

## ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento  
880 Riverside Parkway  
West Sacramento, CA 95605  
Tel: (916)373-5600

Laboratory Job ID: 320-74143-1  
Client Project/Site: King Salmon PFAS

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

Attn: Michael X Jaramillo



---

Authorized for release by:  
6/2/2021 10:36:13 AM

David Alltucker, Project Manager I  
(916)374-4383  
[David.Alltucker@Eurofinset.com](mailto:David.Alltucker@Eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 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 . . . . .  | 6  |
| Surrogate Summary . . . . .      | 11 |
| QC Sample Results . . . . .      | 12 |
| QC Association Summary . . . . . | 15 |
| Lab Chronicle . . . . .          | 16 |
| Certification Summary . . . . .  | 17 |
| Method Summary . . . . .         | 18 |
| Sample Summary . . . . .         | 19 |
| Chain of Custody . . . . .       | 20 |
| Receipt Checklists . . . . .     | 21 |



# Definitions/Glossary

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

Job ID: 320-74143-1

## 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.                                 |
|----------------|---|
| 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  |
| 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   |

# Case Narrative

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

Job ID: 320-74143-1

---

## Job ID: 320-74143-1

---

### Laboratory: Eurofins TestAmerica, Sacramento

#### Narrative

---

#### Job Narrative 320-74143-1

#### Receipt

The samples were received on 5/25/2021 3:31 PM. 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 5.4° C.

#### Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. COC lists analysis for PFAS, however samples were not marked for method. AKNPW-012 (320-74143-1), AKNPW-112 (320-74143-2), AKNPW-008 (320-74143-3), AKNPW-011 (320-74143-4) and AKNPW-007 (320-74143-5)

#### LCMS

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

#### Organic Prep

Method 537.1 DW: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-493149.

Method 537.1 DW: The following samples were observed to be light brown at final volume: AKNPW-008 (320-74143-3) and AKNPW-011 (320-74143-4).

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 PFAS

Job ID: 320-74143-1

## Client Sample ID: AKNPW-012

## Lab Sample ID: 320-74143-1

| Analyte                              | Result | Qualifier | RL  | MDL  | Unit | Dil Fac | D | Method   | Prep Type |
|--------------------------------------|--------|-----------|-----|------|------|---------|---|----------|-----------|
| Perfluorohexanoic acid (PFHxA)       | 12     |           | 1.7 | 0.43 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)      | 3.0    |           | 1.7 | 0.43 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorooctanoic acid (PFOA)        | 16     |           | 1.7 | 0.43 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)  | 2.2    |           | 1.7 | 0.43 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS) | 8.0    |           | 1.7 | 0.43 | ng/L | 1       |   | 537.1 DW | Total/NA  |

## Client Sample ID: AKNPW-112

## Lab Sample ID: 320-74143-2

| Analyte                              | Result | Qualifier | RL  | MDL  | Unit | Dil Fac | D | Method   | Prep Type |
|--------------------------------------|--------|-----------|-----|------|------|---------|---|----------|-----------|
| Perfluorohexanoic acid (PFHxA)       | 12     |           | 1.7 | 0.44 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)      | 3.0    |           | 1.7 | 0.44 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorooctanoic acid (PFOA)        | 15     |           | 1.7 | 0.44 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)  | 2.1    |           | 1.7 | 0.44 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS) | 7.7    |           | 1.7 | 0.44 | ng/L | 1       |   | 537.1 DW | Total/NA  |

## Client Sample ID: AKNPW-008

## Lab Sample ID: 320-74143-3

| Analyte                              | Result | Qualifier | RL  | MDL  | Unit | Dil Fac | D | Method   | Prep Type |
|--------------------------------------|--------|-----------|-----|------|------|---------|---|----------|-----------|
| Perfluorohexanoic acid (PFHxA)       | 3.3    |           | 1.7 | 0.42 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)      | 0.69   | J         | 1.7 | 0.42 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorooctanoic acid (PFOA)        | 2.6    |           | 1.7 | 0.42 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)  | 1.3    | J         | 1.7 | 0.42 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS) | 1.3    | J         | 1.7 | 0.42 | ng/L | 1       |   | 537.1 DW | Total/NA  |

## Client Sample ID: AKNPW-011

## Lab Sample ID: 320-74143-4

| Analyte                              | Result | Qualifier | RL  | MDL  | Unit | Dil Fac | D | Method   | Prep Type |
|--------------------------------------|--------|-----------|-----|------|------|---------|---|----------|-----------|
| Perfluorohexanoic acid (PFHxA)       | 4.6    |           | 1.8 | 0.45 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)      | 0.96   | J         | 1.8 | 0.45 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorooctanoic acid (PFOA)        | 5.7    |           | 1.8 | 0.45 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)  | 0.74   | J         | 1.8 | 0.45 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS) | 2.2    |           | 1.8 | 0.45 | ng/L | 1       |   | 537.1 DW | Total/NA  |

## Client Sample ID: AKNPW-007

## Lab Sample ID: 320-74143-5

| Analyte                              | Result | Qualifier | RL  | MDL  | Unit | Dil Fac | D | Method   | Prep Type |
|--------------------------------------|--------|-----------|-----|------|------|---------|---|----------|-----------|
| Perfluorohexanoic acid (PFHxA)       | 3.7    |           | 1.8 | 0.44 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluoroheptanoic acid (PFHpA)      | 5.5    |           | 1.8 | 0.44 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorooctanoic acid (PFOA)        | 3.9    |           | 1.8 | 0.44 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorobutanesulfonic acid (PFBS)  | 1.4    | J         | 1.8 | 0.44 | ng/L | 1       |   | 537.1 DW | Total/NA  |
| Perfluorohexanesulfonic acid (PFHxS) | 3.9    |           | 1.8 | 0.44 | ng/L | 1       |   | 537.1 DW | Total/NA  |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

# Client Sample Results

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

Job ID: 320-74143-1

**Client Sample ID: AKNPW-012**

**Lab Sample ID: 320-74143-1**

Date Collected: 05/20/21 09:50

Matrix: Water

Date Received: 05/25/21 15:31

**Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)**

| Analyte   | Result     | Qualifier | RL  | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---|------------|-----------|-----|------|------|---|----------------|----------------|---------|
| <b>Perfluorohexanoic acid (PFHxA)</b>                         | <b>12</b>  |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| <b>Perfluoroheptanoic acid (PFHpA)</b>                        | <b>3.0</b> |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| <b>Perfluorooctanoic acid (PFOA)</b>                          | <b>16</b>  |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| Perfluorononanoic acid (PFNA)                                 | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| Perfluorodecanoic acid (PFDA)                                 | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| Perfluoroundecanoic acid (PFUnA)                              | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| Perfluorododecanoic acid (PFDoA)                              | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| Perfluorotridecanoic acid (PFTriA)                            | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                           | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| <b>Perfluorobutanesulfonic acid (PFBS)</b>                    | <b>2.2</b> |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| <b>Perfluorohexanesulfonic acid (PFHxS)</b>                   | <b>8.0</b> |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                           | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)      | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)       | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3O) | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF) | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)                | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                   | ND         |           | 1.7 | 0.43 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:05 | 1       |

| Surrogate    | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C2 PFHxA   | 107       |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| 13C2 PFDA    | 104       |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| d5-NEtFOSAA  | 89        |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:05 | 1       |
| 13C3 HFPO-DA | 97        |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:05 | 1       |

# Client Sample Results

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

Job ID: 320-74143-1

**Client Sample ID: AKNPW-112**

**Lab Sample ID: 320-74143-2**

Date Collected: 05/20/21 09:40

Matrix: Water

Date Received: 05/25/21 15:31

**Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)**

| Analyte   | Result     | Qualifier | RL  | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---|------------|-----------|-----|------|------|---|----------------|----------------|---------|
| <b>Perfluorohexanoic acid (PFHxA)</b>                         | <b>12</b>  |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| <b>Perfluoroheptanoic acid (PFHpA)</b>                        | <b>3.0</b> |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| <b>Perfluorooctanoic acid (PFOA)</b>                          | <b>15</b>  |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| Perfluorononanoic acid (PFNA)                                 | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| Perfluorodecanoic acid (PFDA)                                 | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| Perfluoroundecanoic acid (PFUnA)                              | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| Perfluorododecanoic acid (PFDoA)                              | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| Perfluorotridecanoic acid (PFTriA)                            | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                           | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| <b>Perfluorobutanesulfonic acid (PFBS)</b>                    | <b>2.1</b> |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| <b>Perfluorohexanesulfonic acid (PFHxS)</b>                   | <b>7.7</b> |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                           | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)      | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)       | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3O) | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF) | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)                | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                   | ND         |           | 1.7 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:13 | 1       |

| Surrogate    | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C2 PFHxA   | 105       |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| 13C2 PFDA    | 102       |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| d5-NEtFOSAA  | 88        |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:13 | 1       |
| 13C3 HFPO-DA | 96        |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:13 | 1       |

# Client Sample Results

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

Job ID: 320-74143-1

**Client Sample ID: AKNPW-008**

**Lab Sample ID: 320-74143-3**

Date Collected: 05/20/21 10:29

Matrix: Water

Date Received: 05/25/21 15:31

**Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)**

| Analyte   | Result | Qualifier | RL  | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Perfluorohexanoic acid (PFHxA)                                | 3.3    |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Perfluoroheptanoic acid (PFHpA)                               | 0.69   | J         | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Perfluorooctanoic acid (PFOA)                                 | 2.6    |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Perfluorononanoic acid (PFNA)                                 | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Perfluorodecanoic acid (PFDA)                                 | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Perfluoroundecanoic acid (PFUnA)                              | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Perfluorododecanoic acid (PFDoA)                              | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Perfluorotridecanoic acid (PFTriA)                            | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                           | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                           | 1.3    | J         | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                          | 1.3    | J         | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                           | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| N-methylperfluorooctanesulfonamide acid (NMeFOSAA)            | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| N-ethylperfluorooctanesulfonamide acid (NEtFOSAA)             | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3O) | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF) | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)                | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                   | ND     |           | 1.7 | 0.42 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:21 | 1       |

| Surrogate    | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C2 PFHxA   | 105       |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| 13C2 PFDA    | 104       |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| d5-NEtFOSAA  | 89        |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:21 | 1       |
| 13C3 HFPO-DA | 97        |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:21 | 1       |



# Client Sample Results

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

Job ID: 320-74143-1

**Client Sample ID: AKNPW-011**

**Lab Sample ID: 320-74143-4**

Date Collected: 05/20/21 11:01

Matrix: Water

Date Received: 05/25/21 15:31

**Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)**

| Analyte   | Result      | Qualifier | RL  | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---|-------------|-----------|-----|------|------|---|----------------|----------------|---------|
| <b>Perfluorohexanoic acid (PFHxA)</b>                         | <b>4.6</b>  |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| <b>Perfluoroheptanoic acid (PFHpA)</b>                        | <b>0.96</b> | <b>J</b>  | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| <b>Perfluorooctanoic acid (PFOA)</b>                          | <b>5.7</b>  |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| Perfluorononanoic acid (PFNA)                                 | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| Perfluorodecanoic acid (PFDA)                                 | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| Perfluoroundecanoic acid (PFUnA)                              | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| Perfluorododecanoic acid (PFDoA)                              | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| Perfluorotridecanoic acid (PFTriA)                            | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                           | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| <b>Perfluorobutanesulfonic acid (PFBS)</b>                    | <b>0.74</b> | <b>J</b>  | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| <b>Perfluorohexanesulfonic acid (PFHxS)</b>                   | <b>2.2</b>  |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                           | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)      | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)       | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3O) | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF) | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)                | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                   | ND          |           | 1.8 | 0.45 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:28 | 1       |

| Surrogate    | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C2 PFHxA   | 104       |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| 13C2 PFDA    | 107       |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| d5-NEtFOSAA  | 87        |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:28 | 1       |
| 13C3 HFPO-DA | 97        |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:28 | 1       |

# Client Sample Results

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

Job ID: 320-74143-1

**Client Sample ID: AKNPW-007**

**Lab Sample ID: 320-74143-5**

Date Collected: 05/20/21 11:28

Matrix: Water

Date Received: 05/25/21 15:31

**Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)**

| Analyte   | Result | Qualifier | RL  | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---|--------|-----------|-----|------|------|---|----------------|----------------|---------|
| Perfluorohexanoic acid (PFHxA)                                | 3.7    |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Perfluoroheptanoic acid (PFHpA)                               | 5.5    |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Perfluorooctanoic acid (PFOA)                                 | 3.9    |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Perfluorononanoic acid (PFNA)                                 | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Perfluorodecanoic acid (PFDA)                                 | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Perfluoroundecanoic acid (PFUnA)                              | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Perfluorododecanoic acid (PFDoA)                              | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Perfluorotridecanoic acid (PFTriA)                            | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                           | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                           | 1.4    | J         | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                          | 3.9    |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                           | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| N-methylperfluorooctanesulfonamideacetic acid (NMeFOSAA)      | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| N-ethylperfluorooctanesulfonamideacetic acid (NEtFOSAA)       | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3O) | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF) | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)                | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                   | ND     |           | 1.8 | 0.44 | ng/L |   | 05/26/21 19:19 | 05/27/21 19:36 | 1       |

| Surrogate    | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------|-----------|-----------|----------|----------------|----------------|---------|
| 13C2 PFHxA   | 110       |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| 13C2 PFDA    | 105       |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| d5-NEtFOSAA  | 84        |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:36 | 1       |
| 13C3 HFPO-DA | 102       |           | 70 - 130 | 05/26/21 19:19 | 05/27/21 19:36 | 1       |

# Surrogate Summary

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

Job ID: 320-74143-1

**Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)**

**Matrix: Water**

**Prep Type: Total/NA**

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                  |                     |                    |
|---------------------|------------------------|--|------------------|---------------------|--------------------|
|                     |                        | PFHxA<br>(70-130)                              | PFDA<br>(70-130) | d5NEFOS<br>(70-130) | HFPODA<br>(70-130) |
| 320-74143-1         | AKNPW-012              | 107  | 104              | 89                  | 97                 |
| 320-74143-2         | AKNPW-112              | 105  | 102              | 88                  | 96                 |
| 320-74143-3         | AKNPW-008              | 105  | 104              | 89                  | 97                 |
| 320-74143-4         | AKNPW-011              | 104  | 107              | 87                  | 97                 |
| 320-74143-5         | AKNPW-007              | 110  | 105              | 84                  | 102                |
| LCS 320-493149/2-A  | Lab Control Sample     | 112  | 107              | 95                  | 106                |
| LCSD 320-493149/3-A | Lab Control Sample Dup | 101  | 95               | 84                  | 95                 |
| MB 320-493149/1-A   | Method Blank           | 112  | 106              | 92                  | 102                |

**Surrogate Legend**

- PFHxA = 13C2 PFHxA
- PFDA = 13C2 PFDA
- d5NEFOS = d5-NEtFOSAA
- HFPODA = 13C3 HFPO-DA



# QC Sample Results

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

Job ID: 320-74143-1

## Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)

**Lab Sample ID: MB 320-493149/1-A**  
**Matrix: Water**  
**Analysis Batch: 493665**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 493149**

| Analyte   | MB Result | MB Qualifier | RL  | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---|-----------|--------------|-----|------|------|---|----------------|----------------|---------|
| Perfluorohexanoic acid (PFHxA)                                | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Perfluoroheptanoic acid (PFHpA)                               | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Perfluorooctanoic acid (PFOA)                                 | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Perfluorononanoic acid (PFNA)                                 | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Perfluorodecanoic acid (PFDA)                                 | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Perfluoroundecanoic acid (PFUnA)                              | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Perfluorododecanoic acid (PFDoA)                              | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Perfluorotridecanoic acid (PFTriA)                            | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Perfluorotetradecanoic acid (PFTeA)                           | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Perfluorobutanesulfonic acid (PFBS)                           | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Perfluorohexanesulfonic acid (PFHxS)                          | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Perfluorooctanesulfonic acid (PFOS)                           | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)      | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)       | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3O) | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF) | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)                | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                   | ND        |              | 2.0 | 0.50 | ng/L |   | 05/26/21 19:19 | 05/27/21 18:57 | 1       |

| Surrogate    | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------|--------------|--------------|----------|----------------|----------------|---------|
| 13C2 PFHxA   | 112          |              | 70 - 130 | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| 13C2 PFDA    | 106          |              | 70 - 130 | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| d5-NEtFOSAA  | 92           |              | 70 - 130 | 05/26/21 19:19 | 05/27/21 18:57 | 1       |
| 13C3 HFPO-DA | 102          |              | 70 - 130 | 05/26/21 19:19 | 05/27/21 18:57 | 1       |

**Lab Sample ID: LCS 320-493149/2-A**  
**Matrix: Water**  
**Analysis Batch: 493665**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 493149**

| Analyte                             | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|-------------------------------------|-------------|------------|---------------|------|---|------|--------------|
| Perfluorohexanoic acid (PFHxA)      | 160         | 169        |               | ng/L |   | 106  | 70 - 130     |
| Perfluoroheptanoic acid (PFHpA)     | 160         | 174        |               | ng/L |   | 109  | 70 - 130     |
| Perfluorooctanoic acid (PFOA)       | 160         | 172        |               | ng/L |   | 108  | 70 - 130     |
| Perfluorononanoic acid (PFNA)       | 160         | 172        |               | ng/L |   | 107  | 70 - 130     |
| Perfluorodecanoic acid (PFDA)       | 160         | 176        |               | ng/L |   | 110  | 70 - 130     |
| Perfluoroundecanoic acid (PFUnA)    | 160         | 161        |               | ng/L |   | 101  | 70 - 130     |
| Perfluorododecanoic acid (PFDoA)    | 160         | 158        |               | ng/L |   | 99   | 70 - 130     |
| Perfluorotridecanoic acid (PFTriA)  | 160         | 163        |               | ng/L |   | 102  | 70 - 130     |
| Perfluorotetradecanoic acid (PFTeA) | 160         | 156        |               | ng/L |   | 97   | 70 - 130     |
| Perfluorobutanesulfonic acid (PFBS) | 141         | 138        |               | ng/L |   | 97   | 70 - 130     |

Eurofins TestAmerica, Sacramento

# QC Sample Results

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

Job ID: 320-74143-1

## Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS) (Continued)

**Lab Sample ID: LCS 320-493149/2-A**  
**Matrix: Water**  
**Analysis Batch: 493665**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 493149**

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|--|-------------|------------|---------------|------|---|------|--------------|
| Perfluorohexanesulfonic acid (PFHxS)   | 146         | 146        |               | ng/L |   | 100  | 70 - 130     |
| Perfluorooctanesulfonic acid (PFOS)  | 148         | 141        |               | ng/L |   | 95   | 70 - 130     |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)   | 160         | 145        |               | ng/L |   | 91   | 70 - 130     |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)  | 160         | 137        |               | ng/L |   | 86   | 70 - 130     |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3O)  | 149         | 146        |               | ng/L |   | 98   | 70 - 130     |
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PFHexafluoropropylene Oxide Dimer Acid (HFPO-DA) | 151         | 141        |               | ng/L |   | 94   | 70 - 130     |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)  | 160         | 168        |               | ng/L |   | 105  | 70 - 130     |
|  | 151         | 169        |               | ng/L |   | 112  | 70 - 130     |

  

| Surrogate    | LCS %Recovery | LCS Qualifier | Limits   |
|--------------|---------------|---------------|----------|
| 13C2 PFHxA   | 112           |               | 70 - 130 |
| 13C2 PFDA    | 107           |               | 70 - 130 |
| d5-NEtFOSAA  | 95            |               | 70 - 130 |
| 13C3 HFPO-DA | 106           |               | 70 - 130 |

**Lab Sample ID: LCSD 320-493149/3-A**  
**Matrix: Water**  
**Analysis Batch: 493665**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 493149**

| Analyte   | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Perfluorohexanoic acid (PFHxA)                                | 160         | 155         |                | ng/L |   | 97   | 70 - 130     | 9   | 30        |
| Perfluoroheptanoic acid (PFHpA)                               | 160         | 158         |                | ng/L |   | 99   | 70 - 130     | 10  | 30        |
| Perfluorooctanoic acid (PFOA)                                 | 160         | 157         |                | ng/L |   | 98   | 70 - 130     | 10  | 30        |
| Perfluorononanoic acid (PFNA)                                 | 160         | 155         |                | ng/L |   | 97   | 70 - 130     | 10  | 30        |
| Perfluorodecanoic acid (PFDA)                                 | 160         | 164         |                | ng/L |   | 102  | 70 - 130     | 7   | 30        |
| Perfluoroundecanoic acid (PFUnA)                              | 160         | 153         |                | ng/L |   | 96   | 70 - 130     | 5   | 30        |
| Perfluorododecanoic acid (PFDoA)                              | 160         | 153         |                | ng/L |   | 96   | 70 - 130     | 3   | 30        |
| Perfluorotridecanoic acid (PFTriA)                            | 160         | 155         |                | ng/L |   | 97   | 70 - 130     | 5   | 30        |
| Perfluorotetradecanoic acid (PFTeA)                           | 160         | 144         |                | ng/L |   | 90   | 70 - 130     | 7   | 30        |
| Perfluorobutanesulfonic acid (PFBS)                           | 141         | 131         |                | ng/L |   | 92   | 70 - 130     | 5   | 30        |
| Perfluorohexanesulfonic acid (PFHxS)                          | 146         | 139         |                | ng/L |   | 95   | 70 - 130     | 5   | 30        |
| Perfluorooctanesulfonic acid (PFOS)                           | 148         | 133         |                | ng/L |   | 89   | 70 - 130     | 6   | 30        |
| N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)      | 160         | 135         |                | ng/L |   | 85   | 70 - 130     | 7   | 30        |
| N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)       | 160         | 129         |                | ng/L |   | 81   | 70 - 130     | 6   | 30        |
| 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3O) | 149         | 142         |                | ng/L |   | 95   | 70 - 130     | 3   | 30        |

Eurofins TestAmerica, Sacramento

# QC Sample Results

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

Job ID: 320-74143-1

## Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS) (Continued)

**Lab Sample ID: LCSD 320-493149/3-A**  
**Matrix: Water**  
**Analysis Batch: 493665**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 493149**

| Analyte   | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF) | 151         | 142         |                | ng/L |   | 95   | 70 - 130     | 1   | 30        |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)                | 160         | 155         |                | ng/L |   | 97   | 70 - 130     | 8   | 30        |
| 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)                   | 151         | 151         |                | ng/L |   | 100  | 70 - 130     | 11  | 30        |

| Surrogate    | LCSD %Recovery | LCSD Qualifier | LCSD Limits |
|--------------|----------------|----------------|-------------|
| 13C2 PFHxA   | 101            |                | 70 - 130    |
| 13C2 PFDA    | 95             |                | 70 - 130    |
| d5-NEtFOSAA  | 84             |                | 70 - 130    |
| 13C3 HFPO-DA | 95             |                | 70 - 130    |

# QC Association Summary

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

Job ID: 320-74143-1

## LCMS

### Prep Batch: 493149

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| 320-74143-1         | AKNPW-012              | Total/NA  | Water  | 537.1 DW |            |
| 320-74143-2         | AKNPW-112              | Total/NA  | Water  | 537.1 DW |            |
| 320-74143-3         | AKNPW-008              | Total/NA  | Water  | 537.1 DW |            |
| 320-74143-4         | AKNPW-011              | Total/NA  | Water  | 537.1 DW |            |
| 320-74143-5         | AKNPW-007              | Total/NA  | Water  | 537.1 DW |            |
| MB 320-493149/1-A   | Method Blank           | Total/NA  | Water  | 537.1 DW |            |
| LCS 320-493149/2-A  | Lab Control Sample     | Total/NA  | Water  | 537.1 DW |            |
| LCSD 320-493149/3-A | Lab Control Sample Dup | Total/NA  | Water  | 537.1 DW |            |

### Analysis Batch: 493665

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| 320-74143-1         | AKNPW-012              | Total/NA  | Water  | 537.1 DW | 493149     |
| 320-74143-2         | AKNPW-112              | Total/NA  | Water  | 537.1 DW | 493149     |
| 320-74143-3         | AKNPW-008              | Total/NA  | Water  | 537.1 DW | 493149     |
| 320-74143-4         | AKNPW-011              | Total/NA  | Water  | 537.1 DW | 493149     |
| 320-74143-5         | AKNPW-007              | Total/NA  | Water  | 537.1 DW | 493149     |
| MB 320-493149/1-A   | Method Blank           | Total/NA  | Water  | 537.1 DW | 493149     |
| LCS 320-493149/2-A  | Lab Control Sample     | Total/NA  | Water  | 537.1 DW | 493149     |
| LCSD 320-493149/3-A | Lab Control Sample Dup | Total/NA  | Water  | 537.1 DW | 493149     |

# Lab Chronicle

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

Job ID: 320-74143-1

## Client Sample ID: AKNPW-012

Lab Sample ID: 320-74143-1

Date Collected: 05/20/21 09:50

Matrix: Water

Date Received: 05/25/21 15:31

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 537.1 DW     |     |            | 293.4 mL       | 1.00 mL      | 493149       | 05/26/21 19:19       | AP      | TAL SAC |
| Total/NA  | Analysis   | 537.1 DW     |     | 1          |                |              | 493665       | 05/27/21 19:05       | D1R     | TAL SAC |

## Client Sample ID: AKNPW-112

Lab Sample ID: 320-74143-2

Date Collected: 05/20/21 09:40

Matrix: Water

Date Received: 05/25/21 15:31

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 537.1 DW     |     |            | 286.8 mL       | 1.00 mL      | 493149       | 05/26/21 19:19       | AP      | TAL SAC |
| Total/NA  | Analysis   | 537.1 DW     |     | 1          |                |              | 493665       | 05/27/21 19:13       | D1R     | TAL SAC |

## Client Sample ID: AKNPW-008

Lab Sample ID: 320-74143-3

Date Collected: 05/20/21 10:29

Matrix: Water

Date Received: 05/25/21 15:31

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 537.1 DW     |     |            | 300.7 mL       | 1.00 mL      | 493149       | 05/26/21 19:19       | AP      | TAL SAC |
| Total/NA  | Analysis   | 537.1 DW     |     | 1          |                |              | 493665       | 05/27/21 19:21       | D1R     | TAL SAC |

## Client Sample ID: AKNPW-011

Lab Sample ID: 320-74143-4

Date Collected: 05/20/21 11:01

Matrix: Water

Date Received: 05/25/21 15:31

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 537.1 DW     |     |            | 277.8 mL       | 1.00 mL      | 493149       | 05/26/21 19:19       | AP      | TAL SAC |
| Total/NA  | Analysis   | 537.1 DW     |     | 1          |                |              | 493665       | 05/27/21 19:28       | D1R     | TAL SAC |

## Client Sample ID: AKNPW-007

Lab Sample ID: 320-74143-5

Date Collected: 05/20/21 11:28

Matrix: Water

Date Received: 05/25/21 15:31

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 537.1 DW     |     |            | 283.1 mL       | 1.00 mL      | 493149       | 05/26/21 19:19       | AP      | TAL SAC |
| Total/NA  | Analysis   | 537.1 DW     |     | 1          |                |              | 493665       | 05/27/21 19:36       | D1R     | TAL SAC |

### Laboratory References:

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



# Accreditation/Certification Summary

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

Job ID: 320-74143-1

## Laboratory: Eurofins TestAmerica, Sacramento

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

| Authority          | Program               | Identification Number | Expiration Date |
|--------------------|-----------------------|-----------------------|-----------------|
| Alaska (UST)       | State                 | 17-020                | 02-20-24        |
| ANAB               | Dept. of Defense ELAP | L2468                 | 01-20-24        |
| ANAB               | Dept. of Energy       | L2468.01              | 01-20-24        |
| ANAB               | ISO/IEC 17025         | L2468                 | 01-20-24        |
| Arizona            | State                 | AZ0708                | 08-11-21        |
| Arkansas DEQ       | State                 | 88-0691               | 06-17-21        |
| California         | State                 | 2897                  | 01-31-22        |
| Colorado           | State                 | CA0004                | 08-31-21        |
| Connecticut        | State                 | PH-0691               | 06-30-21        |
| Florida            | NELAP                 | E87570                | 06-30-21        |
| Georgia            | State                 | 4040                  | 01-29-22        |
| Hawaii             | State                 | <cert No.>            | 01-29-22        |
| Illinois           | NELAP                 | 200060                | 03-18-22        |
| Kansas             | NELAP                 | E-10375               | 10-31-21        |
| Louisiana          | NELAP                 | 01944                 | 06-30-21        |
| Maine              | State                 | CA00004               | 04-14-22        |
| Michigan           | State                 | 9947                  | 01-29-22        |
| Nevada             | State                 | CA000442021-2         | 07-31-21        |
| New Hampshire      | NELAP                 | 2997                  | 04-18-22        |
| New Jersey         | NELAP                 | CA005                 | 06-30-21        |
| New York           | NELAP                 | 11666                 | 04-01-22        |
| Ohio               | State                 | 41252                 | 01-29-22        |
| Oregon             | NELAP                 | 4040                  | 01-30-23        |
| Texas              | NELAP                 | T104704399-19-13      | 05-31-21        |
| US Fish & Wildlife | US Federal Programs   | 58448                 | 07-31-21        |
| USDA               | US Federal Programs   | P330-18-00239         | 07-31-21        |
| Utah               | NELAP                 | CA000442021-12        | 03-01-22        |
| Virginia           | NELAP                 | 460278                | 03-14-22        |
| West Virginia (DW) | State                 | 9930C                 | 12-31-21        |
| Wisconsin          | State                 | 998204680             | 08-31-21        |
| Wyoming            | State Program         | 8TMS-L                | 01-28-19 *      |

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

# Method Summary

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

Job ID: 320-74143-1

| Method   | Method Description                       | Protocol | Laboratory |
|----------|--|----------|------------|
| 537.1 DW | Perfluorinated Alkyl Acids (LC/MS)       | EPA      | TAL SAC    |
| 537.1 DW | Extraction of Perfluorinated Alkyl Acids | EPA      | TAL SAC    |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

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

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Sample Summary

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

Job ID: 320-74143-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Asset ID |
|---------------|------------------|--------|----------------|----------------|----------|
| 320-74143-1   | AKNPW-012        | Water  | 05/20/21 09:50 | 05/25/21 15:31 |          |
| 320-74143-2   | AKNPW-112        | Water  | 05/20/21 09:40 | 05/25/21 15:31 |          |
| 320-74143-3   | AKNPW-008        | Water  | 05/20/21 10:29 | 05/25/21 15:31 |          |
| 320-74143-4   | AKNPW-011        | Water  | 05/20/21 11:01 | 05/25/21 15:31 |          |
| 320-74143-5   | AKNPW-007        | Water  | 05/20/21 11:28 | 05/25/21 15:31 |          |

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# CHAIN-OF-CUSTODY RECORD

Analytical Methods (include preservative if used)

Quote No: \_\_\_\_\_

Turn Around Time:  
 Normal  Rush  
 Please Specify \_\_\_\_\_

J-Flags:  Yes  No

| Sample Identity | Lab No. | Time | Date Sampled | Total Number of Containers | Remarks/Matrix Composition/Grab? Sample Containers |
|-----------------|---------|------|--------------|----------------------------|--|
| AKNPW-012       |         | 950  | 5/20/21      | 2                          | Drinking Water<br>↓                                |
| AKNPW-112       |         | 940  |              | 2                          |  |
| AKNPW-008       |         | 1029 |              | 2                          |  |
| AKNPW-011       |         | 1101 |              | 2                          |  |
| AKNPW-007       |         | 1128 |              | 2                          |  |



**Project Information**

Number: 102582-010

Name: King Salmon PFAS

Contact: Michael Jacomini

Ongoing Project? Yes  No

Sampler: RLW

**Sample Receipt**

Total No. of Containers: 10

COC Seals/Intact? Y/N/NA

Received Good Cond./Cold

Temp: 5.4c

Delivery Method: Hand to Gold

**Notes:**

\_\_\_\_\_

| Relinquished By: 1.  | Relinquished By: 2.  | Relinquished By: 3.  |
|--|--|--|
| Signature: <u>[Signature]</u><br>Printed Name: <u>Sheila Hinckley</u><br>Company: <u>Shannon &amp; Wilson, Inc</u> | Signature: _____<br>Printed Name: _____<br>Company: _____                    | Signature: _____<br>Printed Name: _____<br>Company: _____                    |
| Time: <u>1000</u><br>Date: <u>5/24/21</u>  | Time: _____<br>Date: _____   | Time: _____<br>Date: _____   |
| Received By: 1.<br>Signature: <u>[Signature]</u><br>Printed Name: <u>David Hu</u><br>Company: _____                | Received By: 2.<br>Signature: _____<br>Printed Name: _____<br>Company: _____ | Received By: 3.<br>Signature: _____<br>Printed Name: _____<br>Company: _____ |
| Time: <u>1057</u><br>Date: _____   | Time: _____<br>Date: _____   | Time: _____<br>Date: _____   |

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

# Login Sample Receipt Checklist

Client: Shannon & Wilson, Inc

Job Number: 320-74143-1

**Login Number: 74143**

**List Number: 1**

**Creator: Her, David A**

**List Source: Eurofins TestAmerica, Sacramento**

| Question   | Answer | Comment   |
|--|--------|---|
| Radioactivity wasn't checked or is <=/ background as measured by a survey meter. | True   |   |
| The cooler's custody seal, if present, is intact.                                | True   | 1502959/1502961   |
| 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.                                | False  | Analyses listed on COC; individual samples not designated for specific analyses |
| 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    |   |