0088244

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

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 5/7/10
INITIAL/DATE

COMMENTS:

SDG SEQ091109 SAF-RC-118

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

REVISED DATA ATTACHED

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MAY 1 8 2010
EDMC

Analytical Chemistry Data Package
Inorganics Analysis

Project: Washington Closures Hanford

As Speciation Analysis of Tissue
REVISION 1: 04/26/10

SDG 091109
SDG 091809
SDG 092309

PNNL Project No. 56166
MSL CF No. 2981

Pacific Northwest
NATIONAL LABORATORY

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
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INORGANIC CHEMISTRY ANALYSIS DATA PACKAGE CONTENTS

As Speciation Analysis in Tissue

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Sample Custody Information

Laboratory Sample Log-In and Chain of Custody Forms for:
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SDG091809 29
SDG092309 41

BATTELLE MARINE SCIENCES LABORATORY
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JMB - Corrected 01/26/10
Washington Closure Hanford
Arsenic Speciation Study
SDG091109, SDG091809, and SDG092309

MSL Code	Client ID	SDG	Received Date	Collection Date	Analysis Date	Analytical Batch ID	Percent Dry Wt	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*	*Cal.*
2981-186	J19476	SDG091109	09/11/09	09/03/09	12/02/09	120209-LCDRC	27.6	0.0796	0.005 U	0.278	0.0164	*0.379*
2981-188	J19477	SDG091109	09/11/09	09/03/09	12/02/09	120209-LCDRC	30.2	0.0271	0.005 U	0.007 U	0.01 U	*0.0491*
2981-189	J19487	SDG091109	09/11/09	09/03/09	12/02/09	120209-LCDRC	43.4	0.002 U	0.005 U	0.007 U	0.0116	*0.0256*
2981-191	J19486	SDG091109	09/11/09	09/03/09	12/02/09	120209-LCDRC	34.0	0.0319	0.005 U	0.007 U	0.01 U	*0.0539*
2981-193	J19497	SDG091109	09/11/09	09/08/09	12/02/09	120209-LCDRC	34.4	0.105	0.005 U	0.007 U	0.01 U	*0.127*
2981-196	J19496	SDG091109	09/11/09	09/08/09	12/02/09	120209-LCDRC	26.6	0.276	0.005 U	0.007 U	0.01 U	*0.298*
2981-198	J194B7	SDG091109	09/11/09	09/08/09	12/02/09	120209-LCDRC	32.6	0.0296	0.005 U	0.007 U	0.0106	*0.0523*
2981-200	J194B8	SDG091109	09/11/09	09/08/09	12/02/09	120209-LCDRC	39.1	0.0113	0.005 U	0.007 U	0.0115	*0.0347*
2981-201	J194C8	SDG091109	09/11/09	09/09/09	12/02/09	120209-LCDRC	25.6	0.0709	0.005 U	0.0186	0.0150	*0.110*
2981-202	J194C9	SDG091109	09/11/09	09/09/09	12/02/09	120209-LCDRC	32.6	0.0313	0.005 U	0.007 U	0.01 U	*0.0533*
2981-203	J19503	SDG091809	09/18/09	09/10/09	12/02/09	120209-LCDRC	31.1	0.0848	0.005 U	0.007 U	0.01 U	*0.107*
2981-204	J19504	SDG091809	09/18/09	09/10/09	12/02/09	120209-LCDRC	37.9	0.0313	0.005 U	0.007 U	0.01 U	*0.0533*
2981-205	J195R1	SDG091809	09/18/09	09/10/09	12/03/09	120309-LCDRC	42.3	0.00784	0.005 U	0.007 U	0.01 U	*0.0298*
2981-206	J195R0	SDG091809	09/18/09	09/10/09	12/03/09	120309-LCDRC	34.5	0.0363	0.005 U	0.0156	0.01 U	*0.0669*
2981-207	J195T2	SDG091809	09/18/09	09/14/09	12/03/09	120309-LCDRC	36.7	0.0444	0.005 U	0.007 U	0.01 U	*0.0664*
2981-207DUP	J195T2	SDG091809	09/18/09	09/14/09	12/03/09	120309-LCDRC	36.7	0.0445	0.005 U	0.007 U	0.0104	*0.0669*
2981-208	J195T3	SDG091809	09/18/09	09/14/09	12/03/09	120309-LCDRC	40.2	0.0155	0.005 U	0.007 U	0.01 U	*0.0375*
2981-209	J195Y0	SDG091809	09/18/09	09/15/09	12/03/09	120309-LCDRC	37.7	0.0223	0.005 U	0.007 U	0.01 U	*0.0443*
2981-210	J195X9	SDG091809	09/18/09	09/15/09	12/03/09	120309-LCDRC	32.2	0.0451	0.005 U	0.007 U	0.01 U	*0.0671*
2981-211	J19609	SDG091809	09/18/09	09/15/09	12/03/09	120309-LCDRC	32.9	0.0279	0.005 U	0.007 U	0.01 U	*0.0499*
2981-212	J19610	SDG091809	09/18/09	09/15/09	12/03/09	120309-LCDRC	38.7	0.0122	0.005 U	0.007 U	0.0115	*0.0358*
2981-213	J19629	SDG092309	09/23/09	09/16/09	12/03/09	120309-LCDRC	34.7	0.0220	0.005 U	0.007 U	0.0130	*0.0470*
2981-214	J19628	SDG092309	09/23/09	09/16/09	12/03/09	120309-LCDRC	28.9	0.0461	0.005 U	0.007 U	0.01 U	*0.0681*
2981-215	J19639	SDG092309	09/23/09	09/16/09	12/03/09	120309-LCDRC	23.9	0.0395	0.005 U	0.007 U	0.01 U	*0.0615*
2981-218	J19640	SDG092309	09/23/09	09/16/09	12/03/09	120309-LCDRC	29.7	0.0154	0.005 U	0.007 U	0.01 U	*0.0374*
2981-219	J19650	SDG092309	09/23/09	09/17/09	12/03/09	120309-LCDRC	36.0	0.0249	0.005 U	0.007 U	0.01 U	*0.0469*
2981-220	J19649	SDG092309	09/23/09	09/17/09	12/03/09	120309-LCDRC	29.2	0.0690	0.005 U	0.007 U	0.01 U	*0.0910*
2981-221	J19660	SDG092309	09/23/09	09/17/09	12/03/09	120309-LCDRC	32.0	0.0587	0.005 U	0.007 U	0.0121	*0.0828*
2981-222	J19659	SDG092309	09/23/09	09/17/09	12/03/09	120309-LCDRC	28.7	0.131	0.005 U	0.007 U	0.01 U	*0.153*
QUALITY CONTROL SAMPLE RESULTS						*Average*	*33.5*					
Method Blank												
Blank R1		SDG091109	09/11/09		12/02/09	120209-LCDRC		0.002 U	0.005 U	0.007 U	0.01 U	*NA*
Blank R2		Multiple			12/03/09	120309-LCDRC		0.002 U	0.005 U	0.007 U	0.01 U	*NA*
Standard Reference Material												
DORM-2 r1		SDG091109	09/11/09		12/02/09	120209-LCDRC		14.5	0.0407	0.007 U	0.01 U	*14.6*
DORM-2 r2		Multiple			12/03/09	120309-LCDRC		12.7	0.203	0.007 U	0.01 U	*12.9*
Certified Value								**16.4**	NA	NA	NA	**18.0**
% Recovery								**88%**				**81%**
% Recovery								**77%**				**72%**
Blank Spike Results												
LCS R1		SDG091109	09/11/09		12/02/09	120209-LCDRC		2.02	2.08	2.00	4.02	*10.1*
LCS R2		Multiple			12/03/09	120309-LCDRC		1.97	1.91	2.01	3.87	*9.75*
Spike								2.00	2.00	2.00	4.00	10.0
% Rec								**101%**	**104%**	**100%**	**100%**	**101%**
% Rec								**98%**	**95%**	**100%**	**97%**	**98%**

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Arsenic Speciation Study
SDG091109, SDG091809, and SDG092309

MSL Code	Client ID	SDG	Received Date	Collection Date	Analysis Date	Analytical Batch ID	Percent Dry Wt	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*	*Cal.*
Replicate Analysis Results												
2981-187	J195V0	SDG091109	09/11/09	09/03/09	12/02/09	120209-LCDRC	32.2	0.0327	0.005 U	0.007 U	0.0102	*0.0549*
2981-187DUP	J195V0	SDG091109	09/11/09	09/03/09	12/02/09	120209-LCDRC	32.2	0.0295	0.005 U	0.007 U	0.01 U	*0.0515*
	RPD							**10%**	NA	NA	NA	**6%**
2981-207	J195T2	SDG091809	09/18/09	09/14/09	12/03/09	120309-LCDRC	36.7	0.0444	0.005 U	0.007 U	0.01 U	*0.0664*
2981-207DUP	J195T2	SDG091809	09/18/09	09/14/09	12/03/09	120309-LCDRC	36.7	0.0445	0.005 U	0.007 U	0.0104	*0.0669*
	RPD							**0%**	NA	NA	NA	**1%**
Matrix Spike Accuracy												
2981-185	J195T9	SDG091109	09/11/09	09/03/09	12/02/09	120209-LCDRC	26.4	0.0951	0.005 U	0.007 U	0.01 U	*0.117*
2981-185 MS								2.49	0.42	1.82	4.14	*8.87*
2981-185 MSD								2.95	0.20	1.26	3.89	*8.30*
Spike Amount, MS								2.43	NA	NA	4.87	NA
Spike Amount, MSD								2.35	NA	NA	4.69	NA
% Recovery, MS								**99%**	NA	NA	**85%**	NA
% Recovery, MSD								**122%**	NA	NA	**83%**	NA
RPD								**21%**	NA	NA	**3%**	NA
2981-210	J195X9	SDG091809	09/18/09	09/15/09	12/03/09	120309-LCDRC	32.2	0.0451	0.005 U	0.007 U	0.01 U	*0.0671*
2981-210MS								2.06	0.17	0.95	3.04	*6.22*
2981-210MSD								2.06	0.11	0.49	2.91	*5.57*
Spike Amount, MS								2.05	NA	NA	4.10	NA
Spike Amount, MSD								2.05	NA	NA	4.11	NA
% Recovery, MS								**98%**	NA	NA	**74% N**	NA
% Recovery, MSD								**98%**	NA	NA	**71% N**	NA
RPD								**1%**	NA	NA	**4%**	NA

NOTES: Arsenobetaine (AsB)
Dimethylarsinic acid (DMA)
Monomethyarsonic acid (MMA)
Arsenate (V or As^{5+})
Arsenite (III or As^{3+})
Total Inorganic Arsenic = As^{3+5}
Total As = Sum of AsB, DMA, MMA, and As^{3+5}
Cal = Calculated Value
[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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Arsenic Speciation Study
SDG091109, SDG091809, and SDG092309
WET WEIGHT TABLE

MSL Code	Client ID	SDG	Received Date	Collection Date	Analysis Date	Analytical Batch ID	Percent Dry Wt	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)								*0.00063* [1]	*0.002*	*0.002*	*0.003*	*Cal.*
2981-186	J19476	SDG091109	09/11/09	09/03/09	12/02/09	120209-LCDRC	27.6	0.0220	0.002 U	0.0768	0.00453	*0.105*
2981-188	J19477	SDG091109	09/11/09	09/03/09	12/02/09	120209-LCDRC	30.2	0.00817	0.002 U	0.007 U	0.003 U	*0.0272*
2981-189	J19487	SDG091109	09/11/09	09/03/09	12/02/09	120209-LCDRC	43.4	0.000869	0.002 U	0.007 U	0.00502	*0.0149*
2981-191	J19486	SDG091109	09/11/09	09/03/09	12/02/09	120209-LCDRC	34.0	0.0109	0.002 U	0.007 U	0.003 U	*0.0299*
2981-193	J19497	SDG091109	09/11/09	09/08/09	12/02/09	120209-LCDRC	34.4	0.0361	0.002 U	0.007 U	0.003 U	*0.0551*
2981-196	J19496	SDG091109	09/11/09	09/08/09	12/02/09	120209-LCDRC	26.6	0.0732	0.002 U	0.007 U	0.003 U	*0.0922*
2981-198	J194B7	SDG091109	09/11/09	09/08/09	12/02/09	120209-LCDRC	32.6	0.00965	0.002 U	0.007 U	0.00345	*0.0221*
2981-200	J194B8	SDG091109	09/11/09	09/08/09	12/02/09	120209-LCDRC	39.1	0.00442	0.002 U	0.007 U	0.00449	*0.0136*
2981-201	J194C8	SDG091109	09/11/09	09/09/09	12/02/09	120209-LCDRC	25.6	0.0181	0.002 U	0.00477	0.00385	*0.0280*
2981-202	J194C9	SDG091109	09/11/09	09/09/09	12/02/09	120209-LCDRC	32.6	0.0102	0.002 U	0.007 U	0.003 U	*0.0174*
2981-203	J19503	SDG091809	09/18/09	09/10/09	12/02/09	120209-LCDRC	31.1	0.0264	0.002 U	0.007 U	0.003 U	*0.0454*
2981-204	J19504	SDG091809	09/18/09	09/10/09	12/02/09	120209-LCDRC	37.9	0.0118	0.002 U	0.007 U	0.003 U	*0.0308*
2981-205	J195R1	SDG091809	09/18/09	09/10/09	12/03/09	120309-LCDRC	42.3	0.00331	0.002 U	0.007 U	0.003 U	*0.0223*
2981-206	J195R0	SDG091809	09/18/09	09/10/09	12/03/09	120309-LCDRC	34.5	0.0125	0.002 U	0.00538	0.003 U	*0.0299*
2981-207	J195T2	SDG091809	09/18/09	09/14/09	12/03/09	120309-LCDRC	36.7	0.0163	0.002 U	0.007 U	0.003 U	*0.0353*
2981-207DUP	J195T2	SDG091809	09/18/09	09/14/09	12/03/09	120309-LCDRC	36.7	0.0163	0.002 U	0.007 U	0.00383	*0.0292*
2981-208	J195T3	SDG091809	09/18/09	09/14/09	12/03/09	120309-LCDRC	40.2	0.00621	0.002 U	0.007 U	0.003 U	*0.0252*
2981-209	J195Y0	SDG091809	09/18/09	09/15/09	12/03/09	120309-LCDRC	37.7	0.00839	0.002 U	0.007 U	0.003 U	*0.0274*
2981-210	J195X9	SDG091809	09/18/09	09/15/09	12/03/09	120309-LCDRC	32.2	0.0145	0.002 U	0.007 U	0.003 U	*0.0335*
2981-211	J19609	SDG091809	09/18/09	09/15/09	12/03/09	120309-LCDRC	32.9	0.00918	0.002 U	0.007 U	0.003 U	*0.0282*
2981-212	J19610	SDG091809	09/18/09	09/15/09	12/03/09	120309-LCDRC	38.7	0.00474	0.002 U	0.007 U	0.00446	*0.0182*
2981-213	J19629	SDG092309	09/23/09	09/16/09	12/03/09	120309-LCDRC	34.7	0.00764	0.002 U	0.007 U	0.00450	*0.0211*
2981-214	J19628	SDG092309	09/23/09	09/16/09	12/03/09	120309-LCDRC	28.9	0.0133	0.002 U	0.007 U	0.003 U	*0.0323*
2981-215	J19639	SDG092309	09/23/09	09/16/09	12/03/09	120309-LCDRC	23.9	0.00946	0.002 U	0.007 U	0.003 U	*0.0285*
2981-218	J19640	SDG092309	09/23/09	09/16/09	12/03/09	120309-LCDRC	29.7	0.00459	0.002 U	0.007 U	0.003 U	*0.0236*
2981-219	J19650	SDG092309	09/23/09	09/17/09	12/03/09	120309-LCDRC	36.0	0.00896	0.002 U	0.007 U	0.003 U	*0.0280*
2981-220	J19649	SDG092309	09/23/09	09/17/09	12/03/09	120309-LCDRC	29.2	0.0202	0.002 U	0.007 U	0.003 U	*0.0392*
2981-221	J19660	SDG092309	09/23/09	09/17/09	12/03/09	120309-LCDRC	32.0	0.0188	0.002 U	0.007 U	0.00385	*0.0316*
2981-222	J19659	SDG092309	09/23/09	09/17/09	12/03/09	120309-LCDRC	28.7	0.0375	0.002 U	0.007 U	0.003 U	*0.0565*
QUALITY CONTROL SAMPLE RESULTS						*Average*	*33.5*					
Method Blank												
Blank R1		SDG091109	09/11/09		12/02/09	120209-LCDRC		0.0006 U	0.001 U	0.002 U	0.003 U	*NA*
Blank R2		Multiple			12/03/09	120309-LCDRC		0.0006 U	0.001 U	0.002 U	0.003 U	*NA*

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

[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

QA/QC NARRATIVE

PROJECT:	Washington Closures Hanford SDG091109, 091809, and 092309
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:	Tissue samples were received at MSL in three shipments on 09/11/09, 09/18/09, and 09/23/09. 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:	**SDG091109: 2981*186-202 select #s** **SDG091809: 2981*203-212** **SDG092309: 2981*213-222 select #s**
Description:	Freshwater Fish Homogenate
Collection dates	September 2009
Laboratory arrival date	09/11/09, 09/18/09, 09/23/09
Cooler temperature on arrival	3.7, 2.7, and 2.0°C, respectively
Extraction Dates:	12/01/09 and 12/02/09
Analyses Dates:	12/01/09 and 12/02/09

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. The data for the organic arsenic species were included along with the total inorganic arsenic determined as the sum of the inorganic oxidation states of 3+ and 5+. The quality control evaluated was conducted only on the total inorganic arsenic concentration identified in the table as As^{3+5}.

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.

NOTE: The data for arsenobetaine (AsB), dimethylarsinic acid (DMA), monomethyarsonic acid (MMA) are reported for information purposes only. The data are quantitatively determined, but the MSL QA program only validates the analytes requested by the client. The requested species of arsenic is the total inorganic arsenic, which is the sum of the two inorganic oxidation states of 3+ and 5+. The other arsenic species may be validated upon request. The quality control review below applies only to the As^{3+5} data.

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. The samples were received 3-7 days after collection and stored at ≤ -18 °C and then lypholized. With these storage requirements the samples were analyzed within the 180 days from collection.

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	NA	NA	NA	NA	0.002 µg/g	0.0006 µg/g
DMA	HPLC/ICP-DRC-MS	NA	NA	NA	NA	0.005 µg/g	0.001 µg/g
MMA	HPLC/ICP-DRC-MS	NA	NA	NA	NA	0.007 µg/g	0.002 µg/g
As^{3+5}	HPLC/ICP-DRC-MS	85-115%	75-125%	±25%	≤25%	0.01 µg/g	0.003 µg/g

NA = Data quality not applicable to the organic arsenic species for this project.

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 of 20 or fewer samples. 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 of 20 or fewer samples. The LCS consists of reagents spiked with the arsenic species of interest that are processed and analyzed with the samples. The LCS samples were within the QC criterion of 85-115% recovery.

QA/QC NARRATIVE

REPLICATE PRECISION:

Laboratory duplicates were analyzed at a frequency of one each per 20 field samples or analytical batch. Due to an error, the duplicate for analytical batch 120209-LCDRC was conducted on a Washington Closures Hanford sample that was not selected for total inorganic arsenic analyses. The value is reported for the purpose of meeting the quality control requirement. The sample did not contain detectable As^{3+5}; therefore, precision was assessed using the matrix spike duplicates. Analytical precision was assessed using the matrix spike duplicates and were within the QC acceptance criterion of ≤25% RPD.

MATRIX SPIKE ACCURACY:

The analytical method requires a matrix spike at a frequency of one per 20 samples or analytical batch. A matrix spike duplicate was also added to provide a measure of precision (as discussed above). Due to an error, the matrix spike and duplicate matrix spike for analytical batch 120209-LCDRC were conducted on a Washington Closures Hanford sample that was not selected for total inorganic arsenic analyses. The values are provided to demonstrate the quality control was within requirements for this analytical batch. The matrix spikes were within the QC acceptance criterion of 75-125%. The duplicate matrix spikes for analytical batch 120309-LCDRC were just outside the QC acceptance criterion (74% and 71%, respectively). The matrix spikes were reprocessed, but resulted in the same low recoveries. The LCS was within the QC criterion; therefore, the batch was reported. The data may be considered biased slightly low; however, the sample concentrations were all within three times the method detection limit. The data are not considered significantly impacted.

STANDARD REFERENCE MATERIAL:

The standard reference material (SRM) Dorm-2 Dogfish Mussel was prepared and analyzed with each analytical batch. The SRM is not certified for total inorganic arsenic, but certified values are provided for AsB and total As. The concentrations for these two species were within the QC criterion of ±25% difference.

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.

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 9/11/2009
Batch: 15
Login Designee: Mcgahan

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **Washington Closure Hanford**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
J195T9	na	2981-185	other solid	Deep Freezer B-1	MeHg	09/03/09
J19476	na	2981-186	other solid	Deep Freezer B-1	TIA,HCr	09/03/09
J195V0	na	2981-187	other solid	Deep Freezer B-1	MeHg	09/03/09
J19477	na	2981-188	other solid	Deep Freezer B-1	TIA,HCr	09/03/09
J19487	na	2981-189	other solid	Deep Freezer B-1	TIA,HCr	09/03/09
J195V2	na	2981-190	other solid	Deep Freezer B-1	MeHg	09/03/09
J19486	na	2981-191	other solid	Deep Freezer B-1	TIA,HCr	09/03/09
J195V1	na	2981-192	other solid	Deep Freezer B-1	MeHg	09/03/09
J19497	na	2981-193	other solid	Deep Freezer B-1	TIA,HCr	09/08/09
J195V4	na	2981-194	other solid	Deep Freezer B-1	MeHg	09/08/09
J195V3	na	2981-195	other solid	Deep Freezer B-1	MeHg	09/08/09
J19496	na	2981-196	other solid	Deep Freezer B-1	TIA,HCr	09/08/09
J195V5	na	2981-197	other solid	Deep Freezer B-1	MeHg	09/08/09
J194B7	na	2981-198	other solid	Deep Freezer B-1	TIA,HCr	09/08/09
J195V6	na	2981-199	other solid	Deep Freezer B-1	MeHg	09/08/09
J194B8	na	2981-200	other solid	Deep Freezer B-1	TIA,HCr	09/08/09
J194C8	na	2981-201	other solid	Deep Freezer B-1	TIA,HCr	09/09/09
J194C9	na	2981-202	other solid	Deep Freezer B-1	TIA,HCr	09/09/09

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-118-850	Page 1 of 1

Collector: M.Fidino	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 17 FILLET		SAF No.: RC-118
Ice Chest No.: WCH-08-001-4	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 7979224885U4

Price Code: ~~9K~~ N 1/18/09

Data Turnaround: 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Freeze
Type of Container	P
No. of Container(s)	1
Volume	60mL
SAMPLE ANALYSIS	Methyl Mercury by EPA 1630M; Mercury - 7473

Sample No.	Matrix *	Sample Date	Sample Time	
J195T9 2981.185	OTHER SOLID	9/3/09	1045	X

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: M.Fidino	Date/Time: 9/3/09 1045	Received By/Stored In: EAS LOCKED STORAGE 2	Date/Time: 9/3/09 1045
Relinquished By/Removed From: EAS LOCKED STORAGE 1	Date/Time: 9/10/09 100	Received By/Stored In: SHANNAN JOHNSON	Date/Time: 9/10/09 100
Relinquished By/Removed From: SHANNAN JOHNSON	Date/Time: 9/10/09 100	Received By/Stored In: FDX	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In: [signature]	Date/Time: 09/11/09 1450
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

of samples for shipment to lab.
Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody

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-118-778	Page 1 of 1

Collector: M. Fidino	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N 1/8/09	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 17 FILLET		SAF No.: RC-118
Ice Chest No.: WCH-08-001-4	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 797922488504

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze									
Type of Container	P/G	G/P									
No. of Container(s)	0	1									
Volume	15mL	60mL									
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M									

Sample No.	Matrix *	Sample Date	Sample Time										
J19476 2981.186	OTHER SOLID	9/3/09	1045	X	X								

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: M. Fidino	9/3/09 1045	Received By/Stored In: EAS LOCKED STORAGE2	9/3/09 1045
Relinquished By/Removed From: EAS LOCKED STORAGE2	9/10/09 100	Received By/Stored In: SHANNAN JOHNSON	9/10/09 100
Relinquished By/Removed From: SHANNAN JOHNSON	9/10/09 100	Received By/Stored In:	
Relinquished By/Removed From		Received By/Stored In:	09/11/09 1450
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-851	Page 1 of 1

Collector: M.Fidino	Company Contact: JOAN KESSNER Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 9K Data Turnaround: 45 Days AD 83109
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 17 CARCASS	SAF No.: RC-118	
Ice Chest No.: WCH - 08 - 001 - 4	Field Logbook No.: EL-1638 COA: BESCRC6520	Method of Shipment: FED EX	
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: FDX 797922488504	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Freeze											
Type of Container	P											
No. of Container(s)	1											
Volume	60mL											
SAMPLE ANALYSIS	Methyl Mercury by EPA 1630M; Mercury - 7473											

Sample No.	Matrix *	Sample Date	Sample Time									
J195V0 2981.187	OTHER SOLID	9/3/09	1100	X								

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From: M.Fidino	Date/Time: 9/3/09 1100	Received By/Stored In: EAS LOCKED STORAGE 2	Date/Time: 9/3/09 1100
Relinquished By/Removed From: EAS LOCKED STORAGE 2	Date/Time: 9/10/09 1100	Received By/Stored In: SHANNAN JOHNSON	Date/Time: 9/10/09 1100
Relinquished By/Removed From: SHANNAN JOHNSON	Date/Time: 9/10/09 1100	Received By/Stored In: FDX	Date/Time:
Relinquished By/Removed From	Date/Time	Received By/Stored In: [signature]	Date/Time: 09/11/09 1450
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 remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-779	Page 1 of 1

Collector: M. Fidino	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 17 CARCASS		SAF No.: RC-118
Ice Chest No.: WCH-08-001-4	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX 797922488504

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation			Cool 4C	Freeze								
Type of Container			P/G	G/P								
No. of Container(s)			0	1								
Volume			15mL	60mL								
SAMPLE ANALYSIS			Total Inoganic Arsenic	Chromium Hex in Solids - 1636M								
Sample No.	Matrix *	Sample Date	Sample Time									
J19477 2981.188	OTHER SOLID	9/3/09	1100	X	X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
M. Fidino	9/3/09 1100	EAS LOCKED STORAGE 2	9/3/09 1100
Relinquished By/Removed From: EAS LOCKED STORAGE 2	Date/Time 9/10/09 1000	Received By/Stored In: SHANNAN JOHNSON	Date/Time 9/10/09 1000
Relinquished By/Removed From: SHANNAN JOHNSON	Date/Time 9/10/09 1000	Received By/Stored In: FDX	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 9/11/09 1452
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

of samples for shipment to lab.
Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-789	Page 1 of 1

Collector: M. Fidino	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 18 CARCASS		SAF No.: RC-118
Ice Chest No.: WCH-08-001-4	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 797922488504

Price Code: ~~9K~~ N 9/10/09

Data Turnaround: 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze
Type of Container	P/G	G/P
No. of Container(s)	0	1
Volume	15mL	60mL
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M

Sample No.	Matrix *	Sample Date	Sample Time		
J19487 2981-189	OTHER SOLID	9/3/09	1430	X	X

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
M. Fidino	9/3/09 1430	EAS LOCKED STORAGE 2	9/3/09 1430
EAS LOCKED STORAGE 2	9/10/09	SHANNAN JOHNSON	9/10/09
SHANNAN JOHNSON	9/10/09	FDX	
		[signature]	09/11/09 1430

SPECIAL INSTRUCTIONS

of samples for shipment to lab.
Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody

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-118-853	Page 1 of 1

Collector: M. Fidino	Company Contact: JOAN KESSNER Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~9K~~ N 4183109 Data Turnaround: 45 Days
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 18 CARCASS	SAF No.: RC-118	
Ice Chest No.: WCH-08-001-4	Field Logbook No.: EL-1638 COA: BESCRC6520	Method of Shipment: FED EX	
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: FD. 7979224885 04	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Freeze										
Type of Container	P										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	Methyl Mercury by EPA 1630M; Mercury - 7473										

Sample No.	Matrix *	Sample Date	Sample Time										
J195V2 2981.198	OTHER SOLID	9/3/09	1430	X									

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
M. Fidino	9/3/09 1430	EAS LOCKED STORAGE 2	9/3/09 1430
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
EAS LOCKED STORAGE 2	9/10/09 1000	SHANNAN JOHNSON	9/10/09 1000
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
SHANNAN JOHNSON	9/10/09 1000	FDX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
		Hale	9/11/09 1450
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 remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-788	Page 1 of 1

Collector: M. Fidino	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 18 FILLET		SAF No.: RC-118
Ice Chest No.: WCH-08-001-4	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX#797922488504

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation			Cool 4C	Freeze							
Type of Container			P/G	G/P							
No. of Container(s)			0	1							
Volume			15mL	60mL							
SAMPLE ANALYSIS			Total Inoganic Arsenic	Chromium Hex in Solids - 1636M							
Sample No.	Matrix *	Sample Date	Sample Time								
J19486 2981.191	OTHER SOLID	9/3/09	1415	X	X						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: M. Fidino	Date/Time: 9/3/09 1415	Received By/Stored In: EAS LOCKED STORAGE 2	Date/Time: 9/3/09 1415
Relinquished By/Removed From: EAS LOCKED STORAGE 2	Date/Time: 9/10/09 1000	Received By/Stored In: SHANNAN JOHNSON	Date/Time: 9/10/09 1000
Relinquished By/Removed From: SHANNAN JOHNSON	Date/Time: 9/10/09 1000	Received By/Stored In: FDX	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time: 9/11/09 1450
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 remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-852	Page 1 of 1

Collector M. Fidino	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 9K N **Data Turnaround** 45 Days
Project Designation Columbia River Component of the RCBRA - Tissues	**Sampling Location** STURGEON 18 FILLET	**SAF No.** RC-118	
Ice Chest No. WCH-09-001-4	**Field Logbook No.** EL-1638 / **COA** BESCRC6520	**Method of Shipment** FED EX	
Shipped To Battelle Marine Sciences	**Offsite Property No.** N/A	**Bill of Lading/Air Bill No.** FDX 7979224885 04	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Freeze										
Type of Container	P										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	Methyl Mercury by EPA 1630M; Mercury - 7473										
Sample No. / Matrix * / Sample Date / Sample Time											
J195V1 2981.192 / OTHER SOLID / 9/3/09 / 1415	X										

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS
Relinquished By/Removed From: M. Fidino — Date/Time: 9/3/09 1415	Received By/Stored In: EAS LOCKED STORAGE 2 — Date/Time: 9/3/09 1415	Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.
Relinquished By/Removed From: EAS LOCKED STORAGE 2 — Date/Time: 9/10/09	Received By/Stored In: SHANNAN JOHNSON — Date/Time: 9/10/09	
Relinquished By/Removed From: SHANNAN JOHNSON — Date/Time: 9/10/09	Received By/Stored In: — Date/Time:	
Relinquished By/Removed From: — Date/Time:	Received By/Stored In: — Date/Time: 09/11/09 1450	
Relinquished By/Removed From: — Date/Time:	Received By/Stored In: — Date/Time:	
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-118-799	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 19 CARCASS		SAF No.: RC-118
Ice Chest No.: WCH-09-001-4	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX 797922488504

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation			Cool 4C	Freeze							
Type of Container			P/G	G/P							
No. of Container(s)			0	1							
Volume			15mL	60mL							
SAMPLE ANALYSIS			Total Inoganic Arsenic	Chromium Hex in Solids - 1636M							
Sample No.	Matrix *	Sample Date	Sample Time								
J19497 2981.193	OTHER SOLID	9.8.09	1340	X	X						

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Wendy West	Date/Time: 1340 9809	Received By/Stored In: EAS LOCKED STORAGE 2 Wendy West	Date/Time: 1340 9809
Relinquished By/Removed From: EAS LOCKED STORAGE 2	Date/Time: 9/10/09 100	Received By/Stored In: SHANNAN JOHNSON	Date/Time: 9/10/09 100
Relinquished By/Removed From: SHANNAN JOHNSON	Date/Time: 9/10/09 100	Received By/Stored In: FDX	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In: [signature]	Date/Time: 09/11/09 1450
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 remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-855	Page 1 of 1

Collector Wendy West	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** ~~9K~~ N 11/5/09 **Data Turnaround** 45 Days
Project Designation Columbia River Component of the RCBRA - Tissues	**Sampling Location** STURGEON 19 CARCASS	**SAF No.** RC-118	
Ice Chest No. WCH-08-001-4	**Field Logbook No.** EL-1638 **COA** BESCRC6520	**Method of Shipment** FED EX	
Shipped To Battelle Marine Sciences	**Offsite Property No.** N/A	**Bill of Lading/Air Bill No.** FDX # 797922488504	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Freeze										
Type of Container	P										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	Methyl Mercury by EPA 1630M; Mercury - 7473										

Sample No.	Matrix *	Sample Date	Sample Time										
J195V4 2981.194	OTHER SOLID	9.8.09	1340	X									

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1340 9.8.09	EAS LOCKED STORAGE 2 Wendy West	1346 9.8.09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/10/09 00	SHANNAN JOHNSON	9/10/09 00
Relinquished By/Removed From: SHANNAN JOHNSON	9/10/09 00	FDX	
Relinquished By/Removed From		Received By/Stored In: [signature]	09/11/09 1482
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-854	Page 1 of 1

Collector Wendy West	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 9K N **Data Turnaround** 45 Days
Project Designation Columbia River Component of the RCBRA - Tissues	**Sampling Location** STURGEON 19 FILLET	**SAF No.** RC-118	SD 83109
Ice Chest No. WCH-08-001-9	**Field Logbook No.** EL-1638 **COA** BESCRC6520	**Method of Shipment** FED EX	
Shipped To Battelle Marine Sciences	**Offsite Property No.** N/A	**Bill of Lading/Air Bill No.** FDX 7792248850 4	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Freeze										
Type of Container	P										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	Methyl Mercury by EPA 1630M; Mercury - 7473										

Sample No.	Matrix *	Sample Date	Sample Time										
J195V3 2981.195	OTHER SOLID	9.8.09	1230	X									

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Wendy West	9.8.09 1230	Received By/Stored In: EAS LOCKED STORAGE 2 Wendy West	9.8.09 1230
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/10/09 1100	Received By/Stored In: SHANNAN JOHNSON	9/10/09 1100
Relinquished By/Removed From: SHANNAN JOHNSON	9/10/09 1100	Received By/Stored In: FDX	
Relinquished By/Removed From:		Received By/Stored In:	9/11/09 1450
Relinquished By/Removed From:		Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-798	Page 1 of 1

Collector Wendy West	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 9K N **Data Turnaround** 45 Days
Project Designation Columbia River Component of the RCBRA - Tissues	**Sampling Location** STURGEON 19 FILLET	**SAF No.** RC-118	sfs 81109
Ice Chest No. WCH-08-001-4	**Field Logbook No.** EL-1638 **COA** BESCRC6520	**Method of Shipment** FED EX	
Shipped To Battelle Marine Sciences	**Offsite Property No.** N/A	**Bill of Lading/Air Bill No.** FDX#797922488504	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze									
Type of Container	P/G	G/P									
No. of Container(s)	0	1									
Volume	15mL	60mL									
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M									
Sample No. / Matrix * / Sample Date / Sample Time											
J19496 2981.196 / OTHER SOLID / 9.8.09 / 1230	X	X									

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Wendy West	1230 9.8.09	EAS LOCKED STORAGE 2 wendy West	1230 9.8.09
EAS LOCKED STORAGE 2	9/10/09 1600	SHANNAN JOHNSON	9/10/09 1600
SHANNAN JOHNSON	9/10/09	FDX	
		[illegible]	09/11/09 1450

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-856	Page 1 of 1

Collector Wendy West	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** ~~9K~~ N 10/8/09 **Data Turnaround** 45 Days
Project Designation Columbia River Component of the RCBRA - Tissues	**Sampling Location** STURGEON 20 FILLET	**SAF No.** RC-118	
Ice Chest No. WCH-08-001-4	**Field Logbook No.** EL-1638 / **COA** BESCRC6520	**Method of Shipment** FED EX	
Shipped To Battelle Marine Sciences	**Offsite Property No.** N/A	**Bill of Lading/Air Bill No.** FDX#797922488504	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Freeze										
Type of Container	P										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	Methyl Mercury by EPA 1630M; Mercury - 7473										

Sample No.	Matrix *	Sample Date	Sample Time										
J195V5 2981.197	OTHER SOLID	9.8.09	1545	X									

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1545 9.8.09	EAS LOCKED STORAGE Wendy West	1545 9.8.09
Relinquished By/Removed From: EAS LOCKED STORAGE	9/10/09	Received By/Stored In: SHANNAN JOHNSON	9/10/09
Relinquished By/Removed From: SHANNAN JOHNSON	9/10/09	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In: [signature]	09/11/09 1450
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-808	Page 1 of 1

Collector Wendy West	**Company Contact** JOAN KESSNER	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code 9K N MA 81109	**Data Turnaround** 45 Days		
Project Designation Columbia River Component of the RCBRA - Tissues	**Sampling Location** STURGEON 20 FILLET		**SAF No.** RC-118
Ice Chest No. WCH-08-001-4	**Field Logbook No.** EL-1638	**COA** BESCRC6520	**Method of Shipment** FED EX
Shipped To Battelle Marine Sciences	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** FDX# 797922488504

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze									
Type of Container	P/G	G/P									
No. of Container(s)	0	1									
Volume	15mL	60mL									
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M									

Sample No.	Matrix *	Sample Date	Sample Time										
J194B7 2981.198	OTHER SOLID	9.8.09	1545	X	X								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1545 9.8.09	Received By/Stored In EAS LOCKED STORAGE 2	Date/Time 1545 9.8.09
Relinquished By/Removed From EAS LOCKED STORAGE 2	Date/Time 9/10/09 1800	Received By/Stored In SHANNAN JOHNSON	Date/Time 9/10/09 1800
Relinquished By/Removed From SHANNAN JOHNSON	Date/Time 9/10/09 1800	Received By/Stored In FDX	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 09/11/09 1452
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 remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab

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-118-857	Page 1 of 1
Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 9K N; Data Turnaround: 45 Days
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 20 CARCASS		SAF No.: RC-118	4/83109
Ice Chest No.: WCH-08-001-4	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX	
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX 797922488504	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Freeze
Type of Container	P
No. of Container(s)	1
Volume	60mL

SAMPLE ANALYSIS

Methyl Mercury by EPA 1630M; Mercury - 7473

Sample No.	Matrix *	Sample Date	Sample Time	
J195V6 2981.199	OTHER SOLID	9.8.09	1600	X

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From: Wendy West	Date/Time: 1600 9.8.09	Received By/Stored In: EAS lockstorage 2 Wendy West	Date/Time: 1600 9.8.09
Relinquished By/Removed From: EAS LOCKSTORAGE 2	Date/Time: 9/10/09 1000	Received By/Stored In: SHANNAN JOHNSON	Date/Time: 9/10/09 1000
Relinquished By/Removed From: SHANNAN JOHNSON	Date/Time: 9/10/09 1000	Received By/Stored In: FDX	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In: [signature]	Date/Time: 09/11/09 1450
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 remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab

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-118-809	Page 1 of 1

Collector Wendy West	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 9K N **Data Turnaround** 45 Days
Project Designation Columbia River Component of the RCBRA - Tissues	**Sampling Location** STURGEON 20 CARCASS	**SAF No.** RC-118	
Ice Chest No. WCH-08-001-4	**Field Logbook No.** EL-1638 **COA** BESCRC6520	**Method of Shipment** FED EX	
Shipped To Battelle Marine Sciences	**Offsite Property No.** N/A	**Bill of Lading/Air Bill No.** FDX# 797922488504	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze									
Type of Container	P/G	G/P									
No. of Container(s)	0	1									
Volume	15mL	60mL									
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M									
Sample No. / Matrix * / Sample Date / Sample Time											
J194B8 2981.200 / OTHER SOLID / 9.8.09 / 1600	X	X									

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix *
Relinquished By/Removed From: Wendy West — Date/Time 1600 9.8.09	Received By/Stored In: EAS LOCKED STORAGE 2 — Date/Time 1600 9.8.09		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 9/10/09 1000	Received By/Stored In: SHANNAN JOHNSON — Date/Time 9/10/09 1000		
Relinquished By/Removed From: SHANNAN JOHNSON — Date/Time 9/10/09 1000	Received By/Stored In: FDX — Date/Time		
Relinquished By/Removed From — Date/Time	Received By/Stored In: [signature] — Date/Time 09/11/09 1450		
Relinquished By/Removed From — Date/Time	Received By/Stored In — Date/Time	Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab	
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-118-818	Page 1 of 1

Collector Wendy West	**Company Contact** JOAN KESSNER **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** ~~9K~~ N 881109 **Data Turnaround** 45 Days
Project Designation Columbia River Component of the RCBRA - Tissues	**Sampling Location** STURGEON 21 FILLET	**SAF No.** RC-118	
Ice Chest No. WCH-08-001-4	**Field Logbook No.** EL-1638 / **COA** BESCRC6520	**Method of Shipment** FED EX	
Shipped To Battelle Marine Sciences	**Offsite Property No.** N/A	**Bill of Lading/Air Bill No.** FDX# 7979224885 04	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze									
Type of Container	P/G	G/P									
No. of Container(s)	0	1									
Volume	15mL	60mL									
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M									
Sample No. / Matrix * / Sample Date / Sample Time											
J194C8 2781-201 / OTHER SOLID / 9.9.09 / 1045	X	X									

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Wendy West	1045 9.9.09	Received By/Stored In: EAS LOCKED STORAGE 2 Wendy West	1045 9.9.09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/10/09 1011	Received By/Stored In: SHANNAN JOHNSON	9/10/09 1011
Relinquished By/Removed From: SHANNAN JOHNSON	9/10/09 1000	Received By/Stored In: FDX	
Relinquished By/Removed From:		Received By/Stored In: [signature]	09/11/09 1450
Relinquished By/Removed From:		Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-819	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: ~~9K~~ N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 21 CARCASS		SAF No.: RC-118
Ice Chest No.: WCH-08-001-4	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Airbill No.: FDX# 797922488504

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze									
Type of Container	P/G	G/P									
No. of Container(s)	0	1									
Volume	15mL	60mL									
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M									
Sample No. / Matrix * / Sample Date / Sample Time											
J194C9 2981-202 / OTHER SOLID / 9.9.09 / 10:55	X	X									

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Wendy West	9.9.09 10:55	Received By/Stored In: Wendy West EAS LOCKED STORAGE 2	9.9.09 10:55
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/10/09 1600	Received By/Stored In: SHANNAN JOHNSON	9/10/09 1600
Relinquished By/Removed From: SHANNAN JOHNSON	9/10/09 1600	Received By/Stored In: FDX	
Relinquished By/Removed From:		Received By/Stored In: [signature]	09/11/09 1450
Relinquished By/Removed From:		Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

LOG-IN CHECKLIST

Reference SOP# MSL-A-001

Central File #: 2981 Sample No(s): 185-204 Project Manager: Brandenberger

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

Matrix: _____ WP# _____

Yes	No	
		Navy-type Project (requires high-level sample tracking procedures)
		USDA Soils (or overseas, including Hawaii and the U.S. Virgin Islands) *See Compliance Agreement Checklist*
		Filter Samples: Aliquot? Entire sample Half of sample
		Freeze dry sample(s) - samples will be weighed and placed in Ultra-low temp freezer (Lab# 503)
		Special instructions: _____

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

(Initial appropriate box when completed)

Yes	No	N/A	
	MA		Custody seal present
		MA	Custody seal intact
MA			Cooler(s) temperature (acceptable ranges = water: 4±2°C / solid: frozen) 3.7 °C *(if multiple coolers, note temp. of each)* °C
		MA	Project Manager notified of any discrepancies or if temperature outside acceptable range? Comments/Remedy: _____
MA			All chain of custody forms signed and dated?
	MA		Samples Filtered?

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

Container type: Teflon Poly Glass Gap Vial Other: Plastic Jars

Notes: _____

Completed By: [signature] Date/Time: 09/11/09 1450

SAMPLE PRESERVATION

MA	Sample preserved at MSL
	Sample 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:			Notes:
		0.2% HNO3	_____
		0.5% HCl (Hg samples)	_____
		Refrigerate	_____
	MA	Freeze	Outside freezer - to be transfered to ~~pap~~ vials & put in deep freeze
		Other	_____

Completed By: [signature] Date/Time: 09/11/09 1450

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

SAMPLE LOGIN

Project Manager: Brandenberger
Date Received: 9/18/2009
Batch: 16
Login Designee: Mcgahan
Project: **Washington Closure Hanford**

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
J19503	na	2981-203	other solid	Deep Freezer D-1	Total Inorganic As, Cr Hex in Solids 1636M	09/10/09
J19504	na	2981-204	other solid	Deep Freezer D-1	Total Inorganic As, Cr Hex in Solids 1636M	09/10/09
J195R1	na	2981-205	other solid	Deep Freezer D-1	Total Inorganic As, Cr Hex in Solids 1636M	09/10/09
J195R0	na	2981-206	other solid	Deep Freezer D-1	Total Inorganic As, Cr Hex in Solids 1636M	09/10/09
J195T2	na	2981-207	other solid	Deep Freezer D-1	Total Inorganic As, Cr Hex in Solids 1636M	09/14/09
J195T3	na	2981-208	other solid	Deep Freezer D-1	Total Inorganic As, Cr Hex in Solids 1636M	09/14/09
J195Y0	na	2981-209	other solid	Deep Freezer D-1	Total Inorganic As, Cr Hex in Solids 1636M	09/15/09
J195X9	na	2981-210	other solid	Deep Freezer D-1	Total Inorganic As, Cr Hex in Solids 1636M	09/15/09
J19609	na	2981-211	other solid	Deep Freezer D-1	Total Inorganic As, Cr Hex in Solids 1636M	09/15/09
J19610	na	2981-212	other solid	Deep Freezer D-1	Total Inorganic As, Cr Hex in Solids 1636M	09/15/09

√ 9/18/09

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-118-828	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 22 FILLET		SAF No.: RC-118
Ice Chest No.: AFS-04-041	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 7979 4146 3127

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation			Cool 4C	Freeze								
Type of Container			P/G	G/P								
No. of Container(s)			0	1								
Volume			15mL	60mL								
SAMPLE ANALYSIS			Total Inoganic Arsenic	Chromium Hex in Solids - 1636M								
Sample No.	Matrix *	Sample Date	Sample Time									
J19503 2981.203	OTHER SOLID	~~9/10/09~~ 9/10/09	1100	X	X							

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1100 9/10/09	Received By/Stored In: EAS LOCKED STORAGE2 Wendy West	1100 9/10/09
Relinquished By/Removed From: EAS LOCKED STORAGE2	9/17/09 950	Received By/Stored In: SHANNAN JOHNSON	9/17/09 950
Relinquished By/Removed From: SHANNAN JOHNSON	9/17/09 950	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In	10/15/09 1230
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-829	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: ~~9K~~ N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 22 CARCASS		SAF No.: RC-118
Ice Chest No: AFS-04-041	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Airbill No.: FDX#7979414631 27

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze									
Type of Container	P/G	G/P									
No. of Container(s)	0	1									
Volume	15mL	60mL									
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M									
Sample No. / Matrix * / Sample Date / Sample Time											
J19504 2981.204 / OTHER SOLID / 9/10/09 / 1130	X	X									

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1130 9/10/09	Received By/Stored In: EAS LOCKED STORAGE2 Wendy West	1130 9/10/09
Relinquished By/Removed From: EAS LOCKED STORAGE2	9/17/09 950	Received By/Stored In: SHANNAN JOHNSON	9/17/09 950
Relinquished By/Removed From: SHANNAN JOHNSON	9/17/09 950	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In	9/18/09 1230
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-839	Page 1 of 1

Collector: Wendy West	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: STURGEON 23 CARCASS		SAF No.: RC-118
Ice Chest No.: APS-04-041	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 797941463127

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze									
Type of Container	P/G	G/P									
No. of Container(s)	0	1									
Volume	15mL	60mL									
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M									
Sample No. / Matrix * / Sample Date / Sample Time											
J195R1 2981.205 / OTHER SOLID / 9/10/09 / 1515	X	X									

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Wendy West	1515 9/10/09	Received By/Stored In: EAS LOCKED STORAGE 2 Wendy West	1515 9/10/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/17/09 950	Received By/Stored In: SHANNAN JOHNSON	9/17/09 950
Relinquished By/Removed From: SHANNAN JOHNSON	9/17/09 950	Received By/Stored In: FDX	
Relinquished By/Removed From:		Received By/Stored In: [illegible]	09/18/09 1230
Relinquished By/Removed From:		Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-838	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 23 FILLET		SAF No.: RC-118
Ice Chest No.: AFS-04-041	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 797941463127

Price Code: ~~9K~~ N A/A 82709

Data Turnaround: 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation				Cool 4C	Freeze							
Type of Container				P/G	G/P							
No. of Container(s)				0	1							
Volume				15mL	60mL							
SAMPLE ANALYSIS				Total Inoganic Arsenic	Chromium Hex in Solids - 1636M							
Sample No.	Matrix *	Sample Date	Sample Time									
J195R0 2981.206	OTHER SOLID	9/10/09	1500	X	X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Wendy West	Date/Time: 1500 9/10/09	Received By/Stored In: EAS LOCKED STORAGE 2	Date/Time: 1500 9/10/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	Date/Time: 9/17/09 950	Received By/Stored In: SHANNAN JOHNSON	Date/Time: 9/17/09 950
Relinquished By/Removed From: SHANNAN JOHNSON	Date/Time: 9/17/09 950	Received By/Stored In: FDX	Date/Time:
Relinquished By/Removed From:	Date/Time:	Received By/Stored In: [signature]	Date/Time: 09/18/09 1230
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 remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-848	Page 1 of 1

Collector Wendy West	**Company Contact** JOAN KESSNER	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** ~~9K~~ N	**Data Turnaround** 45 Days
Project Designation Columbia River Component of the RCBRA - Tissues	**Sampling Location** STURGEON 24 FILLET		**SAF No.** RC-118	1KD 83109	
Ice Chest No. AFS-04-041	**Field Logbook No.** EL-1638	**COA** BESCRC6520	**Method of Shipment** FED EX		
Shipped To Battelle Marine Sciences	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** FDX#7979 4 14 63 127		

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze									
Type of Container	P/G	G/P									
No. of Container(s)	0	1									
Volume	15mL	60mL									
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M									
Sample No. / Matrix * / Sample Date / Sample Time											
J195T2 2981-207 / OTHER SOLID / ~~9-13-09~~ 9-14-09 mo / 1130	X	X									

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1130 mo 9.14.09 ~~9-13-09~~	EAS LOCKED STORAGE 2 Wendy West	1130 mo 9.14.09 ~~9-13-09~~
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/17/09 950	SHANNAN JOHNSON	9/17/09 950
Relinquished By/Removed From: SHANNAN JOHNSON	9/17/09 950	FDX	
Relinquished By/Removed From			09/18/09 1230
Relinquished By/Removed From		Received By/Stored In	Date/Time
Relinquished By/Removed From		Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-849	Page 1 of 1
Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 9~~K~~ N MD83109
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 24 CARCASS		SAF No.: RC-118	Data Turnaround: 45 Days
Ice Chest No.: AFS-04-041	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX	
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 797941463127	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze										
Type of Container	P/G	G/P										
No. of Container(s)	0	1										
Volume	15mL	60mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M										

Sample No.	Matrix *	Sample Date	Sample Time										
J195T3 2981.208	OTHER SOLID	~~9.13.09~~ 9.14.09	1200	X	X								

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix *
Relinquished By/Removed From: Wendy West — Date/Time: 1200 9.14.09 ~~9.13.09~~	Received By/Stored In: EAS LOCKED STORAGE 2 — Date/Time: 1200 9.14.09 ~~9.13.09~~		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: 9/17/09 950	Received By/Stored In: SHANNAN JOHNSON — Date/Time: 9/17/09 950		
Relinquished By/Removed From: SHANNAN JOHNSON — Date/Time: 9/17/09 950	Received By/Stored In: FDX — Date/Time:		
Relinquished By/Removed From: — Date/Time:	Received By/Stored In: [signature] — Date/Time: 09/18/09 1230		
Relinquished By/Removed From: — Date/Time:	Received By/Stored In: — Date/Time:		
Relinquished By/Removed From: — Date/Time:	Received By/Stored In: — Date/Time:		

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-879	Page 1 of 1
Collector: Wendy West	Company Contact: JOAN KESSNER; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 9K N ND 8/09
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 25 CARCASS	SAF No.: RC-118	Data Turnaround: 45 Days
Ice Chest No.: AFS-04-04	Field Logbook No.: EL-1638; COA: BESCRC6520	Method of Shipment: FED EX	
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: FRX 797941463127	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze									
Type of Container	P/G	G/P									
No. of Container(s)	0	1									
Volume	15mL	60mL									
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M									
Sample No. / Matrix * / Sample Date / Sample Time											
J195Y0 2981.209 / OTHER SOLID / 9.15.09 / 1130	X	X									

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1130 9.15.09	EAS LOCKED STORAGE2 Wendy West	1130 9.15.09
Relinquished By/Removed From: EAS LOCKED STORAGE2	9/17/09 950	SHANNAN JOHNSON	9/17/09 950
Relinquished By/Removed From: SHANNAN JOHNSON	9/17/09 950	FRX	
Relinquished By/Removed From		[illegible]	09/18/09 1230
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-878	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: ~~9K~~ N 1/19/09	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 25 FILLET		SAF No.: RC-118
Ice Chest No.: APS-04-041	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 7 9794 1463 127

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation			Cool 4C	Freeze								
Type of Container			P/G	G/P								
No. of Container(s)			0	1								
Volume			15mL	60mL								
SAMPLE ANALYSIS			Total Inoganic Arsenic	Chromium Hex in Solids - 1636M								
Sample No.	Matrix *	Sample Date	Sample Time									
J195X9 2981-210	OTHER SOLID	9-15-09	1100	X	X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1100	Received By/Stored In EAS LOCKED STORAGE 2	Date/Time 1100
Wendy West	9-15-09	Wendy West	9-15-09
Relinquished By/Removed From EAS LOCKED STORAGE 2	Date/Time 9/17/09 950	Received By/Stored In SHANNAN JOHNSON	Date/Time 9/17/09 950
Relinquished By/Removed From SHANNAN JOHNSON	Date/Time 9/17/09 950	Received By/Stored In FOX	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 01/18/09 1230
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

of samples for shipment to lab.
Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-888	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 9K N	Data Turnaround: 45 Days
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 26 FILLET		SAF No.: RC-118	MD 9/09	
Ice Chest No.: AFS-04-041	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX		
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX#7 7941463127		

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation			Cool 4C	Freeze	Freeze						
Type of Container			P/G	P	G/P						
No. of Container(s)			0	1	1						
Volume			15mL	60mL	60mL						
SAMPLE ANALYSIS			Total Inoganic Arsenic	Methyl Mercury by EPA 1630M; Mercury - 7473	Chromium Hex in Solids - 1636M						
Sample No.	Matrix *	Sample Date	Sample Time								
J19609 2981.211	OTHER SOLID	9/15/09	1410	X	X	X					

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1410 9/15/09	Received By/Stored In: EAS LOCKED STORAGE 2 Wendy West	1410 9/15/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/17/09 950	Received By/Stored In: SHANNAN JOHNSON	9/17/09 950
Relinquished By/Removed From: SHANNAN JOHNSON	9/17/09 950	Received By/Stored In: FDX	
Relinquished By/Removed From	Date/Time	Received By/Stored In: McFahn	Date/Time 09/18/09 1230
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

Perform Total Inorganic Arsenic out of Chromium Hex bottle.

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-889	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: ~~9K~~ N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 26 CARCASS		SAF No.: RC-118
Ice Chest No.: AFS-04-041	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 797941463127

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze	Freeze								
Type of Container	P/G	P	G/P								
No. of Container(s)	0	1	1								
Volume	15mL	60mL	60mL								
SAMPLE ANALYSIS	Total Inoganic Arsenic	Methyl Mercury by EPA 1630M; Mercury - 7473	Chromium Hex in Solids - 1636M								
Sample No. / Matrix * / Sample Date / Sample Time											
J19610 2981.212 / OTHER SOLID / 9.15.09 / 1430	X	X	X								

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Wendy West	9.15.09 1430	EAS LOCKED STORAGE 2 (Wendy West)	9.15.09 1430
EAS LOCKED STORAGE 2	9/17/09 930	SHANNAN JOHNSON	9/17/09 930
SHANNAN JOHNSON	9/17/09 930	FDX	
			09/18/09 1230

SPECIAL INSTRUCTIONS

Perform Total Inorganic Arsenic out of Chromium Hex bottle.

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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

LOG-IN CHECKLIST

Reference SOP#MSL-A-001

Central File #: 2981 Sample No(s): 203-212 Project Manager: Brandenberger

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

Matrix: _____ WP# _____

Yes	No	
		Navy-type Project (requires high-level sample tracking procedures)
		USDA Soils (or overseas, including Hawaii and the U.S. Virgin Islands) *See Compliance Agreement Checklist*
		Filter Samples: *Amount:* Entire sample Half of sample
		Freeze dry sample(s) - samples will be weighed and placed in Ultra-low temp freezer (Lab# 503)
		Special instructions: _____

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

(Initial appropriate box when completed)

Yes	No	N/A	
	✓		Custody seal present
		✓	Custody seal intact
✓			Cooler(s) temperature (acceptable ranges = water: 4±2°C / solid: frozen) 2.7 °C
			(if multiple coolers, note temp. of each) _____ °C
		✓	Project Manager notified of any discrepancies or if temperature outside acceptable range? Comments/Remedy: _____
✓			All chain of custody forms signed and dated?
	✓		Samples Filtered?

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

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

Notes: _____

Completed By: [signature] Date/Time: 09/18/09 1225

SAMPLE PRESERVATION

- [✓] Sample preserved at MSL
- [ ] Sample 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: _____
		Refrigerate	Notes: _____
	✓	Freeze	Notes: Deep freezer D-1
		Other	Notes: _____

Completed By: [signature] Date/Time: 09/18/09 1225

SAMPLE LOGIN

Pacific Northwest | Battelle

Project Manager: Brandenberger
Date Received: 9/23/2009
Batch: 17
Login Designee: Mcgahan

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382
PH: (360) 681-4565

Project: **Washington Closure Hanford**

Sponsor ID	Site Description	Battelle Code	Matrix	Storage Location	Requested Parameters	Collection Date
J19629	na	2981-213a & b	other solid	Deep Freezer C-1	Total Inorganic As, Cr Hex in Solids 1636M, Methyl Hg, Mercury-7473	09/16/09
J19628	na	2981-214a & b	other solid	Deep Freezer C-1	Total Inorganic As, Cr Hex in Solids 1636M, Methyl Hg, Mercury-7473	09/16/09
J19639	na	2981-215	other solid	Deep Freezer C-1	Total Inorganic As, Cr Hex in Solids 1636M	09/16/09
J19698	na	2981-216	other solid	Deep Freezer C-1	Methyl Hg by EPA 1630M; Mercury-7473	09/16/09
J19699	na	2981-217	other solid	Deep Freezer C-1	Methyl Hg by EPA 1630M; Mercury-7473	09/16/09
J19640	na	2981-218	other solid	Deep Freezer C-1	Total Inorganic As, Cr Hex in Solids 1636M	09/16/09
J19650	na	2981-219	other solid	Deep Freezer C-1	Total Inorganic As, Cr Hex in Solids 1636M	09/17/09
J19649	na	2981-220	other solid	Deep Freezer C-1	Total Inorganic As, Cr Hex in Solids 1636M	09/17/09
J19660	na	2981-221	other solid	Deep Freezer C-1	Total Inorganic As, Cr Hex in Solids 1636M	09/17/09
J19659	na	2981-222	other solid	Deep Freezer C-1	Total Inorganic As, Cr Hex in Solids 1636M	09/17/09

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-118-899	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 27 CARCASS		SAF No.: RC-118
Ice Chest No.: WCH-08-003-2	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 7969671522 40

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation			Cool 4C	Freeze	Freeze						
Type of Container			P/G	P	G/P						
No. of Container(s)			0	1	1						
Volume			15mL	60mL	60mL						
SAMPLE ANALYSIS			Total Inoganic Arsenic	Methyl Mercury by EPA 1630M; Mercury - 7473	Chromium Hex in Solids - 1636M						
Sample No.	Matrix *	Sample Date	Sample Time								
J19629 2981-213a&b	OTHER SOLID	9/16/09	1115	X	X	X					

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Wendy West	1115 9/16/09	Received By/Stored In: EAS LOCKED STORAGE 2 Wendy West	1115 9/16/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/22/09 100	Received By/Stored In: SHANNAN JOHNSON	9/22/09 100
Relinquished By/Removed From: SHANNAN JOHNSON	9/22/09 100	Received By/Stored In: FDX	
Relinquished By/Removed From:		Received By/Stored In:	09/23/09 1250
Relinquished By/Removed From:		Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	

SPECIAL INSTRUCTIONS

Perform Total Inorganic Arsenic out of Chromium Hex bottle.

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab

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-118-898	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 9K N 4/19/09	Data Turnaround: 45 Days
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 27 FILLET		SAF No.: RC-118		
Ice Chest No: WCH-08-003-2	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX		
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX 796967152240		

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze	Freeze								
Type of Container	P/G	P	G/P								
No. of Container(s)	0	1	1								
Volume	15mL	60mL	60mL								
SAMPLE ANALYSIS	Total Inoganic Arsenic	Methyl Mercury by EPA 1630M; Mercury - 7473	Chromium Hex in Solids - 1636M								
Sample No. / Matrix * / Sample Date / Sample Time											
J19628 2981.214a&b / OTHER SOLID / 9/16/09 / 1100	X	X	X								

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Wendy West	1100 9/16/09	Received By/Stored In: EAS LOCKED STORAGE 2 Wendy West	1100 9/16/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/22/09 100	Received By/Stored In: SHANNAN JOHNSON	9/22/09 100
Relinquished By/Removed From: SHANNAN JOHNSON	9/22/09 1002	Received By/Stored In: FDX	
Relinquished By/Removed From:		Received By/Stored In:	09/23/09 1250
Relinquished By/Removed From:		Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	

SPECIAL INSTRUCTIONS

Perform Total Inorganic Arsenic out of Chromium Hex bottle.

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab

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-118-908	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 28 FILLET		SAF No.: RC-118
Ice Chest No.: WCH-08-003-2	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Airbill No.: FDX# 796967152240

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation			Cool 4C	Freeze							
Type of Container			P/G	G/P							
No. of Container(s)			0	1							
Volume			15mL	60mL							
SAMPLE ANALYSIS			Total Inoganic Arsenic	Chromium Hex in Solids - 1636M							
Sample No.	Matrix *	Sample Date	Sample Time								
J19639 2981.215	OTHER SOLID	9/16/09	1345	X	X						

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	9/16/09 1345	EAS LOCKED STORAGE 2 Wendy West	9/16/09 1345
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/22/09 100	SHANNAN JOHNSON	9/22/09 100
Relinquished By/Removed From: SHANNAN JOHNSON	9/22/09 100	FDX	
Relinquished By/Removed From		Received By/Stored In: [illegible]	09/23/09 1250
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab

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-118-966	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 28 FILLET		SAF No.: RC-118
Ice Chest No.: WCH-08-003-2	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX 796967152240

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Freeze											
Type of Container	P											
No. of Container(s)	1											
Volume	60mL											
SAMPLE ANALYSIS	Methyl Mercury by EPA 1630M; Mercury - 7473											
Sample No.	Matrix *	Sample Date	Sample Time									
J19698 2981-216	OTHER SOLID	9/16/09	1345	X								

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Wendy West	1345 9/16/09	Received By/Stored In: EAS LOCKED STORAGE Wendy West	1345 9/16/09
Relinquished By/Removed From: EAS LOCKED STORAGE	9/22/09 1100	Received By/Stored In: SHANNAN JOHNSON	9/22/09 1100
Relinquished By/Removed From: SHANNAN JOHNSON	9/22/09 1100	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In: 09	09/23/09 1252
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-967	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N SD 91004	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 28 CARCASS		SAF No.: RC-118
Ice Chest No.: WCH-08-003-2	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX 796967152240

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Freeze										
Type of Container	P										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	Methyl Mercury by EPA 1630M; Mercury - 7473										
Sample No.	Matrix *	Sample Date	Sample Time								
J19699 2981-217	OTHER SOLID	9/16/09	1400	X							

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1400 9/16/09	EAS LOCKED STORAGE 2 Wendy West	1400 9/16/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/22/09 100	Received By/Stored In: SHANNAN JOHNSON	9/22/09 100
Relinquished By/Removed From: SHANNAN JOHNSON	9/22/09 100	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In: [illegible]	09/23/09 1250
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-909	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 28 CARCASS		SAF No.: RC-118
Ice Chest No.: WCH-08-003-2	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Airbill No.: FDX# 796967152240

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C	Freeze									
Type of Container	P/G	G/P									
No. of Container(s)	0	1									
Volume	15mL	60mL									
SAMPLE ANALYSIS	Total Inoganic Arsenic	Chromium Hex in Solids - 1636M									
Sample No. / Matrix * / Sample Date / Sample Time											
J19640 2981-218 / OTHER SOLID / 9/16/09 / 1400	X	X									

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Wendy West	9/16/09 1400	Received By/Stored In: EAS LOCKED STORAGE 2 Wendy West	9/16/09 1400
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/22/09 100	Received By/Stored In: SHANNAN JOHNSON	9/22/09 100
Relinquished By/Removed From: SHANNAN JOHNSON	9/22/09 100	Received By/Stored In: FDX	
Relinquished By/Removed From:		Received By/Stored In: [illegible]	09/23/09 1250
Relinquished By/Removed From:		Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
i =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-118-919	Page 1 of 1
Collector: Wendy West	Company Contact: JOAN KESSNER; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~9K~~ N; Data Turnaround: 45 Days
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 29 CARCASS	SAF No.: RC-118	MA 9909
Ice Chest No.: WCH-08-063-2	Field Logbook No.: EL-1638; COA: BESCRC6520	Method of Shipment: FED EX	
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: FDX# 796967152240	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation			Cool 4C	Freeze							
Type of Container			P/G	G/P							
No. of Container(s)			0	1							
Volume			15mL	60mL							
SAMPLE ANALYSIS			Total Inoganic Arsenic	Chromium Hex in Solids - 1636M							
Sample No.	Matrix *	Sample Date	Sample Time								
J19650 2981-219	OTHER SOLID	9/17/09	1215	X	X						

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1215 9/17/09	EAS LOCKED STORAGE 2 Wendy West	1215 9/17/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/22/09 100	Received By/Stored In: SHANNAN JOHNSON	9/22/09 100
Relinquished By/Removed From: SHANNAN JOHNSON	9/22/09 100	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In	09/23/09 1250
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-918	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 29 FILLET		SAF No.: RC-118
Ice Chest No.: WCH-08-003-2	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 796967152240

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

SAMPLE ANALYSIS													
Preservation				Cool 4C	Freeze								
Type of Container				P/G	G/P								
No. of Container(s)				0	1								
Volume				15mL	60mL								
				Total Inoganic Arsenic	Chromium Hex in Solids - 1636M								
Sample No.	Matrix *	Sample Date	Sample Time										
J19649 2981.220	OTHER SOLID	9/17/09	1200	X	X								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Wendy West	1200 9/17/09	EAS LOCKED STORAGE2 Wendy West	1200 9/17/09
EAS LOCKED STORAGE2	9/22/09 1100	SHANNAN JOHNSON	9/22/09 1100
SHANNAN JOHNSON	9/22/09 1100	HDX	
		Hahn	09/23/09 1250

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-929	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 30 CARCASS		SAF No.: RC-118
Ice Chest No.: WCH-08-003-2	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX# 796967152240

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation			Cool 4C	Freeze								
Type of Container			P/G	G/P								
No. of Container(s)			0	1								
Volume			15mL	60mL								
SAMPLE ANALYSIS			Total Inoganic Arsenic	Chromium Hex in Solids - 1636M								
Sample No.	Matrix *	Sample Date	Sample Time									
J19660 2981-221	OTHER SOLID	9/17/09	1500	X	X							

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	9/17/09 1500	EAS LOCKED STORAGE 2 Wendy West	9/17/09 1500
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/22/09 100	Received By/Stored In: SHANNAN JOHNSON	9/22/09 100
Relinquished By/Removed From: SHANNAN JOHNSON	9/22/09 100	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In: [signature]	09/25/09 1250
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

Sampler unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

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-118-928	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: ~~9K~~ N 11/9/09	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: STURGEON 30 FILLET		SAF No.: RC-118
Ice Chest No.: WCH-08-003-2	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: FED EX
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: FDX # 796967152240

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation			Cool 4C	Freeze							
Type of Container			P/G	G/P							
No. of Container(s)			0	1							
Volume			15mL	60mL							
SAMPLE ANALYSIS			Total Inoganic Arsenic	Chromium Hex in Solids - 1636M							
Sample No.	Matrix *	Sample Date	Sample Time								
J19659 2981 222	OTHER SOLID	9/17/09	1445	X	X						

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Wendy West	1445 9/17/09	Received By/Stored In: EAS LOCKED STORAGE 2 Wendy West	1445 9/17/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/22/09 100	Received By/Stored In: SHANNAN JOHNSON	9/22/09 100
Relinquished By/Removed From: SHANNAN JOHNSON	9/22/09 100	Received By/Stored In: FDX	
Relinquished By/Removed From:		Received By/Stored In:	09/23/09 1250
Relinquished By/Removed From:		Received By/Stored In:	
Relinquished By/Removed From:		Received By/Stored In:	

SPECIAL INSTRUCTIONS

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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): 213-222 Project Manager: Brandenberger

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

Matrix: _____ WP# _____

Yes	No	
		Navy-type Project (requires high-level sample tracking procedures)
		USDA Soils (or overseas, including Hawaii and the U.S. Virgin Islands) *See Compliance Agreement Checklist*
		Filter Samples: *Amount:* Entire sample Half of sample
		Freeze dry sample(s) - samples will be weighed and placed in Ultra-low temp freezer (Lab# 503)
		Special instructions: _____

Sample Preservation Instructions: _____

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

(Initial appropriate box when completed)

Yes	No	N/A	
	✓		Custody seal present
		✓	Custody seal intact
✓			Cooler(s) temperature (acceptable ranges = water: 4±2°C / solid: frozen) *(if multiple coolers, note temp. of each)* — 2.0 °C; °C
		✓	Project Manager notified of any discrepancies or if temperature outside acceptable range? Comments/Remedy: _____
✓			All chain of custody forms signed and dated?
	✓		Samples Filtered?

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

Container type: Teflon Poly Glass Cap. Vial Other: _____

Notes: _____

Completed By: [signature] Date/Time: 09/23/09 1240

SAMPLE PRESERVATION

✓	Sample preserved at MSL
	Sample 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:			Notes:
		0.2% HNO3	
		0.5% HCl (Hg samples)	
		Refrigerate	
	✓	Freeze	Deep freeze C-1
		Other	

Completed By: [signature] Date/Time: 09/23/09 1240