4.4**		1.8	0.23	ng/L		06/17/22 12:51	07/02/22 03:13	1
Perfluorooctanoic acid (PFOA)	**23**		1.8	0.77	ng/L		06/17/22 12:51	07/02/22 03:13	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		06/17/22 12:51	07/02/22 03:13	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		06/17/22 12:51	07/02/22 03:13	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		06/17/22 12:51	07/02/22 03:13	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		06/17/22 12:51	07/02/22 03:13	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		06/17/22 12:51	07/02/22 03:13	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		06/17/22 12:51	07/02/22 03:13	1
Perfluorobutanesulfonic acid (PFBS)	**4.1**		1.8	0.18	ng/L		06/17/22 12:51	07/02/22 03:13	1
Perfluorohexanesulfonic acid (PFHxS)	**14**		1.8	0.52	ng/L		06/17/22 12:51	07/02/22 03:13	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49	ng/L		06/17/22 12:51	07/02/22 03:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.5	1.1	ng/L		06/17/22 12:51	07/02/22 03:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.5	1.2	ng/L		06/17/22 12:51	07/02/22 03:13	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.8	0.22	ng/L		06/17/22 12:51	07/02/22 03:13	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.6	1.4	ng/L		06/17/22 12:51	07/02/22 03:13	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.8	0.29	ng/L		06/17/22 12:51	07/02/22 03:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		06/17/22 12:51	07/02/22 03:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*94*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
13C4 PFHpA	*93*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
13C4 PFOA	*96*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
13C5 PFNA	*91*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
13C2 PFDA	*91*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
13C2 PFUnA	*88*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
13C2 PFDoA	*90*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
13C2 PFTeDA	*74*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
13C3 PFBS	*99*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
18O2 PFHxS	*91*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
13C4 PFOS	*93*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
d3-NMeFOSAA	*83*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
d5-NEtFOSAA	*85*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*
13C3 HFPO-DA	*96*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:13*	*1*

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

Client Sample ID: AKNPW-112

Date Collected: 06/12/22 13:45
Date Received: 06/14/22 11:29

Lab Sample ID: 320-89053-2

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**19**		1.8	0.52	ng/L		06/17/22 12:51	07/02/22 03:24	1
Perfluoroheptanoic acid (PFHpA)	**4.3**		1.8	0.22	ng/L		06/17/22 12:51	07/02/22 03:24	1
Perfluorooctanoic acid (PFOA)	**24**		1.8	0.76	ng/L		06/17/22 12:51	07/02/22 03:24	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		06/17/22 12:51	07/02/22 03:24	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		06/17/22 12:51	07/02/22 03:24	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.98	ng/L		06/17/22 12:51	07/02/22 03:24	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.49	ng/L		06/17/22 12:51	07/02/22 03:24	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		06/17/22 12:51	07/02/22 03:24	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.65	ng/L		06/17/22 12:51	07/02/22 03:24	1
Perfluorobutanesulfonic acid (PFBS)	**4.2**		1.8	0.18	ng/L		06/17/22 12:51	07/02/22 03:24	1
Perfluorohexanesulfonic acid (PFHxS)	**14**		1.8	0.51	ng/L		06/17/22 12:51	07/02/22 03:24	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.48	ng/L		06/17/22 12:51	07/02/22 03:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.5	1.1	ng/L		06/17/22 12:51	07/02/22 03:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.5	1.2	ng/L		06/17/22 12:51	07/02/22 03:24	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.8	0.21	ng/L		06/17/22 12:51	07/02/22 03:24	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.6	1.3	ng/L		06/17/22 12:51	07/02/22 03:24	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.8	0.29	ng/L		06/17/22 12:51	07/02/22 03:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		06/17/22 12:51	07/02/22 03:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*91*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
13C4 PFHpA	*90*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
13C4 PFOA	*92*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
13C5 PFNA	*90*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
13C2 PFDA	*91*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
13C2 PFUnA	*88*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
13C2 PFDoA	*87*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
13C2 PFTeDA	*74*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
13C3 PFBS	*95*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
18O2 PFHxS	*87*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
13C4 PFOS	*88*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
d3-NMeFOSAA	*90*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
d5-NEtFOSAA	*85*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*
13C3 HFPO-DA	*92*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:24*	*1*

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

Client Sample ID: AKNPW-011

Date Collected: 06/12/22 14:45
Date Received: 06/14/22 11:29

Lab Sample ID: 320-89053-3

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**6.0**		1.8	0.52	ng/L		06/17/22 12:51	07/02/22 03:35	1
Perfluoroheptanoic acid (PFHpA)	**1.0**	**J**	1.8	0.23	ng/L		06/17/22 12:51	07/02/22 03:35	1
Perfluorooctanoic acid (PFOA)	**7.5**		1.8	0.77	ng/L		06/17/22 12:51	07/02/22 03:35	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		06/17/22 12:51	07/02/22 03:35	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		06/17/22 12:51	07/02/22 03:35	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.99	ng/L		06/17/22 12:51	07/02/22 03:35	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		06/17/22 12:51	07/02/22 03:35	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		06/17/22 12:51	07/02/22 03:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		06/17/22 12:51	07/02/22 03:35	1
Perfluorobutanesulfonic acid (PFBS)	**1.1**	**J**	1.8	0.18	ng/L		06/17/22 12:51	07/02/22 03:35	1
Perfluorohexanesulfonic acid (PFHxS)	**3.6**		1.8	0.51	ng/L		06/17/22 12:51	07/02/22 03:35	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49	ng/L		06/17/22 12:51	07/02/22 03:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.5	1.1	ng/L		06/17/22 12:51	07/02/22 03:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.5	1.2	ng/L		06/17/22 12:51	07/02/22 03:35	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.8	0.22	ng/L		06/17/22 12:51	07/02/22 03:35	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.6	1.4	ng/L		06/17/22 12:51	07/02/22 03:35	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.8	0.29	ng/L		06/17/22 12:51	07/02/22 03:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		06/17/22 12:51	07/02/22 03:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*88*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
13C4 PFHpA	*86*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
13C4 PFOA	*87*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
13C5 PFNA	*86*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
13C2 PFDA	*86*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
13C2 PFUnA	*84*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
13C2 PFDoA	*85*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
13C2 PFTeDA	*69*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
13C3 PFBS	*87*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
18O2 PFHxS	*82*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
13C4 PFOS	*80*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
d3-NMeFOSAA	*79*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
d5-NEtFOSAA	*78*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*
13C3 HFPO-DA	*86*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:35*	*1*

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

Client Sample ID: AKNPW-007

Date Collected: 06/13/22 10:22
Date Received: 06/14/22 11:29

Lab Sample ID: 320-89053-4

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**3.0**		1.8	0.53	ng/L		06/17/22 12:51	07/02/22 03:45	1
Perfluoroheptanoic acid (PFHpA)	**4.0**		1.8	0.23	ng/L		06/17/22 12:51	07/02/22 03:45	1
Perfluorooctanoic acid (PFOA)	**4.0**		1.8	0.77	ng/L		06/17/22 12:51	07/02/22 03:45	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.25	ng/L		06/17/22 12:51	07/02/22 03:45	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		06/17/22 12:51	07/02/22 03:45	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	1.0	ng/L		06/17/22 12:51	07/02/22 03:45	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		06/17/22 12:51	07/02/22 03:45	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		06/17/22 12:51	07/02/22 03:45	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		06/17/22 12:51	07/02/22 03:45	1
Perfluorobutanesulfonic acid (PFBS)	**0.53**	**J**	1.8	0.18	ng/L		06/17/22 12:51	07/02/22 03:45	1
Perfluorohexanesulfonic acid (PFHxS)	**3.5**		1.8	0.52	ng/L		06/17/22 12:51	07/02/22 03:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49	ng/L		06/17/22 12:51	07/02/22 03:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.5	1.1	ng/L		06/17/22 12:51	07/02/22 03:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.5	1.2	ng/L		06/17/22 12:51	07/02/22 03:45	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.8	0.22	ng/L		06/17/22 12:51	07/02/22 03:45	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.6	1.4	ng/L		06/17/22 12:51	07/02/22 03:45	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.8	0.29	ng/L		06/17/22 12:51	07/02/22 03:45	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		06/17/22 12:51	07/02/22 03:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*98*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
13C4 PFHpA	*95*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
13C4 PFOA	*96*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
13C5 PFNA	*92*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
13C2 PFDA	*96*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
13C2 PFUnA	*92*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
13C2 PFDoA	*98*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
13C2 PFTeDA	*82*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
13C3 PFBS	*96*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
18O2 PFHxS	*94*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
13C4 PFOS	*93*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
d3-NMeFOSAA	*87*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
d5-NEtFOSAA	*86*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*
13C3 HFPO-DA	*88*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:45*	*1*

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

Client Sample ID: AKNPW-008

Date Collected: 06/13/22 11:10
Date Received: 06/14/22 11:29

Lab Sample ID: 320-89053-5

Matrix: Water

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**4.0**		1.8	0.52	ng/L		06/17/22 12:51	07/02/22 03:56	1
Perfluoroheptanoic acid (PFHpA)	**1.1**	**J**	1.8	0.23	ng/L		06/17/22 12:51	07/02/22 03:56	1
Perfluorooctanoic acid (PFOA)	**3.9**		1.8	0.77	ng/L		06/17/22 12:51	07/02/22 03:56	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.24	ng/L		06/17/22 12:51	07/02/22 03:56	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.28	ng/L		06/17/22 12:51	07/02/22 03:56	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.99	ng/L		06/17/22 12:51	07/02/22 03:56	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.50	ng/L		06/17/22 12:51	07/02/22 03:56	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8	1.2	ng/L		06/17/22 12:51	07/02/22 03:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.66	ng/L		06/17/22 12:51	07/02/22 03:56	1
Perfluorobutanesulfonic acid (PFBS)	**0.94**	**J**	1.8	0.18	ng/L		06/17/22 12:51	07/02/22 03:56	1
Perfluorohexanesulfonic acid (PFHxS)	**2.0**		1.8	0.51	ng/L		06/17/22 12:51	07/02/22 03:56	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.49	ng/L		06/17/22 12:51	07/02/22 03:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		4.5	1.1	ng/L		06/17/22 12:51	07/02/22 03:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		4.5	1.2	ng/L		06/17/22 12:51	07/02/22 03:56	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		1.8	0.22	ng/L		06/17/22 12:51	07/02/22 03:56	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		3.6	1.4	ng/L		06/17/22 12:51	07/02/22 03:56	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		1.8	0.29	ng/L		06/17/22 12:51	07/02/22 03:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.8	0.36	ng/L		06/17/22 12:51	07/02/22 03:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*93*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
13C4 PFHpA	*91*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
13C4 PFOA	*91*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
13C5 PFNA	*85*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
13C2 PFDA	*93*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
13C2 PFUnA	*86*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
13C2 PFDoA	*90*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
13C2 PFTeDA	*69*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
13C3 PFBS	*87*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
18O2 PFHxS	*90*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
13C4 PFOS	*83*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
d3-NMeFOSAA	*85*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
d5-NEtFOSAA	*86*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*
13C3 HFPO-DA	*87*		*50 - 150*	*06/17/22 12:51*	*07/02/22 03:56*	*1*

Isotope Dilution Summary

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFHxA (50-150)	C4PFHA (50-150)	PFOA (50-150)	PFNA (50-150)	PFDA (50-150)	PFUnA (50-150)	PFDoA (50-150)	PFTDA (50-150)
320-89053-1	AKNPW-012	94	93	96	91	91	88	90	74
320-89053-2	AKNPW-112	91	90	92	90	91	88	87	74
320-89053-3	AKNPW-011	88	86	87	86	86	84	85	69
320-89053-4	AKNPW-007	98	95	96	92	96	92	98	82
320-89053-5	AKNPW-008	93	91	91	85	93	86	90	69
LCS 320-596280/2-A	Lab Control Sample	91	97	94	98	95	89	96	80
LCSD 320-596280/3-A	Lab Control Sample Dup	91	101	96	95	92	93	90	81
MB 320-596280/1-A	Method Blank	91	88	94	93	85	88	90	80

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	C3PFBS (50-150)	PFHxS (50-150)	PFOS (50-150)	d3NMFOS (50-150)	d5NEFOS (50-150)	HFPODA (50-150)		
320-89053-1	AKNPW-012	99	91	93	83	85	96		
320-89053-2	AKNPW-112	95	87	88	90	85	92		
320-89053-3	AKNPW-011	87	82	80	79	78	86		
320-89053-4	AKNPW-007	96	94	93	87	86	88		
320-89053-5	AKNPW-008	87	90	83	85	86	87		
LCS 320-596280/2-A	Lab Control Sample	90	99	85	87	82	88		
LCSD 320-596280/3-A	Lab Control Sample Dup	98	91	90	93	85	91		
MB 320-596280/1-A	Method Blank	80	86	83	85	84	89		

Surrogate Legend

PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
HFPODA = 13C3 HFPO-DA

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15

Lab Sample ID: MB 320-596280/1-A
Matrix: Water
Analysis Batch: 600122

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596280

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		06/17/22 12:51	07/02/22 00:55	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		06/17/22 12:51	07/02/22 00:55	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		06/17/22 12:51	07/02/22 00:55	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		06/17/22 12:51	07/02/22 00:55	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		06/17/22 12:51	07/02/22 00:55	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		06/17/22 12:51	07/02/22 00:55	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		06/17/22 12:51	07/02/22 00:55	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0	1.3	ng/L		06/17/22 12:51	07/02/22 00:55	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.73	ng/L		06/17/22 12:51	07/02/22 00:55	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		06/17/22 12:51	07/02/22 00:55	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.57	ng/L		06/17/22 12:51	07/02/22 00:55	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		06/17/22 12:51	07/02/22 00:55	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		5.0	1.2	ng/L		06/17/22 12:51	07/02/22 00:55	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		5.0	1.3	ng/L		06/17/22 12:51	07/02/22 00:55	1
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	ND		2.0	0.24	ng/L		06/17/22 12:51	07/02/22 00:55	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		4.0	1.5	ng/L		06/17/22 12:51	07/02/22 00:55	1
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	ND		2.0	0.32	ng/L		06/17/22 12:51	07/02/22 00:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		2.0	0.40	ng/L		06/17/22 12:51	07/02/22 00:55	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*91*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
13C4 PFHpA	*88*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
13C4 PFOA	*94*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
13C5 PFNA	*93*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
13C2 PFDA	*85*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
13C2 PFUnA	*88*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
13C2 PFDoA	*90*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
13C2 PFTeDA	*80*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
13C3 PFBS	*80*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
18O2 PFHxS	*86*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
13C4 PFOS	*83*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
d3-NMeFOSAA	*85*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
d5-NEtFOSAA	*84*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*
13C3 HFPO-DA	*89*		*50 - 150*	*06/17/22 12:51*	*07/02/22 00:55*	*1*

Lab Sample ID: LCS 320-596280/2-A
Matrix: Water
Analysis Batch: 600122

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596280

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorohexanoic acid (PFHxA)	40.0	40.6		ng/L		102	72 - 129
Perfluoroheptanoic acid (PFHpA)	40.0	40.3		ng/L		101	72 - 130
Perfluorooctanoic acid (PFOA)	40.0	43.6		ng/L		109	71 - 133
Perfluorononanoic acid (PFNA)	40.0	39.5		ng/L		99	69 - 130

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCS 320-596280/2-A
Matrix: Water
Analysis Batch: 600122

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596280

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorodecanoic acid (PFDA)	40.0	42.6		ng/L		107	71 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	46.3		ng/L		116	69 - 133
Perfluorododecanoic acid (PFDoA)	40.0	41.0		ng/L		103	72 - 134
Perfluorotridecanoic acid (PFTriA)	40.0	40.1		ng/L		100	65 - 144
Perfluorotetradecanoic acid (PFTeA)	40.0	46.4		ng/L		116	71 - 132
Perfluorobutanesulfonic acid (PFBS)	35.5	41.9		ng/L		118	72 - 130
Perfluorohexanesulfonic acid (PFHxS)	36.5	36.9		ng/L		101	68 - 131
Perfluorooctanesulfonic acid (PFOS)	37.2	44.5		ng/L		120	65 - 140
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.0		ng/L		107	65 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	45.9		ng/L		115	61 - 135
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	37.4	47.7		ng/L		128	77 - 137
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	40.0	46.0		ng/L		115	72 - 132
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	37.8	43.5		ng/L		115	76 - 136
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.8	45.7		ng/L		121	81 - 141

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*91*		*50 - 150*
13C4 PFHpA	*97*		*50 - 150*
13C4 PFOA	*94*		*50 - 150*
13C5 PFNA	*98*		*50 - 150*
13C2 PFDA	*95*		*50 - 150*
13C2 PFUnA	*89*		*50 - 150*
13C2 PFDoA	*96*		*50 - 150*
13C2 PFTeDA	*80*		*50 - 150*
13C3 PFBS	*90*		*50 - 150*
18O2 PFHxS	*99*		*50 - 150*
13C4 PFOS	*85*		*50 - 150*
d3-NMeFOSAA	*87*		*50 - 150*
d5-NEtFOSAA	*82*		*50 - 150*
13C3 HFPO-DA	*88*		*50 - 150*

Lab Sample ID: LCSD 320-596280/3-A
Matrix: Water
Analysis Batch: 600122

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 596280

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	40.0	42.8		ng/L		107	72 - 129	5	30
Perfluoroheptanoic acid (PFHpA)	40.0	40.0		ng/L		100	72 - 130	1	30
Perfluorooctanoic acid (PFOA)	40.0	41.8		ng/L		105	71 - 133	4	30

Method: EPA 537(Mod) - PFAS for QSM 5.3, Table B-15 (Continued)

Lab Sample ID: LCSD 320-596280/3-A
Matrix: Water
Analysis Batch: 600122

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 596280

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorononanoic acid (PFNA)			40.0	41.5		ng/L		104	69 - 130	5	30
Perfluorodecanoic acid (PFDA)			40.0	48.1		ng/L		120	71 - 129	12	30
Perfluoroundecanoic acid (PFUnA)			40.0	43.5		ng/L		109	69 - 133	6	30
Perfluorododecanoic acid (PFDoA)			40.0	42.5		ng/L		106	72 - 134	4	30
Perfluorotridecanoic acid (PFTriA)			40.0	41.3		ng/L		103	65 - 144	3	30
Perfluorotetradecanoic acid (PFTeA)			40.0	43.3		ng/L		108	71 - 132	7	30
Perfluorobutanesulfonic acid (PFBS)			35.5	37.9		ng/L		107	72 - 130	10	30
Perfluorohexanesulfonic acid (PFHxS)			36.5	40.9		ng/L		112	68 - 131	10	30
Perfluorooctanesulfonic acid (PFOS)			37.2	41.9		ng/L		113	65 - 140	6	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	39.1		ng/L		98	65 - 136	9	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	42.6		ng/L		106	61 - 135	8	30
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid			37.4	43.5		ng/L		116	77 - 137	9	30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)			40.0	43.6		ng/L		109	72 - 132	5	30
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid			37.8	39.5		ng/L		105	76 - 136	10	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.8	43.9		ng/L		116	81 - 141	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFHxA	*91*		*50 - 150*
13C4 PFHpA	*101*		*50 - 150*
13C4 PFOA	*96*		*50 - 150*
13C5 PFNA	*95*		*50 - 150*
13C2 PFDA	*92*		*50 - 150*
13C2 PFUnA	*93*		*50 - 150*
13C2 PFDoA	*90*		*50 - 150*
13C2 PFTeDA	*81*		*50 - 150*
13C3 PFBS	*98*		*50 - 150*
18O2 PFHxS	*91*		*50 - 150*
13C4 PFOS	*90*		*50 - 150*
d3-NMeFOSAA	*93*		*50 - 150*
d5-NEtFOSAA	*85*		*50 - 150*
13C3 HFPO-DA	*91*		*50 - 150*

QC Association Summary

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

LCMS

Prep Batch: 596280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-89053-1	AKNPW-012	Total/NA	Water	3535	
320-89053-2	AKNPW-112	Total/NA	Water	3535	
320-89053-3	AKNPW-011	Total/NA	Water	3535	
320-89053-4	AKNPW-007	Total/NA	Water	3535	
320-89053-5	AKNPW-008	Total/NA	Water	3535	
MB 320-596280/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-596280/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-596280/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 600122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-89053-1	AKNPW-012	Total/NA	Water	EPA 537(Mod)	596280
320-89053-2	AKNPW-112	Total/NA	Water	EPA 537(Mod)	596280
320-89053-3	AKNPW-011	Total/NA	Water	EPA 537(Mod)	596280
320-89053-4	AKNPW-007	Total/NA	Water	EPA 537(Mod)	596280
320-89053-5	AKNPW-008	Total/NA	Water	EPA 537(Mod)	596280
MB 320-596280/1-A	Method Blank	Total/NA	Water	EPA 537(Mod)	596280
LCS 320-596280/2-A	Lab Control Sample	Total/NA	Water	EPA 537(Mod)	596280
LCSD 320-596280/3-A	Lab Control Sample Dup	Total/NA	Water	EPA 537(Mod)	596280

Lab Chronicle

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

Client Sample ID: AKNPW-012
Date Collected: 06/12/22 13:40
Date Received: 06/14/22 11:29

Lab Sample ID: 320-89053-1
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			274.9 mL	10.0 mL	596280	06/17/22 12:51	KAA	TAL SAC
Total/NA	Analysis	EPA 537(Mod)		1			600122	07/02/22 03:13	K1S	TAL SAC

Client Sample ID: AKNPW-112
Date Collected: 06/12/22 13:45
Date Received: 06/14/22 11:29

Lab Sample ID: 320-89053-2
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			280 mL	10.0 mL	596280	06/17/22 12:51	KAA	TAL SAC
Total/NA	Analysis	EPA 537(Mod)		1			600122	07/02/22 03:24	K1S	TAL SAC

Client Sample ID: AKNPW-011
Date Collected: 06/12/22 14:45
Date Received: 06/14/22 11:29

Lab Sample ID: 320-89053-3
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			277 mL	10.0 mL	596280	06/17/22 12:51	KAA	TAL SAC
Total/NA	Analysis	EPA 537(Mod)		1			600122	07/02/22 03:35	K1S	TAL SAC

Client Sample ID: AKNPW-007
Date Collected: 06/13/22 10:22
Date Received: 06/14/22 11:29

Lab Sample ID: 320-89053-4
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			275.1 mL	10.0 mL	596280	06/17/22 12:51	KAA	TAL SAC
Total/NA	Analysis	EPA 537(Mod)		1			600122	07/02/22 03:45	K1S	TAL SAC

Client Sample ID: AKNPW-008
Date Collected: 06/13/22 11:10
Date Received: 06/14/22 11:29

Lab Sample ID: 320-89053-5
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			277.7 mL	10.0 mL	596280	06/17/22 12:51	KAA	TAL SAC
Total/NA	Analysis	EPA 537(Mod)		1			600122	07/02/22 03:56	K1S	TAL SAC

Laboratory References:

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

Accreditation/Certification Summary

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24

Method Summary

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

Method	Method Description	Protocol	Laboratory
EPA 537(Mod)	PFAS for QSM 5.3, Table B-15	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 = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Shannon & Wilson, Inc
Project/Site: King Salmon DOT&PF

Job ID: 320-89053-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-89053-1	AKNPW-012	Water	06/12/22 13:40	06/14/22 11:29
320-89053-2	AKNPW-112	Water	06/12/22 13:45	06/14/22 11:29
320-89053-3	AKNPW-011	Water	06/12/22 14:45	06/14/22 11:29
320-89053-4	AKNPW-007	Water	06/13/22 10:22	06/14/22 11:29
320-89053-5	AKNPW-008	Water	06/13/22 11:10	06/14/22 11:29

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
2355 Hill Road
Fairbanks, AK 99709
(907) 479-0600
www.shannonwilson.com

CHAIN-OF-CUSTODY RECORD

Laboratory Eurofins TestAmerica Sacramento
Attn: David Alltucker

Turn Around Time: [X] Normal [ ] Rush — Please Specify

Quote No: TBD (USA)

J-Flags: [X] Yes [ ] No

Analytical Methods (include preservative if used)

Sample Identity	Lab No.	Time	Date Sampled	+18 PFAS by QSM 5.3, Table B-15	Total Number of Containers	Remarks/Matrix Composition/Grab? Sample Containers
AKNPW-012		1340	6/12/22	X	2	Groundwater (unpreserved)
AKNPW-112		1345		X	2	
AKNPW-011		1445		X	2	
AKNPW-007		1022	6/13/22	X	2	
AKNPW-008		1110		X	2	

320-89053 Chain of Custody

Project Information	
Number:	102582
Name:	King Salmon DOT&PF
Contact:	MXJ
Ongoing Project?	Yes [X] No [ ]
Sampler:	MDN

Sample Receipt	
Total No. of Containers:	10
COC Seals/Intact? Y/N/NA	
Received Good Cond./Cold	
Temp:	
Delivery Method:	Goldstreak

Notes:

Please bill to 102582-012.

Reliquished By: 1.	Reliquished By: 2.	Reliquished By: 3.
Signature: Marcy Nadel Time: 1140	Signature: Time:	Signature: Time:
Printed Name: Marcy Nadel Date: 6/13/22	Printed Name: Date:	Printed Name: Date:
Company: Shannon&Wilson, Inc.	Company:	Company:

Received By: 1.	Received By: 2.	Received By: 3.
Signature: Time: 1179	Signature: Time:	Signature: Time:
Printed Name: Salvador Lopez Date: 6-14-22	Printed Name: Date:	Printed Name: Date:
Company: EETSac	Company:	Company:

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

7.0

No. 411826

Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-89053-1

Login Number: 89053
List Number: 1
Creator: Her, David A

List Source: Eurofins Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	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	GEL PACKS
Cooler Temperature is acceptable.	False	
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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	