0082537

# SAF-RC-118
# Columbia River Component of the RCBRA – Tissues
# FINAL DATA PACKAGE

**COMPLETE COPY OF DATA PACKAGE TO:**

Kathy Wendt H4-21 KW 7/1/09
INITIAL/DATE

**COMMENTS:**

**SDG SEQ042309** **SAF-RC-118**

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

**Sampling Location:**
**300SA-WF1 - 5, CARCASS**
**300SA-WF1 – 5, FILLET**
**LWSA-WF1 – 5, CARCASS**
**LWSA-WF1 - 5, FILLET**
**100SA-WF1 – 5, CARCASS**
**100SA-WF1 – 5, FILLET**
**UPRIVER SA-WF1 – 5, CARCASS**
**UPRIVER SA-WF1 – 5, FILLET**

RECEIVED
JUL 17 2009
EDMC

# Analytical Chemistry Data Package
# Inorganics Analysis

RECEIVED
JUN 2009

## Project: Washington Closures Hanford
Total Inorganic Arsenic
Fish Tissue Homogenate

## Analysis of Arsenic in Tissue

Battelle Project No. 56166
CF No. 2981

Pacific Northwest
NATIONAL LABORATORY

Pacific Northwest National Laboratory operated by Battelle
Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
(360) 681-4564



SEQ042309
SAF RC-118

# INORGANIC CHEMISTRY ANALYSIS DATA PACKAGE CONTENTS

**Washington Closures Hanford**
**Total Inorganic Arsenic**
**Fish Tissue Homogenate**

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*BATTELLE MARINE SCIENCES LABORATORY*
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Sequim, Washington 98382
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**Washington Closure Hanford**
Arsenic Speciation Study

| MSL Code | Client ID | Received Date | Collection Date | Analysis Date | Percent Dry Wt | Analytical Batch ID | AsB µg/g dry wt. | DMA µg/g dry wt. | MMA µg/g dry wt. | $As^{3+5}$ µg/g dry wt. | *Total As* µg/g dry wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Method Detection Limit (MDL)* | | | | | | | *0.002* [1] | *0.005* | *0.007* | *0.01* | *Calculated* |
| 2981-73 | J18K74 | 04/23/09 | 04/20/09 | 05/08/09 | 31.3 | 050809-LCDRC | 0.00759 | 0.0241 | 0.007 U | 0.01 U | *0.0317* |
| 2981-74 | J18KF9 | 04/23/09 | 04/16/09 | 05/08/09 | 29.6 | 050809-LCDRC | 0.002 U | 0.0274 | 0.007 U | 0.01 U | *0.0274* |
| 2981-75 | J18K46 | 04/23/09 | 04/21/09 | 05/08/09 | 26.0 | 050809-LCDRC | 0.00978 | 0.00716 | 0.007 U | 0.01 U | *0.0169* |
| 2981-76R1 | J18KH2 | 04/23/09 | 04/20/09 | 05/08/09 | 30.6 | 050809-LCDRC | 0.002 U | 0.0804 | 0.007 U | 0.01 U | *0.0804* |
| 2981-76R2 | J18KH2DUP | 04/23/09 | 04/20/09 | 05/08/09 | 30.6 | 050809-LCDRC | 0.002 U | 0.0844 | 0.007 U | 0.01 U | *0.0844* |
| 2981-77 | J18K75 | 04/23/09 | 04/21/09 | 05/08/09 | 33.5 | 050809-LCDRC | 0.00631 | 0.0147 | 0.007 U | 0.01 U | *0.0210* |
| 2981-78 | J18K73 | 04/23/09 | 04/20/09 | 05/08/09 | 29.5 | 050809-LCDRC | 0.002 U | 0.0402 | 0.007 U | 0.01 U | *0.0402* |
| 2981-79 | J18KF8 | 04/23/09 | 04/16/09 | 05/08/09 | 31.2 | 050809-LCDRC | 0.00964 | 0.0286 | 0.007 U | 0.01 U | *0.0382* |
| 2981-80 | J18K92 | 04/23/09 | 04/15/09 | 05/08/09 | 25.9 | 050809-LCDRC | 0.0139 | 0.00590 | 0.007 U | 0.01 U | *0.0198* |
| 2981-81 | J18K88 | 04/23/09 | 04/13/09 | 05/08/09 | 26.3 | 050809-LCDRC | 0.0144 | 0.005 U | 0.007 U | 0.01 U | *0.0144* |
| 2981-82 | J18K89 | 04/23/09 | 04/14/09 | 05/08/09 | 27.5 | 050809-LCDRC | 0.0121 | 0.005 U | 0.007 U | 0.01 U | *0.0121* |
| 2981-83 | J18K90 | 04/23/09 | 04/14/09 | 05/08/09 | 27.0 | 050809-LCDRC | 0.00898 | 0.005 U | 0.007 U | 0.01 U | *0.00898* |
| 2981-84 | J18KH0 | 04/23/09 | 04/16/09 | 05/08/09 | 31.8 | 050809-LCDRC | 0.0110 | 0.0362 | 0.007 U | 0.01 U | *0.0472* |
| 2981-85 | J18KH1 | 04/23/09 | 04/16/09 | 05/08/09 | 27.2 | 050809-LCDRC | 0.0217 | 0.0367 | 0.007 U | 0.01 U | *0.0583* |
| 2981-86 | J18K91 | 04/23/09 | 04/15/09 | 05/08/09 | 25.1 | 050809-LCDRC | 0.0231 | 0.005 U | 0.007 U | 0.01 U | *0.0231* |
| 2981-87 | J18K77 | 04/23/09 | 04/21/09 | 05/08/09 | 32.0 | 050809-LCDRC | 0.0121 | 0.00826 | 0.007 U | 0.01 U | *0.0203* |
| 2781-88 | J18K76 | 04/23/09 | 04/21/09 | 05/08/09 | 30.2 | 050809-LCDRC | 0.00958 | 0.0273 | 0.007 U | 0.01 U | *0.0369* |
| 2981-89 | J18K47 | 04/29/09 | 04/22/09 | 05/08/09 | 26.8 | 050809-LCDRC | 0.0120 | 0.005 U | 0.007 U | 0.01 U | *0.0120* |
| 2981-90 | J18K48 | 04/29/09 | 04/22/09 | 05/08/09 | 29.4 | 050809-LCDRC | 0.00876 | 0.005 U | 0.007 U | 0.01 U | *0.00876* |
| 2981-91 | J18K49 | 04/29/09 | 04/22/09 | 05/08/09 | 27.0 | 050809-LCDRC | 0.0207 | 0.005 U | 0.007 U | 0.01 U | *0.0207* |
| 2981-92 | J18K50 | 04/29/09 | 04/22/09 | 05/08/09 | 27.5 | 050809-LCDRC | 0.0136 | 0.005 U | 0.007 U | 0.01 U | *0.0136* |
| 2981-93 | J18K31 | 04/29/09 | 04/23/09 | 05/21/09 | 32.6 | 052109-LCDRC | 0.0125 | 0.0261 | 0.007 U | 0.01 U | *0.0386* |
| 2981-94 | J18K32 | 04/29/09 | 04/23/09 | 05/21/09 | 32.0 | 052109-LCDRC | 0.0157 | 0.0160 | 0.007 U | 0.01 U | *0.0317* |
| 2981-95 | J18K33 | 04/29/09 | 04/23/09 | 05/21/09 | 33.7 | 052109-LCDRC | 0.0146 | 0.0216 | 0.007 U | 0.01 U | *0.0362* |
| 2981-96 | J18K34 | 04/29/09 | 04/23/09 | 05/21/09 | 31.9 | 052109-LCDRC | 0.00555 | 0.0200 | 0.007 U | 0.01 U | *0.0256* |
| 2981-97 | J18J94 | 04/29/09 | 04/27/09 | 05/21/09 | 29.4 | 052109-LCDRC | 0.0168 | 0.00853 | 0.007 U | 0.01 U | *0.0253* |
| 2981-98 R1 | J18J95 | 04/29/09 | 04/27/09 | 05/21/09 | 27.5 | 052109-LCDRC | 0.0173 | 0.005 U | 0.007 U | 0.01 U | *0.0173* |
| 2981-98 R2 | J18J95DUP | 04/29/09 | 04/27/09 | 05/21/09 | 27.5 | 052109-LCDRC | 0.0256 | 0.005 U | 0.007 U | 0.01 U | *0.0256* |
| 2981-99 | J18J96 | 04/29/09 | 04/27/09 | 05/21/09 | 26.8 | 052109-LCDRC | 0.0283 | 0.005 U | 0.007 U | 0.01 U | *0.0283* |
| 2981-100 | J18J97 | 04/29/09 | 04/27/09 | 05/21/09 | 28.4 | 052109-LCDRC | 0.0136 | 0.00805 | 0.007 U | 0.01 U | *0.0217* |
| 2981-101 | J18J16 | 05/06/09 | 04/28/09 | 05/21/09 | 23.8 | 052109-LCDRC | 0.0119 | 0.005 U | 0.007 U | 0.01 U | *0.0119* |
| 2981-102 | J18J17 | 05/06/09 | 04/29/09 | 05/21/09 | 25.2 | 052109-LCDRC | 0.0110 | 0.005 U | 0.007 U | 0.01 U | *0.0110* |
| 2981-103 | J18J18 | 05/06/09 | 04/29/09 | 05/21/09 | 25.3 | 052109-LCDRC | 0.0103 | 0.005 U | 0.007 U | 0.01 U | *0.0103* |
| 2981-104 | J18J19 | 05/06/09 | 04/30/09 | 05/21/09 | 23.9 | 052109-LCDRC | 0.0122 | 0.00605 | 0.007 U | 0.01 U | *0.0183* |
| 2981-105 | J18J20 | 05/06/09 | 04/30/09 | 05/21/09 | 25.5 | 052109-LCDRC | 0.00887 | 0.005 U | 0.007 U | 0.01 U | *0.00887* |
| 2981-106 | J18K35 | 05/06/09 | 04/28/09 | 05/21/09 | 35.2 | 052109-LCDRC | 0.0138 | 0.0191 | 0.007 U | 0.01 U | *0.0329* |
| 2981-107 | J18J79 | 05/06/09 | 04/28/09 | 05/21/09 | 31.2 | 052109-LCDRC | 0.0154 | 0.0139 | 0.007 U | 0.01 U | *0.0293* |
| 2981-108 | J18J80 | 05/06/09 | 04/29/09 | 05/21/09 | 27.5 | 052109-LCDRC | 0.00984 | 0.005 U | 0.007 U | 0.01 U | *0.0098* |
| 2981-109 | J18J81 | 05/06/09 | 04/29/09 | 05/21/09 | 28.8 | 052109-LCDRC | 0.0112 | 0.00629 | 0.007 U | 0.01 U | *0.0175* |
| 2981-110 | J18J82 | 05/06/09 | 04/30/09 | 05/21/09 | 25.1 | 052109-LCDRC | 0.00919 | 0.005 U | 0.007 U | 0.01 U | *0.0092* |
| 2981-111 | J18J83 | 05/06/09 | 04/30/09 | 05/21/09 | 29.7 | 052109-LCDRC | 0.00933 | 0.00727 | 0.007 U | 0.01 U | *0.0166* |
| 2981-112 | J18J98 | 05/06/09 | 04/28/09 | 05/21/09 | 29.8 | 052109-LCDRC | 0.0150 | 0.005 U | 0.007 U | 0.01 U | *0.0150* |

**QUALITY CONTROL SAMPLE RESULTS**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Method Blank** | | | | | | |
| Blank R1050609 | 050809-LCDRC | 0.002 U | 0.005 U | 0.007 U | 0.01 U | *0.005* U |
| Blank R1052109 | 052109-LCDRC | 0.002 U | 0.005 U | 0.007 U | 0.01 U | *0.005* U |
| **Standard Reference Material Data** | | | | | | |
| DORM-2050809 | 050809-LCDRC | 15.8 | 0.375 | 0.007 U | 0.01 U | *16.2* |
| DORM-2052109 | 052109-LCDRC | 16.2 | 0.390 | 0.007 U | 0.01 U | *16.5* |
| **Certified Value** | | **16.4** | | | | ***18.0*** |
| **% Recovery** | | **97%** | | | | ***90%*** |
| **% Recovery** | | **98%** | | | | ***92%*** |

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**Washington Closure Hanford**
Arsenic Speciation Study

| MSL Code | Client ID | Received Date | Collection Date | Analysis Date | Percent Dry Wt | Analytical Batch ID | AsB µg/g dry wt. | DMA µg/g dry wt. | MMA µg/g dry wt. | $As^{3+5}$ µg/g dry wt. | *Total As* µg/g dry wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Method Detection Limit (MDL)* | | | | | | | *0.002* [1] | *0.005* | *0.007* | *0.01* | *Calculated* |
| **Blank Spike Results** | | | | | | | | | | | |
| Blank R1 | | | | | | 050809-LCDRC | 0.002 U | 0.005 U | 0.007 U | 0.01 U | *0.00144* |
| LCS R1 | | | | | | 050809-LCDRC | 0.002 U | 2.04 | 2.13 | 3.96 | *8.13* |
| **Spike** | | | | | | | **NS** | 2.00 | 2.00 | 4.00 | *8.00* |
| **% Rec** | | | | | | | **NS** | **102%** | **106%** | **99%** | ***102%*** |
| Blank R1 | | | | | | 052109-LCDRC | 0.002 U | 0.005 U | 0.007 U | 0.01 U | *0.00361* |
| LCS R1 | | | | | | 052109-LCDRC | 2.28 | 2.16 | 2.03 | 4.01 | *10.5* |
| **Spike** | | | | | | | 2.00 | 2.00 | 2.00 | 4.00 | *10.0* |
| **% Rec** | | | | | | | **114%** | **108%** | **101%** | **100%** | ***105%*** |
| **Replicate Analysis Results** | | | | | | | | | | | |
| 2981-76R1 | J18KH2 | 04/23/09 | 04/20/09 | 05/08/09 | 30.6 | 050809-LCDRC | 0.002 U | 0.0804 | 0.007 U | 0.01 U | *0.0804* |
| 2981-76R2 | J18KH2DUP | 04/23/09 | 04/20/09 | 05/08/09 | 30.6 | 050809-LCDRC | 0.002 U | 0.0844 | 0.007 U | 0.01 U | *0.0844* |
| | **RPD** | | | | | | NA | **5%** | NA | NA | **5%** |
| 2981-98 R1 | J18J95 | 04/29/09 | 04/27/09 | 05/21/09 | 27.5 | 052109-LCDRC | 0.0173 | 0.005 U | 0.007 U | 0.01 U | *0.0173* |
| 2981-98 R2 | J18J95DUP | 04/29/09 | 04/27/09 | 05/21/09 | 27.5 | 052109-LCDRC | 0.0256 | 0.005 U | 0.007 U | 0.01 U | *0.0256* |
| | **RPD** | | | | | | **39% *** | NA | NA | NA | NA |
| **Matrix Spike Accuracy** | | | | | | | | | | | |
| 2981-75 | J18K46 | 04/23/09 | 04/21/09 | 05/08/09 | 26.0 | 050809-LCDRC | 0.00978 | 0.00716 | 0.007 U | 0.01 U | *0.0169* |
| 2981-75 MS | J18K46MS | 04/23/09 | 04/21/09 | | | 050809-LCDRC | 0.002 U | 1.75 | 1.90 | 3.61 | *7.25* |
| **Spike Amount, MS** | | | | | | | **NS** | 2.00 | 2.00 | 4.00 | *7.99* |
| **% Recovery, MS** | | | | | | | **NS** | **87%** | **95%** | **90%** | **91%** |
| 2781-88 | J18K76 | 04/23/09 | 04/21/09 | 05/08/09 | 30.2 | 050809-LCDRC | 0.00958 | 0.0273 | 0.007 U | 0.01 U | *0.0369* |
| 2981-88 MS | J18K76MS | 04/23/09 | 04/21/09 | | | 050809-LCDRC | 0.872 | 1.84 | 1.88 | 3.55 | *8.14* |
| **Spike Amount, MS** | | | | | | | 0.817 | 2.00 | 2.00 | 4.00 | *8.81* |
| **% Recovery, MS** | | | | | | | **106%** | **91%** | **94%** | **89%** | ***92%*** |
| 2981-97 | J18J94 | 04/29/09 | 04/27/09 | 05/21/09 | 29.4 | 052109-LCDRC | 0.0168 | 0.00853 | 0.007 U | 0.01 U | *0.0253* |
| 2981-97 MS | J18J94MS | 04/29/09 | 04/27/09 | | | 052109-LCDRC | 2.43 | 1.50 | 1.39 | 3.15 | *8.47* |
| 2981-97 MSD | J18J94MSD | 04/29/09 | 04/27/09 | | | 052109-LCDRC | 2.31 | 1.51 | 1.50 | 3.61 | *8.93* |
| **Spike Amount, MS** | | | | | | | 2.02 | 2.02 | 2.02 | 4.05 | *10.1* |
| **Spike Amount, MSD** | | | | | | | 2.00 | 2.00 | 2.00 | 3.99 | *9.98* |
| **% Recovery, MS** | | | | | | | **119%** | **74% N** | **69% N** | **78%** | ***84%*** |
| **% Recovery, MSD** | | | | | | | **115%** | **75%** | **75%** | **90%** | ***89%*** |
| **RPD** | | | | | | | **4%** | **2%** | **9%** | **15%** | ***7%*** |

**NOTES:** Arsenobetaine (AsB)
Dimethylarsinic acid (DMA)
Monomethyarsonic acid (MMA)
Arsenate (V or $As^{5+}$)
Arsenite (III or $As^{3+}$)
Total As = Sum of AsB, DMA, MMA, and $As^{3+5}$

[1] Method detection limit (MDL) for AsB calculated from instrument detection limit converted to µg/g using the average sample mass and volume for this project.

U Not detected at or above MDL shown
NS Not spiked
N Outside Method DQOs for Blank Spikes (≤ 15%), MS/MSD (≤ 25%), SRM (≤ 25%) results
* Outside Method DQOs for Duplicates (≤ 25%)

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**Washington Closure Hanford**
Arsenic Speciation Study
Wet Weight Conversion Table

| MSL Code | Client ID | Received Date | Collection Date | Analysis Date | Percent Dry Wt | Analytical Batch ID | AsB µg/g wet wt. | DMA µg/g wet wt. | MMA µg/g wet wt. | $As^{3+5}$ µg/g wet wt. | *Total As* µg/g wet wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Method Detection Limit (MDL)* | | | | | | | *0.0006* [1] | *0.0014* | *0.002* | *0.003* | *Calculated* |
| 2981-73 | J18K74 | 04/23/09 | 04/20/09 | 05/08/09 | 31.3 | 050809-LCDRC | 0.00237 | 0.00754 | 0.002 U | 0.003 U | *0.00992* |
| 2981-74 | J18KF9 | 04/23/09 | 04/16/09 | 05/08/09 | 29.6 | 050809-LCDRC | 0.0006 U | 0.00812 | 0.002 U | 0.003 U | *0.00812* |
| 2981-75 | J18K46 | 04/23/09 | 04/21/09 | 05/08/09 | 26.0 | 050809-LCDRC | 0.00255 | 0.00186 | 0.002 U | 0.003 U | *0.00441* |
| 2981-76R1 | J18KH2 | 04/23/09 | 04/20/09 | 05/08/09 | 30.6 | 050809-LCDRC | 0.0006 U | 0.0246 | 0.002 U | 0.003 U | *0.0246* |
| 2981-76R2 | J18KH2DUP | 04/23/09 | 04/20/09 | 05/08/09 | 30.6 | 050809-LCDRC | 0.0006 U | 0.0258 | 0.002 U | 0.003 U | *0.0258* |
| 2981-77 | J18K75 | 04/23/09 | 04/21/09 | 05/08/09 | 33.5 | 050809-LCDRC | 0.00211 | 0.00492 | 0.002 U | 0.003 U | *0.00704* |
| 2981-78 | J18K73 | 04/23/09 | 04/20/09 | 05/08/09 | 29.5 | 050809-LCDRC | 0.0006 U | 0.0119 | 0.002 U | 0.003 U | *0.0119* |
| 2981-79 | J18KF8 | 04/23/09 | 04/16/09 | 05/08/09 | 31.2 | 050809-LCDRC | 0.00301 | 0.00892 | 0.002 U | 0.003 U | *0.0119* |
| 2981-80 | J18K92 | 04/23/09 | 04/15/09 | 05/08/09 | 25.9 | 050809-LCDRC | 0.00359 | 0.00153 | 0.002 U | 0.003 U | *0.00512* |
| 2981-81 | J18K88 | 04/23/09 | 04/13/09 | 05/08/09 | 26.3 | 050809-LCDRC | 0.00379 | 0.0014 U | 0.002 U | 0.003 U | *0.00379* |
| 2981-82 | J18K89 | 04/23/09 | 04/14/09 | 05/08/09 | 27.5 | 050809-LCDRC | 0.00332 | 0.0014 U | 0.002 U | 0.003 U | *0.00332* |
| 2981-83 | J18K90 | 04/23/09 | 04/14/09 | 05/08/09 | 27.0 | 050809-LCDRC | 0.00243 | 0.0014 U | 0.002 U | 0.003 U | *0.00243* |
| 2981-84 | J18KH0 | 04/23/09 | 04/16/09 | 05/08/09 | 31.8 | 050809-LCDRC | 0.00350 | 0.0115 | 0.002 U | 0.003 U | *0.0150* |
| 2981-85 | J18KH1 | 04/23/09 | 04/16/09 | 05/08/09 | 27.2 | 050809-LCDRC | 0.00588 | 0.0100 | 0.002 U | 0.003 U | *0.0158* |
| 2981-86 | J18K91 | 04/23/09 | 04/15/09 | 05/08/09 | 25.1 | 050809-LCDRC | 0.00580 | 0.0014 U | 0.002 U | 0.003 U | *0.00580* |
| 2981-87 | J18K77 | 04/23/09 | 04/21/09 | 05/08/09 | 32.0 | 050809-LCDRC | 0.00387 | 0.00265 | 0.002 U | 0.003 U | *0.00651* |
| 2781-88 | J18K76 | 04/23/09 | 04/21/09 | 05/08/09 | 30.2 | 050809-LCDRC | 0.00290 | 0.00827 | 0.002 U | 0.003 U | *0.0112* |
| 2981-89 | J18K47 | 04/29/09 | 04/22/09 | 05/08/09 | 26.8 | 050809-LCDRC | 0.00323 | 0.0014 U | 0.002 U | 0.003 U | *0.00323* |
| 2981-90 | J18K48 | 04/29/09 | 04/22/09 | 05/08/09 | 29.4 | 050809-LCDRC | 0.00257 | 0.0014 U | 0.002 U | 0.003 U | *0.00257* |
| 2981-91 | J18K49 | 04/29/09 | 04/22/09 | 05/08/09 | 27.0 | 050809-LCDRC | 0.00558 | 0.0014 U | 0.002 U | 0.003 U | *0.00558* |
| 2981-92 | J18K50 | 04/29/09 | 04/22/09 | 05/08/09 | 27.5 | 050809-LCDRC | 0.00375 | 0.0014 U | 0.002 U | 0.003 U | *0.00375* |
| 2981-93 | J18K31 | 04/29/09 | 04/23/09 | 05/21/09 | 32.6 | 052109-LCDRC | 0.00406 | 0.00852 | 0.002 U | 0.003 U | *0.0126* |
| 2981-94 | J18K32 | 04/29/09 | 04/23/09 | 05/21/09 | 32.0 | 052109-LCDRC | 0.00502 | 0.00512 | 0.002 U | 0.003 U | *0.0101* |
| 2981-95 | J18K33 | 04/29/09 | 04/23/09 | 05/21/09 | 33.7 | 052109-LCDRC | 0.00492 | 0.00730 | 0.002 U | 0.003 U | *0.0122* |
| 2981-96 | J18K34 | 04/29/09 | 04/23/09 | 05/21/09 | 31.9 | 052109-LCDRC | 0.00177 | 0.00640 | 0.002 U | 0.003 U | *0.00817* |
| 2981-97 | J18J94 | 04/29/09 | 04/27/09 | 05/21/09 | 29.4 | 052109-LCDRC | 0.00493 | 0.00251 | 0.002 U | 0.003 U | *0.00743* |
| 2981-98 R1 | J18J95 | 04/29/09 | 04/27/09 | 05/21/09 | 27.5 | 052109-LCDRC | 0.00474 | 0.0014 U | 0.002 U | 0.003 U | *0.00474* |
| 2981-98 R2 | J18J95DUP | 04/29/09 | 04/27/09 | 05/21/09 | 27.5 | 052109-LCDRC | 0.00702 | 0.0014 U | 0.002 U | 0.003 U | *0.00702* |
| 2981-99 | J18J96 | 04/29/09 | 04/27/09 | 05/21/09 | 26.8 | 052109-LCDRC | 0.00758 | 0.0014 U | 0.002 U | 0.003 U | *0.00758* |
| 2981-100 | J18J97 | 04/29/09 | 04/27/09 | 05/21/09 | 28.4 | 052109-LCDRC | 0.00386 | 0.00228 | 0.002 U | 0.003 U | *0.00615* |
| 2981-101 | J18J16 | 05/06/09 | 04/28/09 | 05/21/09 | 23.8 | 052109-LCDRC | 0.00283 | 0.0014 U | 0.002 U | 0.003 U | *0.00283* |
| 2981-102 | J18J17 | 05/06/09 | 04/29/09 | 05/21/09 | 25.2 | 052109-LCDRC | 0.00276 | 0.0014 U | 0.002 U | 0.003 U | *0.00276* |
| 2981-103 | J18J18 | 05/06/09 | 04/29/09 | 05/21/09 | 25.3 | 052109-LCDRC | 0.00262 | 0.0014 U | 0.002 U | 0.003 U | *0.00262* |
| 2981-104 | J18J19 | 05/06/09 | 04/30/09 | 05/21/09 | 23.9 | 052109-LCDRC | 0.00292 | 0.00145 | 0.002 U | 0.003 U | *0.00437* |
| 2981-105 | J18J20 | 05/06/09 | 04/30/09 | 05/21/09 | 25.5 | 052109-LCDRC | 0.00226 | 0.0014 U | 0.002 U | 0.003 U | *0.00226* |
| 2981-106 | J18K35 | 05/06/09 | 04/28/09 | 05/21/09 | 35.2 | 052109-LCDRC | 0.00487 | 0.00673 | 0.002 U | 0.003 U | *0.0116* |
| 2981-107 | J18J79 | 05/06/09 | 04/28/09 | 05/21/09 | 31.2 | 052109-LCDRC | 0.00481 | 0.00433 | 0.002 U | 0.003 U | *0.00914* |
| 2981-108 | J18J80 | 05/06/09 | 04/29/09 | 05/21/09 | 27.5 | 052109-LCDRC | 0.00270 | 0.0014 U | 0.002 U | 0.003 U | *0.00270* |
| 2981-109 | J18J81 | 05/06/09 | 04/29/09 | 05/21/09 | 28.8 | 052109-LCDRC | 0.00324 | 0.00181 | 0.002 U | 0.003 U | *0.00505* |
| 2981-110 | J18J82 | 05/06/09 | 04/30/09 | 05/21/09 | 25.1 | 052109-LCDRC | 0.00231 | 0.0014 U | 0.002 U | 0.003 U | *0.00231* |
| 2981-111 | J18J83 | 05/06/09 | 04/30/09 | 05/21/09 | 29.7 | 052109-LCDRC | 0.00277 | 0.00216 | 0.002 U | 0.003 U | *0.00493* |
| 2981-112 | J18J98 | 05/06/09 | 04/28/09 | 05/21/09 | 29.8 | 052109-LCDRC | 0.00448 | 0.0014 U | 0.002 U | 0.003 U | *0.00448* |
| | | | | Average | 28.7 | | | | | | |

**QUALITY CONTROL SAMPLE RESULTS**

**Method Blank**

| | | | | | | |
|---|---|---|---|---|---|---|
| Blank R1050609 | 050809-LCDRC | 0.0006 U | 0.0014 U | 0.002 U | 0.003 U | *0.0014* U |
| Blank R1052109 | 052109-LCDRC | 0.0006 U | 0.0014 U | 0.002 U | 0.003 U | *0.0014* U |

*BATTELLE MARINE SCIENCES LABORATORY*
1529 West Sequim Bay Road
Sequim, Washington 98382
(360) 681-4564

**Washington Closure Hanford**
Arsenic Speciation Study
Wet Weight Conversion Table

| MSL Code | Client ID | Received Date | Collection Date | Analysis Date | Percent Dry Wt | Analytical Batch ID | AsB µg/g wet wt. | DMA µg/g wet wt. | MMA µg/g wet wt. | $As^{3+5}$ µg/g wet wt. | *Total As* µg/g wet wt. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Method Detection Limit (MDL)* | | | | | | | *0.0006* [1] | *0.0014* | *0.002* | *0.003* | *Calculated* |
| **Replicate Analysis Results** | | | | | | | | | | | |
| 2981-76R1 | J18KH2 | 04/23/09 | 04/20/09 | 05/08/09 | 30.6 | 050809-LCDRC | 0.0006 U | 0.0246 | 0.002 U | 0.003 U | *0.0246* |
| 2981-76R2 | J18KH2DUP | 04/23/09 | 04/20/09 | 05/08/09 | 30.6 | 050809-LCDRC | 0.0006 U | 0.0258 | 0.002 U | 0.003 U | *0.0258* |
| | **RPD** | | | | | | NA | **5%** | NA | NA | **5%** |
| 2981-98 R1 | J18J95 | 04/29/09 | 04/27/09 | 05/21/09 | 27.5 | 052109-LCDRC | 0.00474 | 0.0014 U | 0.002 U | 0.003 U | *0.00474* |
| 2981-98 R2 | J18J95DUP | 04/29/09 | 04/27/09 | 05/21/09 | 27.5 | 052109-LCDRC | 0.00702 | 0.0014 U | 0.002 U | 0.003 U | *0.00702* |
| | **RPD** | | | | | | **39% *** | NA | NA | NA | NA |

**NOTES:** Arsenobetaine (AsB)
Dimethylarsinic acid (DMA)
Monomethyarsonic acid (MMA)
Arsenate (V or $As^{5+}$)
Arsenite (III or $As^{3+}$)
Total As = Sum of AsB, DMA, MMA, and $As^{3+5}$

[1] Method detection limit (MDL) for AsB calculated from instrument detection limit converted to µg/g using the average sample mass and volume
U Not detected at or above MDL shown
N Outside Method DQOs for Blank Spikes (≤ 15%), MS/MSD (≤ 25%), SRM (≤ 25%) results
* Outside Method DQOs for Duplicates (≤ 25%)

# QA/QC NARRATIVE

| | |
|---|---|
| **PROJECT:** | Washington Closures Hanford |
| **PARAMETER:** | Arsenic Speciation – Total Inorganic Arsenic (TIA) |
| **LABORATORY:** | Pacific Northwest National Laboratory (PNNL) operated by Battelle, Marine Sciences Laboratory (MSL), Sequim, Washington |
| **MATRIX:** | Tissue Homogenate |
| **SAMPLE CUSTODY AND PROCESSING:** | A total of 40 sediment samples were received at MSL in three shipments: 04/23/09, 04/29/09, and 05/06/09. All samples were received in good condition (i.e., no sample containers were broken or leaking). Samples were assigned a Battelle Central File (CF) identification number (2981) and were entered into the MSL sample tracking and project management system. |

**SAMPLE PROCESSING INFORMATION:**

| | |
|---|---|
| **MSL Code:** | **2981*73-88 on 04/23/09**<br>**2981*89-100 on 04/29/09**<br>**2981*101-112 on 05/06/09** |
| Description: | Freshwater Fish Homogenate |
| Collection dates | 04/13/09 thru 04/30/09 |
| Laboratory arrival date | 04/23/09, 04/29/09, 05/06/09 |
| Cooler temperature on arrival | 2.6, 2.0, and 2.3°C |
| Extraction Dates: | 05/08/09 and 05/20/09 |
| Analyses Dates: | 05/08/09 and 05/21/09 |

**METHODS:**

The tissue homogenate was processed and analyzed for total inorganic arsenic defined as the sum of arsenate (V or As5+) and arsenite (III or As3+) following MSL standard operating procedure MSL-I-037 ARSENIC SPECIATION USING HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY - INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY (HPLC-ICP-MS) IN AQUEOUS, SEDIMENT, AND TISSUE SAMPLES. This method was developed from guidance in EPA Method 1632 for the speciation of arsenic in waters. This method is applicable to the determination of total inorganic arsenic (As) and arsenic species in drinking, surface, groundwater, seawater, tissue and sediment extracts. The anionic or cationic arsenic species are separated by an anion ion exchange column on high-performance liquid chromatography (HPLC) followed by detection and quantification using inductively coupled plasma – mass spectrometry with a dynamic reaction cell accessory (ICP-DRC-MS). This method quantitatively determines organic species of arsenic including arsenobetaine (AsB), dimethylarsinic acid (DMA), monomethyarsonic acid (MMA), and can be set up to separate the inorganic oxidation states of 3+ and 5+. This allows risk assessment to be conducted on a chemical species of interest rather than just the total arsenic. This is particularly significant for arsenic as the toxicity is highly dependent on the chemical species, with the most toxic being the As3+ oxidation state. This data was included in the data deliverable as information, but is considered a validated data parameter for these samples.

Upon arrival at MSL, the wet tissue samples were stored at <-18°C until samples were lyophilized. Approximately 500 mg of dried, homogenized tissue was extracting using deionized water and tetramethyl ammonium hydroxide (TMAOH). An aliquot of the supernatant is subsequently analyzed for arsenic species using the HPLC coupled with the ICP-DRC-MS. Analytical results are reported in µg/g dry weight. These concentrations are then converted back to a wet weight concentration using the following formula: wet weight concentration = dry weight concentration * % dry weight / 100.

# QA/QC NARRATIVE

**HOLDING TIMES:** Wet tissue samples were stored at either 4 °C, frozen, or at ≤ -18 °C from time of collection to analysis. Holding times are 28 days at 4 ± 2 °C and 180 days at ≤ -18 °C. Dry samples in plastic or glass jars may be stored at room temperature for 180 days. Considering the most conservative holding time of 28 days, all samples were extracted and analyzed within this holding time.

**DATA QUALITY CRITERIA (DQC):**

| Analyte | Analytical Method | Range of Blank Spike Recovery | Range of MS/MSD Spike Recovery | SRM Percent Recovery | Replicate Precisions (RPD) | Achieved MDL (µg/g dry wt.) | Achieved MDL (µg/g wet wt.) |
|---|---|---|---|---|---|---|---|
| AsB | HPLC/ICP-DRC-MS | 85-115% | 75-125% | ±25% | ≤25% | 0.002 µg/g | 0.0006 µg/g |
| DMA | HPLC/ICP-DRC-MS | 85-115% | 75-125% | ±25% | ≤25% | 0.005 µg/g | 0.0014 µg/g |
| MMA | HPLC/ICP-DRC-MS | 85-115% | 75-125% | ±25% | ≤25% | 0.007 µg/g | 0.002 µg/g |
| As3+5 | HPLC/ICP-DRC-MS | 85-115% | 75-125% | ±25% | ≤25% | 0.01 µg/g | 0.003 µg/g |

**DETECTION LIMITS:** Analytical results were reported to the laboratory achieved method detection limits (MDL) as determined from the Annual MDL study. The MDLs were determined according to EPA's "Definition and Procedure for the Determination of the Method Detection Limit - revision 1.11" 40 CFR Part 136, Appendix B. The only exception is the MDL determined for the AsB, which was the instrument detection limit converted from µg/L to µg/g using the average sample mass and volume for these samples. Data were evaluated and flagged in accordance with the following criteria:

U Undetected at the MDL, MDL reported.

* Duplicates outside the QC sample criterion.

N Spikes outside the QC sample criterion.

**METHOD BLANKS:** Method blanks were prepared and analyzed with the samples at a frequency of one each per analytical batch. Two analytical batches are reported for this data set. None of the arsenic species were detected in the method blanks.

**LABORATORY CONTROL SAMPLE (LCS) ACCURACY:** Laboratory control samples (LCS) were prepared and analyzed at a frequency of one each per analytical batch. The LCS consists of reagents spiked with the arsenic species of interest (except AsB) that are processed and analyzed with the samples. The LCS samples were within the QC criterion of 75-125% recovery.

**REPLICATE PRECISION:** Laboratory duplicates were analyzed at a frequency of one each per 20 field samples or analytical batch. The samples did not contain detectable $As^{3+5}$; therefore, precision was assessed using the matrix spike duplicates.

**MATRIX SPIKE ACCURACY:** The analytical method calls for matrix spikes at a frequency of one each per 20 samples or analytical batch. A matrix spike duplicate was also added to provide a measure of precision. The matrix spikes were within the QC acceptance criterion of 75-125% for all total inorganic arsenic spikes.

Analytical precision was assessed using the matrix spike duplicates and were within the QC acceptance criterion of ≤25% RPD.

# QA/QC NARRATIVE

**REFERENCES:**

Francesconi, K.A. and Kuehnelt, D., 2004. Determination of arsenic species: A critical review of methods and application, 2000-2003. Analyst, 129: 373-395.

Gong, Z., Lu, X., Ma, M., Watt, C., Le, C., 2002. Arsenic speciation analysis. Talanta, 58: 77-96

Mandal, B.K., Ogra, Y., Suzuki, K.T., 2003. Speciation of arsenic in human nail and hair from arsenic-affected area by HPLC-inductively coupled argon plasma mass spectrometry. Toxicol. Appl. Pharmacol., 189: 73-83.

U.S. EPA, 2000. Method 1632, Revision A (1632A), Chemical Speciation of Arsenic in Water and Tissue by Hydride Generation Quartz Furnace atomic Absorption Spectrometry.

cc: Project Manager/Central File
Login File 2981

# SAMPLE LOGIN
(SOP# MSL-A-001)

Project Manager: Brandenberger
Date Received: 04/23/09
Batch: 7

PROJECT: Washington Closure Hanford

| SPONSOR CODE | Site Description | BATTELLE CODE | MATRIX | STORAGE LOCATION | PARAMETERS REQUESTED | COLLECTION DATE | INITIALS |
|---|---|---|---|---|---|---|---|
| J18K74 | na | 2981-73 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/20/09 | MLFM |
| J18KF9 | na | 2981-74 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/16/09 | MLFM |
| J18K46 | na | 2981-75 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/21/09 | MLFM |
| J18KH2 | na | 2981-76 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/20/09 | MLFM |
| J18K75 | na | 2981-77 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/21/09 | MLFM |
| J18K73 | na | 2981-78 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/20/09 | MLFM |
| J18KF8 | na | 2981-79 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/16/09 | MLFM |
| J18K92 | na | 2981-80 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/15/09 | MLFM |
| J18K88 | na | 2981-81 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/13/09 | MLFM |
| J18K89 | na | 2981-82 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/14/09 | MLFM |
| J18K90 | na | 2981-83 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/14/09 | MLFM |
| J18KH0 | na | 2981-84 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/16/09 | MLFM |
| J18KH1 | na | 2981-85 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/16/09 | MLFM |
| J18K91 | na | 2981-86 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/15/09 | MLFM |
| J18K77 | na | 2981-87 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/21/09 | MLFM |
| J18K76 | na | 2781-88 | Other Solid | Refridgerator in lab 114 | Total Inorganic Arsenic | 04/21/09 | MLFM |

4/24/09

cc: Project Manager/Central File
Login File 2981

# SAMPLE LOGIN
(SOP# MSL-A-001)

Project Manager: Brandenberger
Date Received: 04/29/09
Batch: 8

PROJECT: Washington Closure Hanford

| SPONSOR CODE | Site Description | BATTELLE CODE | MATRIX | STORAGE LOCATION | PARAMETERS REQUESTED | COLLECTION DATE | INITIALS |
|---|---|---|---|---|---|---|---|
| J18K47 | na | 2981-89 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/22/09 | MLFM |
| J18K48 | na | 2981-90 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/22/09 | MLFM |
| J18K49 | na | 2981-91 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/22/09 | MLFM |
| J18K50 | na | 2981-92 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/22/09 | MLFM |
| J18K31 | na | 2981-93 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/23/09 | MLFM |
| J18K32 | na | 2981-94 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/23/09 | MLFM |
| J18K33 | na | 2981-95 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/23/09 | MLFM |
| J18K34 | na | 2981-96 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/23/09 | MLFM |
| J18J94 | na | 2981-97 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/27/09 | MLFM |
| J18J95 | na | 2981-98 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/27/09 | MLFM |
| J18J96 | na | 2981-99 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/27/09 | MLFM |
| J18J97 | na | 2981-100 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/27/09 | MLFM |

V'd 4/29/09

cc: Project Manager/Central File
Login File 2981

# SAMPLE LOGIN
(SOP# MSL-A-001)

Project Manager: Brandenberger
Date Received: 05/06/09
Batch: 9

PROJECT: Washington Closure Hanford

| SPONSOR CODE | Site Description | BATTELLE CODE | MATRIX | STORAGE LOCATION | PARAMETERS REQUESTED | COLLECTION DATE | INITIALS |
|---|---|---|---|---|---|---|---|
| J18J16 | na | 2981-101 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/28/09 | MLFM |
| J18J17 | na | 2981-102 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/29/09 | MLFM |
| J18J18 | na | 2981-103 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/29/09 | MLFM |
| J18J19 | na | 2981-104 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/30/09 | MLFM |
| J18J20 | na | 2981-105 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/30/09 | MLFM |
| J18K35 | na | 2981-106 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/28/09 | MLFM |
| J18J79 | na | 2981-107 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/28/09 | MLFM |
| J18J80 | na | 2981-108 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/29/09 | MLFM |
| J18J81 | na | 2981-109 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/29/09 | MLFM |
| J18J82 | na | 2981-110 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/30/09 | MLFM |
| J18J83 | na | 2981-111 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/30/09 | MLFM |
| J18J98 | na | 2981-112 | Other Solid | Deep Freezer B-1 | Total Inorganic Arsenic | 04/28/09 | MLFM |

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-112 | Page 1 of 1 |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER; Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K; Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 300SA, WF2, CARCASS | SAF No.: RC-118 | |
| Ice Chest No.: GLDS-015 | Field Logbook No.: 1633; COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: Fdx# 797531076499 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K74 2981.23 | OTHER SOLID | 04/20/2009 | 1400 WIS | X | | | | | | | |

CHAIN OF POSSESSION — Sign/Print Names

| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
|---|---|---|---|
| Josh McGough | 04/20/09 1400 | EAS Locked Storage | 04/20/09 1405 |
| EAS LOCKED STORAGE | 4/22/09 1330 | SHANNAN JOHNSON | 4/22/09 1330 |
| SHANNAN JOHNSON | 4/22/09 1331 | FDXF 797531076499 | |
| | | | 04/23/09 1320 |
| | | | |
| | | | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-147 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: LWSA-WF2, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: GLWS-015 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 797531076499 |

**POSSIBLE SAMPLE HAZARDS/REMARKS**

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18KF9 2981.74 | OTHER SOLID | 04/16/09 | 1030 | X | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 04/16/09 10:30 | EAS Locked Storage | 04/16/09 10:35 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 4/22/09 1330 | Received By/Stored In: Fdx# 797531076499 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/23/09 1320 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

**SPECIAL INSTRUCTIONS**

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-91 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 300SA-WF1, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: GW05-015 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fax# 797531076499 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K46 2981-75 | OTHER SOLID | 4/21/09 | 1400 | X | | | | | | | |
| | | | | | | | | | | | |
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| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/21/09 1400 | EAS Locked Storage | 4/21/09 1405 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 4/22/09 1331 | Received By/Stored In: FAX# 797531076499 | |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time 04/23/09 1300 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-150 | Page 1 of 1 |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER; Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K; Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: LWSA-WF5, CARCASS | SAF No.: RC-118 | |
| Ice Chest No.: GWS-015 | Field Logbook No.: 1633; COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: Fedex 797531076499 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18KH2 2981.96 | OTHER SOLID | 04/20/09 | 1330 | X | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
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| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 04/20/09 1000 | EAS Locked Storage | 04/20/09 1005 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 4/22/09 1330 | Received By/Stored In: FEDEX 797531076499 | |
| Relinquished By/Removed From | | Received By/Stored In | 4/23/09 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09.

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| LABORATORY SECTION | Received By | Title | Date/Time |
|---|---|---|---|
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-113 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 300SA, WF3, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: GLOS-015 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 797531076499 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K75 2981.77 | OTHER SOLID | 04/21/09 | 0800 | X | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 04/21/09 0800 | EAS LOCKED STORAGE | 04/21/09 0805 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 4/22/09 1330 | Received By/Stored In: FOX# 797531076499 | |
| Relinquished By/Removed From | | Received By/Stored In | 09/23/09 1300 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-111 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 300SA, WF1, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: GWS-015 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 797531076499 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K73 2981.78 | OTHER SOLID | 04/20/09 | 0800 | X | | | | | | | |
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| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 04/20/09 0800 | EAS LOCKED STORAGE | 04/20/09 0805 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 4/22/09 1330 | Received By/Stored In: FDX# 797531076499 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/23/09 1300 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09.

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-146 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: LWSA-WF1, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: GWS-015 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fax# 797531076499 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH".*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18KF8 2981.79 | OTHER SOLID | 04/16/09 | 0830 | X | | | | | | | |
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| CHAIN OF POSSESSION | Date/Time | Sign/Print Names | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 04/16/09 8:30 a.m. | Received By/Stored In: EAS Locked Storage | 04/16/09 8:35 a.m. |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 4/22/09 1330 | Received By/Stored In: Fax# 797531076499 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/23/09 1320 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-130 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: LWSA-WF5, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: GWS-D15 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 797531076499 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J18K92 2981.80 | OTHER SOLID | 04/15/09 | 1300 | X | | | | | | | | | |
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| | | | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 04/15/09 1300 | EAS Locked Storage | 04/15/09 1305 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 4/22/09 1331 | Received By/Stored In: Fdx# 797531076499 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/23/09 1330 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09.

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-126 | Page 1 of 1 |
|---|---|---|---|
| Collector JAM 4/13/09 Jeremy Dame Josh McGough | Company Contact JOAN KESSNER; Telephone No. 375-4688 | Project Coordinator KESSNER, JH | Price Code 9K; Data Turnaround 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: LWSA-WF1, FILLET | SAF No. RC-118 | |
| Ice Chest No. GWS-015 | Field Logbook No. 1633; COA BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No. N/A | Bill of Lading/Air Bill No. Fdx# 797531076499 | |

**POSSIBLE SAMPLE HAZARDS/REMARKS**

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K88 2981.81 | OTHER SOLID | 4/13/09 | 1155 | X | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | | |
|---|---|---|---|
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Jeremy Dame | 4/13/09 1155hr | EAS locked Storage | 4/13/09 1200hr |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| EAS LOCKED STORAGE | 4/22/09 1330 | SHANNAN JOHNSON | 4/22/09 1330 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| SHANNAN JOHNSON | 4/22/09 1330 | FDX# 797531076499 | |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| | | | 04/23/09 820 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

**SPECIAL INSTRUCTIONS**

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09.

**Matrix ***

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-127 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: LWSA-WF2, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: GLOS-015 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 797531076499 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K89 2981.82 | OTHER SOLID | 04/14/09 | 1025 | X | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | | |
|---|---|---|---|
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Josh McGough / John McGough | 04/14/09 10:25a.m | EAS Locked Storage | 04/14/09 10:30a.m |
| Relinquished By/Removed From: EAS LOCKED STORAGE | Date/Time: 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | Date/Time: 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | Date/Time: 4/22/09 1330 | Received By/Stored In: Fdx# 797531076499 | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time: 04/23/09 1320 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-128 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: LWSA-WF3, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: GLWS-015 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 797531076490 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K90 2981.83 | OTHER SOLID | 04/14/09 | 1300 | X | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | | |
|---|---|---|---|
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Josh McGough | 04/14/09 1300 | EAS Locked Storage | 04/14/09 1305 |
| EAS LOCKED STORAGE | 4/22/09 1330 | SHANNAN JOHNSON | 4/22/09 1330 |
| SHANNAN JOHNSON | 4/22/09 1331 | Fdx# 797531076490 | |
| | | | 04/23/09 1320 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-148 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: LWSA-WF3, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: GLOS-D15 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 797531076499 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18KH0 2981.84 | OTHER SOLID | 04/16/09 | 1230 | X | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| CHAIN OF POSSESSION | | Sign/Print Names | |
|---|---|---|---|
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Josh McGough | 04/16/09 12:30 | EAS Locked Storage | 04/16/09 12:35 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | Date/Time 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | Date/Time 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | Date/Time 4/22/09 1330 | Received By/Stored In: FDX# 797531076499 | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time 04/23/09 1320 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09.

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-149 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: LWSA-WF4, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: GLOS-015 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 797531076499 |

**POSSIBLE SAMPLE HAZARDS/REMARKS**

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inorganic Arsenic | | | | | | | | | | |
| Sample No. / Matrix * / Sample Date / Sample Time | | | | | | | | | | | |
| J18KH1 2981.85 / OTHER SOLID / 04/16/09 / 1400 | X | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 04/16/09 1400 | Received By/Stored In: EAS Locked Storage | 04/16/09 1405 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 4/22/09 1330 | Received By/Stored In: Fdx# 797531076499 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/23/09 1320 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

**SPECIAL INSTRUCTIONS**

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09

**Matrix ***

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-129 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: LWSA-WF4, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: GWS-015 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 797531076499 |

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inorganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K91 2981.86 | OTHER SOLID | 04/15/09 | 1045 | X | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | SPECIAL INSTRUCTIONS | Matrix * |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough / Date/Time: 04/15/09 10:45a.m | Received By/Stored In: EAS Locked Storage / Date/Time: 04/15/09 10:45a.m | | S=Soil<br>SE=Sediment<br>SO=Solid<br>SI=Sludge<br>W = Water<br>O=Oil<br>A=Air<br>DS=Drum Solids<br>DL=Drum Liquids<br>T=Tissue<br>WI=Wipe<br>L=Liquid<br>V=Vegetation<br>X=Other |
| Relinquished By/Removed From: EAS LOCKED STORAGE / Date/Time: 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON / Date/Time: 4/22/09 1330 | | |
| Relinquished By/Removed From: SHANNAN JOHNSON / Date/Time: 4/22/09 1330 | Received By/Stored In: FOX# 797531076499 / Date/Time | | |
| Relinquished By/Removed From / Date/Time | Received By/Stored In: 04/23/09 1320 / Date/Time | | |
| Relinquished By/Removed From / Date/Time | Received By/Stored In / Date/Time | Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09. | |
| Relinquished By/Removed From / Date/Time | Received By/Stored In / Date/Time | | |

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-115 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER<br>Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K<br>Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 300SA, WF5, CARCASS | SAF No.: RC-118 | |
| Ice Chest No.: GLOS-015 | Field Logbook No.: 1633<br>COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: Fdx# 797531076499 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | |
|---|---|
| Preservation | Cool 4C |
| Type of Container | P/G |
| No. of Container(s) | 1 |
| Volume | 15mL |

SAMPLE ANALYSIS

| Sample No. | Matrix * | Sample Date | Sample Time | Total Inoganic Arsenic |
|---|---|---|---|---|
| J18K77 2981.87 | OTHER SOLID | 4/21/09 | 1200 | X |

| CHAIN OF POSSESSION | Sign/Print Names | | |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | Date/Time: 4/21/09 1200 | Received By/Stored In: EAS Locked Storage | Date/Time: 4/21/09 1205 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | Date/Time: 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | Date/Time: 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | Date/Time: 4/22/09 1330 | Received By/Stored In: Fdx# 797531076499 | Date/Time: |
| Relinquished By/Removed From: | Date/Time: | Received By/Stored In: | Date/Time: 04/23/09 1320 |
| Relinquished By/Removed From: | Date/Time: | Received By/Stored In: | Date/Time: |
| Relinquished By/Removed From: | Date/Time: | Received By/Stored In: | Date/Time: |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wi=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-114 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER<br>Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K<br>Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 300SA, WF4, CARCASS | SAF No.: RC-118 | |
| Ice Chest No.: GLOS-015 | Field Logbook No.: 1633<br>COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: Fdx# 797531076499 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | |
| J18K76 2981.88 | OTHER SOLID | 04/21/09 | 1000 | X | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | | |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | Date/Time: 04/21/09 1000 | Received By/Stored In: EAS Locked Storage | Date/Time: 04/21/09 1005 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | Date/Time: 4/22/09 1330 | Received By/Stored In: SHANNAN JOHNSON | Date/Time: 4/22/09 1330 |
| Relinquished By/Removed From: SHANNAN JOHNSON | Date/Time: 4/22/09 1330 | Received By/Stored In: FDX# 797531076499 | Date/Time: |
| Relinquished By/Removed From: | Date/Time: | Received By/Stored In: | Date/Time: 04/23/09 1320 |
| Relinquished By/Removed From: | Date/Time: | Received By/Stored In: | Date/Time: |
| Relinquished By/Removed From: | Date/Time: | Received By/Stored In: | Date/Time: |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 4/22/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-92 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 300SA-WF2, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: WCH-08-003-2 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: # 79754717/661 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K47 2981.89 | OTHER SOLID | 4/22/09 | 0800 | X | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
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| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/22/09 0800 | EAS Locked Storage | 4/22/09 0805 |
| Relinquished By/Removed From: EAS LOCKED STORAGE # 1335 | 04/28/09 | Received By/Stored In: SHANNAN JOHNSON | 04/28/09 1335 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 04/28/09 1335 | Received By/Stored In: FEX# 79754717/661 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/29/09 1240 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/28/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-93 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER<br>Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K<br>Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 300SA-WF3, FILLET | SAF No.: RC-118 | |
| Ice Chest No.: WCH-08-003-2 | Field Logbook No.: 1633<br>COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: FedEx# 797547 17/661 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K48 2981-90 | OTHER SOLID | 4/22/09 | 10:00 | X | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/22/09 1000 | Received By/Stored In: EAS Locked Storage | 4/22/09 1005 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 04/28/09 1335 | Received By/Stored In: SHANNAN JOHNSON | 04/28/09 1335 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 04/28/09 1335 | Received By/Stored In: FDX# 797547 17/661 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/29/09 1240 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/29/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-94 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 300SA-WF4, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: WCH-08.003-2 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 79754717/661 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J18K49 2981.91 | OTHER SOLID | 4/22/09 | 12:00 | X | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/22/09 12:00 | Received By/Stored In: EAS LOCKED STORAGE | 4/22/09 12:05 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | 04/28/09 1335 | Received By/Stored In: SHANNAN JOHNSON | 04/28/09 1335 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 04/28/09 1335 | Received By/Stored In: Fdx# 79754717/661 | |
| Relinquished By/Removed From: | | Received By/Stored In: | 04/29/09 1245 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/28/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-95 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| **Collector** Josh McGough | **Company Contact** JOAN KESSNER **Telephone No.** 375-4688 | **Project Coordinator** KESSNER, JH | **Price Code** 9K **Data Turnaround** 45 Days |
| **Project Designation** Columbia River Component of the RCBRA - Tissues | **Sampling Location** 300SA-WF5, FILLET | **SAF No.** RC-118 | |
| **Ice Chest No.** WCH-08-003-2 | **Field Logbook No.** 1633 **COA** BESCRC6520 | **Method of Shipment** FED EX | |
| **Shipped To** Battelle Marine Sciences | **Offsite Property No.** N/A | **Bill of Lading/Air Bill No.** FDX# 79754717/661 | |

**POSSIBLE SAMPLE HAZARDS/REMARKS**

**Special Handling and/or Storage**
*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Preservation** | Cool 4C | | | | | | | | | | |
| **Type of Container** | P/G | | | | | | | | | | |
| **No. of Container(s)** | 1 | | | | | | | | | | |
| **Volume** | 15mL | | | | | | | | | | |
| **SAMPLE ANALYSIS** | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. / Matrix * / Sample Date / Sample Time | | | | | | | | | | | |
| J18K50 2981.92 / OTHER SOLID / 4/22/09 / 1400 | X | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/22/09 1400 | Received By/Stored In: EAS Locked Storage | 4/22/09 1405 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | 04/28/09 1335 | Received By/Stored In: SHANNAN JOHNSON | 04/28/09 1335 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 04/28/09 1335 | Received By/Stored In: FDX# 79754717/661 | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | 04/29/09 1240 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

**SPECIAL INSTRUCTIONS**

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/28/09.

**Matrix ***
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| **LABORATORY SECTION** | Received By | Title | Date/Time |
| **FINAL SAMPLE DISPOSITION** | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-76 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 100SA-WF1, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: WCH-08-003-2 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: FedEx# 79754717/661 |

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | |
| J18K31 2981.93 | OTHER SOLID | 4/23/09 | 0800 | X | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/23/09 0800 | EAS Locked Storage | 4/23/09 0805 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | 04/28/09 1335 | Received By/Stored In: SHANNAN JOHNSON | 04/28/09 1335 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 04/28/09 1335 | Received By/Stored In: FedEx# 79754717/661 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/29/09 1240 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/28/09.

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-77 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 100SA-WF2, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: WCH-08-003-2 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: FOX# 797547171661 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | |
| J18K32 2981.94 | OTHER SOLID | 4/23/09 | 10:00 | X | | | | | | | | |
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| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/23/09 10:00 | EAS Locked Storage | 4/23/09 10:05 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 04/28/09 1335 | Received By/Stored In: SHANNAN JOHNSON | 04/28/09 1335 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 04/28/09 1335 | Received By/Stored In: FOX# 797547171661 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/29/09 1240 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/28/09.

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-78 | Page 1 of 1 |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER; Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K; Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 100SA-WF3, CARCASS | SAF No.: RC-118 | |
| Ice Chest No.: WCH-08-003-2 | Field Logbook No.: 1633; COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: FOX# 797547 17/661 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K33 2981.95 | OTHER SOLID | 4/23/09 | 12:00 | X | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/23/09 12:00 | EAS Locked Storage | 4/23/09 12:05 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 1335 04/28/09 | Received By/Stored In: SHANNAN JOHNSON | 1335 04/28/09 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 1335 04/28/09 | Received By/Stored In: FOX# 797547 17/661 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/29/09 1240 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/28/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| LABORATORY SECTION | Received By | Title | Date/Time |
|---|---|---|---|
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-79 | Page 1 of 1 |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER; Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K; Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 100SA-WF4, CARCASS | SAF No.: RC-118 | |
| Ice Chest No.: WCH-08-003-2 | Field Logbook No.: 1633; COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: FedX# 79754717/661 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18K34 2981.96 | OTHER SOLID | 4/23/09 | 1400 | X | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | SPECIAL INSTRUCTIONS |
|---|---|---|
| Relinquished By/Removed From: Josh McGough; Date/Time: 4/23/09 1400 | Received By/Stored In: EAS Locked Storage; Date/Time: 4/23/09 1405 | |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2; Date/Time: 4/28/09 1335 | Received By/Stored In: SHANNAN JOHNSON; Date/Time: 4/28/09 1335 | |
| Relinquished By/Removed From: SHANNAN JOHNSON; Date/Time: 04/28/09 1335 | Received By/Stored In: FedX# 79754717/661; Date/Time: | |
| Relinquished By/Removed From: Date/Time: | Received By/Stored In: 04/29/09 1240 | |
| Relinquished By/Removed From: Date/Time: | Received By/Stored In: Date/Time: | Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/28/09 |
| Relinquished By/Removed From: Date/Time: | Received By/Stored In: Date/Time: | |

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| LABORATORY SECTION | Received By | Title | Date/Time |
|---|---|---|---|
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-51 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 100SA-WF1, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: 4204-08-003-2 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fed# 797547171661 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18J94 2981.97 | OTHER SOLID | 4/27/09 | 0800 | X | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | | |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | Date/Time: 4/27/09 0800 | Received By/Stored In: EAS Locked Storage #2 | Date/Time: 4/27/09 0805 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | Date/Time: 04/28/09 1335 | Received By/Stored In: SHANNAN JOHNSON | Date/Time: 04/28/09 1335 |
| Relinquished By/Removed From: SHANNAN JOHNSON | Date/Time: 04/28/09 1335 | Received By/Stored In: FOX# 797547171661 | Date/Time: |
| Relinquished By/Removed From: | Date/Time: | Received By/Stored In: | Date/Time: 04/29/09 1240 |
| Relinquished By/Removed From: | Date/Time: | Received By/Stored In: | Date/Time: |
| Relinquished By/Removed From: | Date/Time: | Received By/Stored In: | Date/Time: |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/28/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-52 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER<br>Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K<br>Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 100SA-WF2, FILLET | SAF No.: RC-118 | |
| Ice Chest No.: WCH-08-003-2 | Field Logbook No.: 1633<br>COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: FDx# 797547171661 | |

**POSSIBLE SAMPLE HAZARDS/REMARKS**

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. / Matrix * / Sample Date / Sample Time | | | | | | | | | | | |
| J18J95 2981.98 / OTHER SOLID / 4/27/09 / 10:30 | X | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/27/09 10:30 | EAS Locked Storage | 4/27/09 1035 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 04/28/09 1335 | Received By/Stored In: SHANNAN JOHNSON | 04/28/09 1335 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 04/28/09 1335 | Received By/Stored In: FdX# 797547171661 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/29/09 1240 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

**SPECIAL INSTRUCTIONS**

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/28/09

**Matrix ***

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-53 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 100SA-WF3, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: WCH-08-003-2 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: FOX# 79754717/661 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18J96 2981.99 | OTHER SOLID | 4/27/09 | 1345 | X | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | SPECIAL INSTRUCTIONS | Matrix * |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough — Date/Time: 4/27/09 1345 | Received By/Stored In: EAS Locked Storage #2 — Date/Time: 4/27/09 1345 | | S=Soil<br>SE=Sediment<br>SO=Solid<br>SL=Sludge<br>W = Water<br>O=Oil<br>A=Air<br>DS=Drum Solids<br>DL=Drum Liquids<br>T=Tissue<br>WI=Wipe<br>L=Liquid<br>V=Vegetation<br>X=Other |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 — Date/Time: 04/28/09 1332 | Received By/Stored In: SHANNAN JOHNSON — Date/Time: 04/28/09 1335 | | |
| Relinquished By/Removed From: SHANNAN JOHNSON — Date/Time: 04/28/09 1335 | Received By/Stored In: FOX# 79754717/661 — Date/Time: | | |
| Relinquished By/Removed From: — Date/Time: | Received By/Stored In: — Date/Time: 04/29/09 1250 | | |
| Relinquished By/Removed From: — Date/Time: | Received By/Stored In: — Date/Time: | Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/28/09 | |
| Relinquished By/Removed From: — Date/Time: | Received By/Stored In: — Date/Time: | | |

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-54 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 100SA-WF4, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: LCH-08-003-2 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fax# 797547171661 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inorganic Arsenic | | | | | | | | | | |
| Sample No. / Matrix * / Sample Date / Sample Time | | | | | | | | | | | |
| J18J97 2981.100 / OTHER SOLID / ~~4/23/09~~ JAN 4/27/09 / 1430 | X | | | | | | | | | | |
| 4/27/09 | | | | | | | | | | | |
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| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/27/09 1430 | Received By/Stored In: EAS Locked Storage #2 | 4/27/09 1430 |
| Relinquished By/Removed From: EAS LOCKED STORAGE#2 | 04/28/09 1335 | Received By/Stored In: SHANNAN JOHNSON | 04/28/09 1335 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 04/28/09 1335 | Received By/Stored In: Fax# 797547171661 | |
| Relinquished By/Removed From | | Received By/Stored In | 04/29/09 1240 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 04/28/09.

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| LABORATORY SECTION | Received By | Title | Date/Time |
|---|---|---|---|
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-11 | Page 1 of 1 |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER; Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K; Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: UPRIVER SA-WF1, FILLET | SAF No.: RC-118 | |
| Ice Chest No.: AFS-04-04D | Field Logbook No.: 1633; COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: FOX# 796579633 89 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18J16 2981.101 | OTHER SOLID | 4/28/09 | 1230 | X | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | SPECIAL INSTRUCTIONS | Matrix * |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough; Date/Time: 4/28/09 1235 | Received By/Stored In: EAS Locked Storage #2; Date/Time: 4/28/09 1235 | | S=Soil; SE=Sediment; SO=Solid; SI=Sludge; W = Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; WI=Wipe; L=Liquid; V=Vegetation; X=Other |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2; Date/Time: 5/5/09 1240 | Received By/Stored In: SHANNAN JOHNSON; Date/Time: 5/5/09 1240 | | |
| Relinquished By/Removed From: SHANNAN JOHNSON; Date/Time: 5/6/09 | Received By/Stored In: FOX# 796579633 89; Date/Time: | | |
| Relinquished By/Removed From: | Received By/Stored In: 05; Date/Time: 06/09 1300 | | |
| Relinquished By/Removed From: | Received By/Stored In: | Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09 | |
| Relinquished By/Removed From: | Received By/Stored In: | | |

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-12 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER<br>Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K<br>Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: UPRIVER SA-WF2, FILLET | SAF No.: RC-118 | |
| Ice Chest No.: AFS-04-040 | Field Logbook No.: 1633<br>COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: FedEx# 796579633089 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. / Matrix * / Sample Date / Sample Time | | | | | | | | | | | |
| J18J17 2981-102 / OTHER SOLID / 4/29/09 / 0800 | X | | | | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/29/09 0800 | EAS Locked Storage #2 | 4/29/09 0800 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | 5/5/09 1240 | Received By/Stored In: SHANNAN JOHNSON | 5/5/09 1240 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 5/5/09 1240 | Received By/Stored In: FEDEX# 796579633089 | |
| Relinquished By/Removed From | | Received By/Stored In | 5/6/09 1300 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-13 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER<br>Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K<br>Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: UPRIVER SA-WF3, FILLET | SAF No.: RC-118 | |
| Ice Chest No.: AFS-04-040 | Field Logbook No.: 1633<br>COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: Fdx# 796579633089 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | |
| J18J18 2981-103 | OTHER SOLID | 4/29/09 | 1400 | X | | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | | |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | Date/Time: 4/29/09 1405 | Received By/Stored In: EAS Locked Storage #2 | Date/Time: 4/29/09 1405 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | Date/Time: 5/5/09 1240 | Received By/Stored In: SHANNAN JOHNSON | Date/Time: 5/5/09 1240 |
| Relinquished By/Removed From: SHANNAN JOHNSON | Date/Time: 5/5/09 1240 | Received By/Stored In: Fdx# 796579633089 | Date/Time: |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time: 05/06/09 1300 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-14 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: UPRIVER SA-WF4, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: AFS-04-040 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 796579633089 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J18J19 2981-04 | OTHER SOLID | 4/30/09 | 0800 | X | | | | | | | | | |
| | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/30/09 0805 | EAS Locked Storage #2 | 4/30/09 0805 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | 5/5/09 1240 | Received By/Stored In: SHANNAN JOHNSON | 5/5/09 1240 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 5/5/09 1244 | Received By/Stored In: FEDEX 796579633089 | |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | 05/06/09 1300 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-15 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: UPRIVER SA-WF5, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: AFS-04-040 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 796579633089 |

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | |
| J18J20 2989.105 | OTHER SOLID | 4/30/09 | 1030 | X | | | | | | | | |
| | | | | | | | | | | | | |
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| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough Joel McL | 4/30/09 1035 | EAS LOCKED STORAGE #2 | 4/30/09 1035 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | 5/5/09 1240 | Received By/Stored In: SHANNAN JOHNSON | 5/5/09 1240 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 5/5/09 1240 | Received By/Stored In: FedEx# 796579633089 | |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time 05/06/09 1300 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-80 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 100SA-WF5, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: AFS-04-040 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 796579633089 |

**POSSIBLE SAMPLE HAZARDS/REMARKS**

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |

| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| J18K35 2981-106 | OTHER SOLID | 4/28/09 | 1000 | X | | | | | | | | |
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| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/28/09 1005 | Received By/Stored In: EAS Locked Storage #2 | 4/28/09 1005 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | 5/5/09 1240 | Received By/Stored In: SHANNAN JOHNSON | 5/5/09 1240 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 5/5/09 1240 | Received By/Stored In: FdxTr 796579633089 | |
| Relinquished By/Removed From | | Received By/Stored In | 05/06/09 1300 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

**SPECIAL INSTRUCTIONS**

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09.

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-36 | Page 1 of 1 |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER; Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH | Price Code: 9K; Data Turnaround: 45 Days |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: UPRIVER SA-WF1, CARCASS | SAF No.: RC-118 | |
| Ice Chest No.: AFS-04-040 | Field Logbook No.: 1633; COA: BESCRC6520 | Method of Shipment: FED EX | |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | Bill of Lading/Air Bill No.: Fedex # 796579633089 | |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18J79 2981-107 | OTHER SOLID | 4/28/09 | 1430 | X | | | | | | | |
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| CHAIN OF POSSESSION | Date/Time | Sign/Print Names | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/28/09 1435 | Received By/Stored In: EAS Locked Storage #2 | 4/28/09 1435 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | 5/5/09 1240 | Received By/Stored In: SHANNAN JOHNSON | 5/5/09 1240 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 5/5/09 1240 | Received By/Stored In: FedEx # 796579633089 | |
| Relinquished By/Removed From: | | Received By/Stored In: | 05/06/09 1300 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-37 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: UPRIVER SA-WF2, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: AFS-04-040 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 796579633089 |

**POSSIBLE SAMPLE HAZARDS/REMARKS**

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18J80 2981.108 | OTHER SOLID | 4/29/09 | 1030 | X | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/29/09 1035 | EAS Locked Storage #2 | 4/29/09 1035 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | 5/5/09 1240 | Received By/Stored In: SHANNAN JOHNSON | 5/5/09 1240 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 5/5/09 1240 | Received By/Stored In: FedEx 796579633089 | |
| Relinquished By/Removed From | | Received By/Stored In | 05/06/09 1300 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

**SPECIAL INSTRUCTIONS**

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09

**Matrix ***

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-38 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: UPRIVER SA-WF3, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: AFS-04-040 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 706579633089 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18J81 2981.109 | OTHER SOLID | 4/29/09 | 1530 | X | | | | | | | |

| CHAIN OF POSSESSION | Sign/Print Names | | |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | Date/Time: 4/29/09 1535 | Received By/Stored In: EAS Locked Storage #2 | Date/Time: 4/29/09 1535 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | Date/Time: 5/5/09 1240 | Received By/Stored In: SHANNAN JOHNSON | Date/Time: 5/5/09 1240 |
| Relinquished By/Removed From: SHANNAN JOHNSON | Date/Time: 5/5/09 1240 | Received By/Stored In: FOX# 706579633089 | Date/Time: |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time: 05/06/09 1300 |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-39 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: UPRIVER SA-WF4, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: AFS-04-040 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 796577633089 |

POSSIBLE SAMPLE HAZARDS/REMARKS

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18J82 2981.110 | OTHER SOLID | 4/30/09 | 0930 | X | | | | | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names: Received By/Stored In | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/30/09 0935 | EAS Locked Storage #2 | 4/30/09 0935 |
| Relinquished By/Removed From: EAS LOCKED STORAGE | 5/5/09 1240 | SHANNAN JOHNSON | 5/5/09 1240 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 5/5/09 1240 | FDX# 796579633089 | |
| Relinquished By/Removed From | | | 05/06/09 1300 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09.

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-40 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: UPRIVER SA-WF5, CARCASS | | SAF No.: RC-118 |
| Ice Chest No.: AFS-04-040 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 796579633089 |

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage
*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inoganic Arsenic | | | | | | | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | | |
| J18J83 2981.111 | OTHER SOLID | 4/30/09 | 1200 | X | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| CHAIN OF POSSESSION | Date/Time | Sign/Print Names | Date/Time |
|---|---|---|---|
| Relinquished By/Removed From: Josh McGough | 4/30/09 1205 | Received By/Stored In: EAS Locked Storage #2 | 4/30/09 1205 |
| Relinquished By/Removed From: EAS LOCKED STORAGE #2 | 5/1/09 | Received By/Stored In: SHANNAN JOHNSON | 5/1/09 1240 |
| Relinquished By/Removed From: SHANNAN JOHNSON | 5/5/09 1240 | Received By/Stored In: Fdx# 796579633089 | |
| Relinquished By/Removed From | | Received By/Stored In | 05/06/09 1300 |
| Relinquished By/Removed From | | Received By/Stored In | |
| Relinquished By/Removed From | | Received By/Stored In | |

SPECIAL INSTRUCTIONS

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

| Washington Closure Hanford | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | RC-118-55 | Page 1 of 1 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Collector: Josh McGough | Company Contact: JOAN KESSNER | Telephone No.: 375-4688 | Project Coordinator: KESSNER, JH |
| Price Code: 9K | Data Turnaround: 45 Days | | |
| Project Designation: Columbia River Component of the RCBRA - Tissues | Sampling Location: 100SA-WF5, FILLET | | SAF No.: RC-118 |
| Ice Chest No.: AFS-04-040 | Field Logbook No.: 1633 | COA: BESCRC6520 | Method of Shipment: FED EX |
| Shipped To: Battelle Marine Sciences | Offsite Property No.: N/A | | Bill of Lading/Air Bill No.: Fdx# 796579633089 |

**POSSIBLE SAMPLE HAZARDS/REMARKS**

**Special Handling and/or Storage**

*COOL 4C "MATRIX COMPOSED OF FISH"*

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Preservation | Cool 4C | | | | | | | | | | |
| Type of Container | P/G | | | | | | | | | | |
| No. of Container(s) | 1 | | | | | | | | | | |
| Volume | 15mL | | | | | | | | | | |
| SAMPLE ANALYSIS | Total Inorganic Arsenic | | | | | | | | | | |
| Sample No. / Matrix * / Sample Date / Sample Time | | | | | | | | | | | |
| J18J98 2981.112 / OTHER SOLID / 4/28/09 / 0800 | X | | | | | | | | | | |

**CHAIN OF POSSESSION** — **Sign/Print Names**

| Relinquished By/Removed From | Date/Time | Received By/Stored In | Date/Time |
|---|---|---|---|
| Josh McGough | 4/28/09 0805 | EAS Locked Storage #2 | 4/28/09 0805 |
| EAS LOCKED STORAGE #2 | 5/5/09 1240 | SHANNAN JOHNSON | 5/5/09 1240 |
| SHANNAN JOHNSON | 5/5/09 1240 | Fdx# 796579633089 | |
| | | | 05/06/09 1300 |
| | | | |
| | | | |

**SPECIAL INSTRUCTIONS**

Sampler unavailable to relinquish samples from EAS Refrigerator. EAS Custodian removed samples for shipping on 5/5/09

**Matrix ***

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

| | | | |
|---|---|---|---|
| LABORATORY SECTION | Received By | Title | Date/Time |
| FINAL SAMPLE DISPOSITION | Disposal Method | Disposed By | Date/Time |

WCH-EE-011

# LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 2981 Sample No(s): 73-88 Project Manager: Brandenberger

**TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)**

Matrix: _____ WP# _____

| Yes | No | |
|---|---|---|
| | | Navy-type Project (requires high-level sample tracking procedures) |
| | | Filter Samples: *Amount:* Entire sample Half of sample |
| | | Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab) |
| | | Special instructions: |

**Sample Preservation Instructions:**

Date To Archive: _____ Date To Dispose: _____

**TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN**

| Yes | No | N/A | Indicate in Appropriate Box |
|---|---|---|---|
| | ✓ | | Was a custody seal present? |
| | | ✓ | Was the custody seal intact? |
| ✓ | | | Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? (if multiple coolers, note temp. of each) 2.6 °C _____ °C |
| | | ✓ | Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)? Comment/Remedy: |
| ✓ | | | Were all chain of custody forms signed and dated? |
| | ✓ | | Were samples filtered at MSL? |

Sample condition(s): (Acceptable) Other (explain):

Container type: Teflon (Poly) Glass Cap. Vial Other:

Notes:

Completed By: [signature] Date/Time: 04/23/09 1300

**SAMPLE PRESERVATION**

- [x] Sample(s) were preserved at MSL
- [ ] Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction )
- [ ] Random pH checked for ~10% of samples (use dip paper) Sample IDs:
- [ ] Complete pH check required for project (use pH meter and record on pH Record form)

If preservation necessary, record Acid Lot#

Type:
- [ ] 0.2% HNO3 Notes:
- [ ] 0.5% HCl (Hg samples) Notes:
- [x] Refrigerate/Freeze Notes: fridge lab 114
- [ ] Other Notes:

Completed By: [signature] Date/Time: 04/23/09 1340

Storage Shelf:

Revsed 121608

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 2981 Sample No(s): 89-100 Project Manager: Brandenberger

**TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)**

Matrix: _____ WP# _____

| Yes | No | |
|---|---|---|
| | | Navy-type Project (requires high-level sample tracking procedures) |
| | | Filter Samples: *Amount:* Entire sample Half of sample |
| | | Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab) |
| | | Special instructions: |

Sample Preservation Instructions:

Date To Archive: _____ Date To Dispose: _____

**TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN**

| Yes | No | N/A | Indicate in Appropriate Box |
|---|---|---|---|
| | N/A | | Was a custody seal present? Present on sample jars |
| N/A | | | Was the custody seal intact? |
| N/A | | | Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? 2.0 °C (if multiple coolers, note temp. of each) °C |
| | | N/A | Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)? Comment/Remedy: |
| N/A | | | Were all chain of custody forms signed and dated? |
| | N/A | | Were samples filtered at MSL? |

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes: Transfered to capt. vials & put in deep freez

Completed By: [signature] Date/Time: 04/29/09 1240

**SAMPLE PRESERVATION**

- [N/A] Sample(s) were preserved at MSL
- [ ] Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction )
- [ ] Random pH checked for ~10% of samples (use dip paper) Sample IDs:
- [ ] Complete pH check required for project (use pH meter and record on pH Record form)

If preservation necessary, record Acid Lot#

Type:
- [ ] 0.2% HNO3 Notes:
- [ ] 0.5% HCl (Hg samples) Notes:
- [N/A] Refrigerate Freeze Notes: deep freez B-1
- [ ] Other Notes:

Completed By: [signature] Date/Time: 04/29/09 1350

Storage Shelf:

Revsed 121608

# LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 2981 Sample No(s): 101-112 Project Manager: Brandenberger

**TO BE COMPLETED BY PROJECT MANAGER (prior to arrival when possible)**

Matrix: _____ WP# _____

| Yes | No | |
|---|---|---|
| | | Navy-type Project (requires high-level sample tracking procedures) |
| | | Filter Samples: *Amount:* Entire sample / Half of sample |
| | | Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab) |
| | | Special instructions: _____ |

Sample Preservation Instructions: _____

Date To Archive: _____ Date To Dispose: _____

**TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN**

| Yes | No | N/A | Indicate in Appropriate Box |
|---|---|---|---|
| | ✓ | | Was a custody seal present? |
| | | ✓ | Was the custody seal intact? |
| ✓ | | | Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? (if multiple coolers, note temp. of each) 2.3 °C _____ °C |
| | | ✓ | Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)? Comment/Remedy: _____ |
| ✓ | | | Were all chain of custody forms signed and dated? |
| | ✓ | | Were samples filtered at MSL? |

Sample condition(s): Acceptable Other (explain):

Container type: Teflon Poly Glass Cap. Vial Other:

Notes: _____

Completed By: [signature] Date/Time: 05/06/09 1300

**SAMPLE PRESERVATION**

- [x] Sample(s) were preserved at MSL
- [ ] Sample(s) were preserved prior to arrival at MSL (noted on CoC / Sample / per PM Instruction )
- [ ] Random pH checked for ~10% of samples (use dip paper) Sample IDs: _____
- [ ] Complete pH check required for project (use pH meter and record on pH Record form)

If preservation necessary, record Acid Lot#

Type:
- [ ] 0.2% HNO3 Notes: _____
- [ ] 0.5% HCl (Hg samples) Notes: _____
- [x] Refrigerate/Freeze Notes: Deep freeze Samples transferred to cap via & freeze dried
- [ ] Other Notes: _____

Completed By: [signature] Date/Time: 05/06/09 1300

Storage Shelf: _____

Revsed 121608