0084697

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

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 12/7/09
INITIAL/DATE

COMMENTS:

SDG SEQ082809 SAF-RC-118

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sampling Location: **LWSA-BASS1 THROUGH BASS5-CARCASS**
URSA-BASS1 THROUGH BASS5–CARCASS
LWSA-BASS1 THROUGH BASS5- FILLET
URSA-BASS1 THROUGH BASS5 - FILLET

RECEIVED
DEC 16 2009
EDMC

Analytical Chemistry Data Package
Inorganics Analysis

RECEIVED
DEC 2009

Project: Washington Closures Hanford
As Speciation Analysis of Tissue

SDG 082809
SDG 090909

PNNL Project No. 56166
MSL CF No. 2981

Pacific Northwest
NATIONAL LABORATORY

Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, WA 98382
PM: Jill Brandenberger
(360) 681-4564

SEQ082809

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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SDG090909 31

BATTELLE MARINE SCIENCES LABORATORY
1529 West Sequim Bay Road
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Washington Closure Hanford
Arsenic Speciation Study
SDG 082809 and SDG090909

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.*
2981-145	J190P6	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	31.0	0.174	0.0134	0.007 U	0.0107	*0.205*
2981-146	J19062	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	35.0	0.0536	0.0143	0.007 U	0.0108	*0.0857*
2981-147	J190M6	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	24.7	0.407	0.0342	0.007 U	0.0111	*0.459*
2981-148	J19039	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	26.8	0.108	0.0135	0.007 U	0.01 U	*0.139*
2981-149	J19063	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	33.2	0.114	0.0230	0.007 U	0.01 U	*0.154*
2981-150	J190P7	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	33.3	0.102	0.0101	0.007 U	0.01 U	*0.129*
2981-151	J19040	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	26.2	0.290	0.0304	0.007 U	0.01 U	*0.338*
2981-152 R1	J190M7	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	24.4	0.352	0.0318	0.007 U	0.01 U	*0.400*
2981-152 R2	J190M7	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	24.4	0.326	0.0105	0.007 U	0.01 U	*0.354*
2981-153	J190P8	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	31.6	0.0674	0.005 U	0.007 U	0.01 U	*0.089*
2981-154	J19064	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	33.7	0.0849	0.0249	0.007 U	0.01 U	*0.127*
2981-155	J190M8	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	25.6	0.177	0.005 U	0.007 U	0.01 U	*0.199*
2981-156	J19041	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	24.8	0.155	0.005 U	0.007 U	0.01 U	*0.177*
2981-157	J19065	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	32.0	0.0766	0.005 U	0.007 U	0.0274	*0.116*
2981-158	J190P9	SDG082809	08/28/09	08/24/09	11/18/09	111809_LCDRC	32.4	0.106	0.0345	0.007 U	0.01 U	*0.157*
2981-159	J190M9	SDG082809	08/28/09	08/24/09	11/18/09	111809_LCDRC	23.6	0.323	0.005 U	0.007 U	0.0108	*0.346*
2981-160	J19042	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	25.5	0.178	0.005 U	0.007 U	0.0101	*0.200*
2981-161	J19066	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	28.4	0.114	0.00904	0.007 U	0.01 U	*0.140*
2981-162	J190R0	SDG082809	08/28/09	08/24/09	11/18/09	111809_LCDRC	29.7	0.140	0.0602	0.007 U	0.01 U	*0.217*
2981-163	J190N0	SDG082809	08/28/09	08/24/09	11/18/09	111809_LCDRC	25.8	0.372	0.005 U	0.007 U	0.01 U	*0.394*
2981-164	J19043	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	25.7	0.277	0.0134	0.007 U	0.01 U	*0.307*
2981-165	J190F5	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	30.8	0.0917	0.0321	0.007 U	0.0105	*0.141*
2981-166	J19077	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	25.5	0.212	0.005 U	0.007 U	0.0126	*0.236*
2981-167	J19078	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	26.2	0.226	0.005 U	0.007 U	0.01 U	*0.248*
2981-168	J190F6	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	33.1	0.0779	0.0588	0.007 U	0.0119	*0.156*
2981-169R1	J190F7	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	30.0	0.0960	0.0217	0.007 U	0.0101	*0.135*
2981-169R2	J190F7	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	30.0	0.0829	0.0183	0.007 U	0.01 U	*0.118*
2981-170	J19079	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	28.6	0.161	0.005 U	0.007 U	0.01 U	*0.183*
2981-171	J19080	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	28.5	0.223	0.005 U	0.007 U	0.01 U	*0.245*
2981-172	J190F8	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	31.8	0.101	0.0186	0.007 U	0.01 U	*0.137*
2981-173	J190F9	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	36.3	0.0894	0.0558	0.007 U	0.01 U	*0.162*
2981-174	J19081	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	24.8	0.307	0.005 U	0.007 U	0.01 U	*0.329*
2981-175	J190L0	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	34.8	0.0592	0.005 U	0.007 U	0.01 U	*0.0812*
2981-176	J190J0	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	26.8	0.136	0.005 U	0.007 U	0.01 U	*0.158*
2981-177	J190L1	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	32.0	0.0678	0.0172	0.007 U	0.01 U	*0.102*
2981-178	J190J1	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	25.7	0.231	0.005 U	0.007 U	0.01 U	*0.253*
2981-179	J190J2	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	26.3	0.0515	0.005 U	0.007 U	0.01 U	*0.0735*
2981-180	J190L2	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	33.1	0.0285	0.00541	0.007 U	0.01 U	*0.0509*
2981-181	J190J3	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	24.7	0.361	0.005 U	0.007 U	0.01 U	*0.383*
2981-182	J190L3	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	32.1	0.122	0.0289	0.007 U	0.01 U	*0.168*
2981-183	J190J4	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	28.2	0.190	0.005 U	0.007 U	0.01 U	*0.212*
2981-184	J190L4	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	39.2	0.0589	0.00838	0.007 U	0.01 U	*0.0843*
QUALITY CONTROL SAMPLE RESULTS						*Average*	*29.2*					
Method Blank												
Blank R1					11/18/09	111809_LCDRC		0.002 U	0.005 U	0.007 U	0.01 U	*NA*
Blank R2					11/19/09	111909_LCDRC		0.002 U	0.005 U	0.007 U	0.01 U	*NA*
Standard Reference Material												
DORM-2 r1					11/18/09	111809_LCDRC		14.0	0.175	0.007 U	0.01 U	*14.2*
DORM-2 r2					11/19/09	111909_LCDRC		13.8	0.306	0.007 U	0.01 U	*14.1*
Certified Value								**16.4**	NA	NA	NA	**18.0**
Percent Difference								**14%**				**21%**
Percent Difference								**16%**				**22%**

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Washington Closure Hanford
Arsenic Speciation Study
SDG 082809 and SDG090909

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.*
Blank Spike Results												
LCS R1					11/18/09	111809_LCDRC		1.89	1.95	1.98	3.72	*9.54*
LCS R2					11/19/09	111909_LCDRC		1.92	2.01	2.04	3.79	*9.75*
Spike								2.00	2.00	2.00	4.00	10.0
% Rec								**94%**	**98%**	**99%**	**93%**	**95%**
% Rec								**96%**	**100%**	**102%**	**95%**	**98%**
Replicate Analysis Results												
2981-152 R1	J190M7	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	24.4	0.352	0.0318	0.007 U	0.01 U	*0.400*
2981-152 R2	J190M7	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	24.4	0.326	0.0105	0.007 U	0.01 U	*0.354*
	RPD							**7%**	**101%**	NA	NA	**12%**
2981-169R1	J190F7	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	30.0	0.0960	0.0217	0.007 U	0.0101	*0.135*
2981-169R2	J190F7	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	30.0	0.0829	0.0183	0.007 U	0.01 U	*0.118*
	RPD							**15%**	**17%**	NA	NA	**13%**
Matrix Spike Accuracy												
2981-147	J190M6	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	24.7	0.407	0.0342	0.007 U	0.0111	*0.459*
2981-147MS					11/18/09	111809_LCDRC	24.7	2.45	1.03	1.78	3.54	*8.80*
2981-147MSD					11/18/09	111809_LCDRC	24.7	2.50	1.03	1.70	3.38	*8.61*
Spike Amount, MS								2.14	NA	2.14	4.27	*8.5*
Spike Amount, MSD								2.20	NA	2.20	4.41	*8.8*
% Recovery, MS								**96%**	NA	**83%**	**83%**	**98%**
% Recovery, MSD								**98%**	NA	**77%**	**79%**	**95%**
RPD								**2%**	NA	**8%**	**5%**	**2%**
2981-165	J190F5	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	30.8	0.0917	0.0321	0.007 U	0.0105	*0.141*
2981- 165MS					11/19/09	111909_LCDRC	30.8	2.32	1.35	1.95	3.90	*9.52*
2981- 165MSD					11/19/09	111909_LCDRC	30.8	2.42	1.29	1.97	4.02	*9.69*
Spike Amount, MS								2.42	NA	2.42	4.83	*9.7*
Spike Amount, MSD								2.46	NA	2.46	4.91	*9.8*
% Recovery, MS								**92%**	NA	**80%**	**81%**	**97%**
% Recovery, MSD								**96%**	NA	**81%**	**83%**	**99%**
RPD								**4%**	NA	**1%**	**3%**	**2%**

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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Washington Closure Hanford
Arsenic Speciation Study
Wet Weight Conversion Table
SDG 082809 and SDG090909

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)								*0.00058* [1]	*0.001*	*0.002*	*0.003*	*Cal.*
2981-145	J190P6	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	31.0	0.0540	0.00415	0.002 U	0.00331	*0.0635*
2981-146	J19062	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	35.0	0.0187	0.00500	0.002 U	0.00377	*0.0295*
2981-147	J190M6	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	24.7	0.100	0.00845	0.002 U	0.003 U	*0.114*
2981-148	J19039	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	26.8	0.0290	0.00362	0.002 U	0.003 U	*0.0373*
2981-149	J19063	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	33.2	0.0379	0.00763	0.002 U	0.003 U	*0.0508*
2981-150	J190P7	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	33.3	0.0339	0.00337	0.002 U	0.003 U	*0.0426*
2981-151	J19040	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	26.2	0.0761	0.00797	0.002 U	0.003 U	*0.0887*
2981-152 R1	J190M7	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	24.4	0.0858	0.00776	0.002 U	0.003 U	*0.0980*
2981-152 R2	J190M7	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	24.4	0.0796	0.00256	0.002 U	0.003 U	*0.0866*
2981-153	J190P8	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	31.6	0.0213	0.001 U	0.002 U	0.003 U	*0.0275*
2981-154	J19064	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	33.7	0.0286	0.00838	0.002 U	0.003 U	*0.0424*
2981-155	J190M8	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	25.6	0.0454	0.001 U	0.002 U	0.003 U	*0.0509*
2981-156	J19041	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	24.8	0.0385	0.001 U	0.002 U	0.003 U	*0.0440*
2981-157	J19065	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	32.0	0.0245	0.001 U	0.002 U	0.00876	*0.0363*
2981-158	J190P9	SDG082809	08/28/09	08/24/09	11/18/09	111809_LCDRC	32.4	0.0342	0.0112	0.002 U	0.003 U	*0.0506*
2981-159	J190M9	SDG082809	08/28/09	08/24/09	11/18/09	111809_LCDRC	23.6	0.0762	0.001 U	0.002 U	0.003 U	*0.0817*
2981-160	J19042	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	25.5	0.0453	0.001 U	0.002 U	0.003 U	*0.0509*
2981-161	J19066	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	28.4	0.0324	0.00256	0.002 U	0.003 U	*0.0398*
2981-162	J190R0	SDG082809	08/28/09	08/24/09	11/18/09	111809_LCDRC	29.7	0.0415	0.0179	0.002 U	0.003 U	*0.0643*
2981-163	J190N0	SDG082809	08/28/09	08/24/09	11/18/09	111809_LCDRC	25.8	0.0959	0.001 U	0.002 U	0.003 U	*0.102*
2981-164	J19043	SDG082809	08/28/09	08/25/09	11/18/09	111809_LCDRC	25.7	0.0712	0.00345	0.002 U	0.003 U	*0.0792*
2981-165	J190F5	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	30.8	0.0283	0.00989	0.002 U	0.00324	*0.0434*
2981-166	J19077	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	25.5	0.0539	0.001 U	0.002 U	0.00322	*0.0602*
2981-167	J19078	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	26.2	0.0591	0.001 U	0.002 U	0.003 U	*0.0647*
2981-168	J190F6	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	33.1	0.0258	0.0195	0.002 U	0.00396	*0.0512*
2981-169R1	J190F7	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	30.0	0.0288	0.00653	0.002 U	0.00304	*0.0404*
2981-169R2	J190F7	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	30.0	0.0249	0.00550	0.002 U	0.003 U	*0.0354*
2981-170	J19079	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	28.6	0.0461	0.001 U	0.002 U	0.003 U	*0.0519*
2981-171	J19080	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	28.5	0.0636	0.001 U	0.002 U	0.003 U	*0.0695*
2981-172	J190F8	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	31.8	0.0322	0.00593	0.002 U	0.003 U	*0.0433*
2981-173	J190F9	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	36.3	0.0324	0.0202	0.002 U	0.003 U	*0.0583*
2981-174	J19081	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	24.8	0.0761	0.001 U	0.002 U	0.003 U	*0.0815*
2981-175	J190L0	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	34.8	0.0206	0.001 U	0.002 U	0.003 U	*0.0271*
2981-176	J190J0	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	26.8	0.0363	0.001 U	0.002 U	0.003 U	*0.0420*
2981-177	J190L1	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	32.0	0.0217	0.00550	0.002 U	0.003 U	*0.0324*
2981-178	J190J1	SDG090909	09/09/09	09/02/09	11/19/09	111909_LCDRC	25.7	0.0592	0.001 U	0.002 U	0.003 U	*0.0648*
2981-179	J190J2	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	26.3	0.0135	0.001 U	0.002 U	0.003 U	*0.0191*
2981-180	J190L2	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	33.1	0.00944	0.00179	0.002 U	0.003 U	*0.0165*
2981-181	J190J3	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	24.7	0.0890	0.001 U	0.002 U	0.003 U	*0.0944*
2981-182	J190L3	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	32.1	0.0390	0.00927	0.002 U	0.003 U	*0.0535*
2981-183	J190J4	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	28.2	0.0536	0.001 U	0.002 U	0.003 U	*0.0594*
2981-184	J190L4	SDG090909	09/09/09	09/01/09	11/19/09	111909_LCDRC	39.2	0.0231	0.00329	0.002 U	0.003 U	*0.0323*
						Average	*29.2*					

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 SDG082809 and 090909
PARAMETER:	Arsenic Speciation – Total Inorganic Arsenic (TIA)
LABORATORY:	Pacific Northwest National Laboratory (PNNL) operated by Battelle, Marine Sciences Laboratory (MSL), Sequim, Washington
MATRIX:	Tissue Homogenate
SAMPLE CUSTODY AND PROCESSING:	A total of 40 tissue samples were received at MSL in two shipments: 08/28/09 and 09/09/09. 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:	**SDG082809: 2981*145-164** **SDG090909: 2981*165-184**
Description:	Freshwater Fish Homogenate
Collection dates	08/24/09, 08/25/09, 09/01/09, and 09/02/09
Laboratory arrival date	08/28/09 and 09/09/09
Cooler temperature on arrival	2.1 and 2.8°C, respectively
Extraction Dates:	11/17/09 and 11/18/09
Analyses Dates:	11/18/09 and 11/19/09

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.

QA/QC NARRATIVE

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. The samples 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 calls for matrix spikes at a frequency of one each per 20 samples or analytical batch. A matrix spike duplicate was also added to provide a measure of precision (as discussed above). The matrix spikes were within the QC acceptance criterion of 75-125% for all total inorganic arsenic spikes.

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

Project Manager: Brandenberger
Date Received: 8/28/2009
Batch: 11
Login Designee: Mcgahan

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

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
J190P6	na	2981-145	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J19062	na	2981-146	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J190M6	na	2981-147	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J19039	na	2981-148	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J19063	na	2981-149	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J190P7	na	2981-150	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J19040	na	2981-151	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J190M7	na	2981-152	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J190P8	na	2981-153	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J19064	na	2981-154	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J190M8	na	2981-155	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J19041	na	2981-156	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J19065	na	2981-157	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J190P9	na	2981-158	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/24/09
J190M9	na	2981-159	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/24/09
J19042	na	2981-160	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J19066	na	2981-161	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09
J190R0	na	2981-162	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/24/09
J190N0	na	2981-163	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/24/09
J19043	na	2981-164	other solid	Deep Freezer B-1	Total Inorganic Arsenic	08/25/09

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-118-443	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: LWSA-BASS1-CARCASS		SAF No.: RC-118
Ice Chest No: AFS-04-032	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# 796897471883

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C											
Type of Container	P/G											
No. of Container(s)	1											
Volume	15mL											
SAMPLE ANALYSIS	Total Inoganic Arsenic											
Sample No.	Matrix *	Sample Date	Sample Time									
J190P6 2981. ~~139~~ 145	OTHER SOLID	8/25/09	1315	X								

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix *
Relinquished By/Removed From: Wendy West — Date/Time: 8/25/09 1315	Received By/Stored In: EAS LOCKED STORAGE2 — Date/Time: 8/25/09 1315		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
Relinquished By/Removed From: EAS LOCKED STORAGE2 — Date/Time: 8/27/09 1030	Received By/Stored In: SHANNAN JOHNSON — Date/Time: 8/27/09 1030		
Relinquished By/Removed From: SHANNAN JOHNSON — Date/Time: 8/27/09 1030	Received By/Stored In: FDX — Date/Time:		
Relinquished By/Removed From: — Date/Time:	Received By/Stored In: — Date/Time: 08/28/09 1130		
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-118-338	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: URSA-BASS1-CARCASS		SAF No.: RC-118
Ice Chest No.: APS-04-032	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#796897471883

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C											
Type of Container	P/G											
No. of Container(s)	1											
Volume	15mL											
SAMPLE ANALYSIS	Total Inoganic Arsenic											
Sample No.	Matrix *	Sample Date	Sample Time									
J19062 MW 08/25	OTHER SOLID	8/25/09	1130	X								
2981-~~140~~ 146												

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1130 8/25/09	EAS LOCKED STORAGE 2 Wendy West	1130 8/25/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1030	Received By/Stored In: SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1030	Received By/Stored In:	08/25/09 1130
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
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-118-423	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: LWSA-BASS1-FILLET		SAF No.: RC-118
SAS 61709			
Ice Chest No.: AFS-04-032	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 796897471883	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190M6 MW 08/25	OTHER SOLID	8/25/09	1300	X							
2981 ~~144~~ 147											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	8/25/09 1300	EAS LOCKED STORAGE2 Wendy West	8/25/09 1300
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1030	SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1030	FDX	
Relinquished By/Removed From			08/28/09 1130
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-118-318	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: ~~9K~~ N 4/1 6/1/09	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: URSA-BASS1-FILLET		SAF No.: RC-118
Ice Chest No.: AP8-04-032	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# 7968974718 83

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J19039 ~~NA~~ 08/08	OTHER SOLID	8/25/09	1115	X							
2981. ~~142~~ 148											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1115 8/25/09	EAS LOCKED STORAGE 2 Wendy West	1115 8/25/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1030	Received By/Stored In: SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1030	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In	08/25/09 1130
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

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-118-339	Page 1 of 1
Collector: M. Fidino	Company Contact: JOAN KESSNER; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 9K N MD 6/1/09
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: URSA-BASS2-CARCASS	SAF No.: RC-118	Data Turnaround: 45 Days
Ice Chest No.: AFS-04-032	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 796897471883	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J19063 MF 09/28	OTHER SOLID	8/25/09	1245	X							
2981.143/49											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: M. Fidino	8/25/09 1245	Received By/Stored In: EAS LOCKED STORAGE 2	8/25/09 1245
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1030	Received By/Stored In: SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1030	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In: [illegible]	8/28/09 1130
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-118-444	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: LWSA-BASS2-CARCASS		SAF No.: RC-118
Ice Chest No.: APS-04-032	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 796897471883

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190P7 MA 08/28	OTHER SOLID	8/25/09	1000	X							
2981. 144/150											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1000 8/25/09	EAS LOCKED STORAGE 2 Wendy West	1000 8/25/09
EAS LOCKED STORAGE 2	8/27/09 1030	SHANNAN JOHNSON	8/27/09 1030
SHANNAN JOHNSON	8/27/09 1030	[illegible] 08/28/09	1130
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
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-118-319	Page 1 of 1

Collector: M. Fidino	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N MD 6/1/09	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: URSA-BASS2-FILLET		SAF No.: RC-118
Ice Chest No.: AFS-04-032	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 796897471883

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C											
Type of Container	P/G											
No. of Container(s)	1											
Volume	15mL											
SAMPLE ANALYSIS	Total Inorganic Arsenic											
Sample No.	Matrix *	Sample Date	Sample Time									
J19040 MK 08/28	OTHER SOLID	8/25/09	1230	X								
2981.145151												

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: M. Fidino	8/25/09 1230	Received By/Stored In: EAS LOCKED STORAGE2	8/25/09 1230
Relinquished By/Removed From: EAS LOCKED STORAGE2	8/27/09 1030	Received By/Stored In: SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1032	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In	08/28/09 1130
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-118-424	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N 1A61709	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: LWSA-BASS2-FILLET		SAF No.: RC-118
Ice Chest No.: AFS-04-032	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 796897471883

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190M7 TMW 08/28	OTHER SOLID	8/25/09	0950	X							
2981. 146152											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	0950 8/25/09	EAS LOCKED STORAGE2 Wendy West	0950 8/25/09
Relinquished By/Removed From: EAS LOCKED STORAGE2	8/27/09 1630	SHANNAN JOHNSON	8/27/09 1630
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1630	FDX	
Relinquished By/Removed From:			08/28/09 1130
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-118-445	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: LWSA-BASS3-CARCASS	SAF No.: RC-118	14061709
Ice Chest No.: AFS-04-032	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 796897471883	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No. / Matrix * / Sample Date / Sample Time											
J190P8 MW 08/08 / OTHER SOLID / 8/25/09 / 1045	X										
2981.147.153											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	8/25/09 1045	EAS LOCKED STORAGE 2 Wendy West	8/25/09 1045
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1020	SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1030	FDX	
Relinquished By/Removed From			8/28/09 1130
Relinquished By/Removed From			
Relinquished By/Removed From			

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-118-340	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: URSA-BASS3-CARCASS	SAF No.: RC-118	
Ice Chest No.: AFS-04-032	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: 796897471883	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J19064 MK 08/25	OTHER SOLID	8/25/09	1500	X							
2981. ~~145~~ 154											

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS
Relinquished By/Removed From: Wendy West; Date/Time: 8/25/09 1500	Received By/Stored In: EAS LOCKED STORAGE2 Wendy West; Date/Time: 8/25/09 1500	
Relinquished By/Removed From: EAS LOCKED STORAGE2; Date/Time: 8/27/09 1630	Received By/Stored In: SHANNAN JOHNSON; Date/Time: 8/27/09 1630	
Relinquished By/Removed From: SHANNAN JOHNSON; Date/Time: 8/27/09 1630	Received By/Stored In: FDX; Date/Time:	
Relinquished By/Removed From: Date/Time:	Received By/Stored In: [illegible] 08/28/09 1130; 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
Relinquished By/Removed From: Date/Time:	Received By/Stored In: Date/Time:	

Matrix *: S=Soil; SE=Sediment; SO=Solid; Sl=Sludge; W = Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; Wl=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-118-425	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: LWSA-BASS3-FILLET	SAF No.: RC-118	1µ 61709
Ice Chest No.: AFS-04-032	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# 796897471883	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190M8 Mar 09/25	OTHER SOLID	8/25/09	1030	X							
2981. 149155											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1030 8/25/09	EAS LOCKED STORAGE 2 wendy west	1030 8/25/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1020	Received By/Stored In: SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1030	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In: [illegible]	08/25/09 1130
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-118-320	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: URSA-BASS3-FILLET	SAF No.: RC-118	
Ice Chest No.: AFS-04-032	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# 796897471883	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J19041 TM 08/28	OTHER SOLID	8/25/09	1445	X							
2981 · +50/156											

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS
Relinquished By/Removed From: Wendy West; Date/Time: 8/25/09 1445	Received By/Stored In: EAS LOCKED STORAGE 2 wendy west; Date/Time: 8/25/09 1445	
Relinquished By/Removed From: EAS LOCKED STORAGE 2; Date/Time: 8/27/09 1036	Received By/Stored In: SHANNAN JOHNSON; Date/Time: 8/27/09 1036	
Relinquished By/Removed From: SHANNAN JOHNSON; Date/Time: 8/27/09 1630	Received By/Stored In: FDX; Date/Time:	
Relinquished By/Removed From:	Received By/Stored In: [signature]; Date/Time: 08/28/09 1130	
Relinquished By/Removed From:	Received By/Stored In:	
Relinquished By/Removed From:	Received By/Stored In:	

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-118-341	Page 1 of 1
Collector: M. Fidino	Company Contact: JOAN KESSNER; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 9K N 6/9/09
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: URSA-BASS4-CARCASS	SAF No.: RC-118	Data Turnaround: 45 Days
Ice Chest No.: AFS-04-032	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 796897471883	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J19065 ~~J19~~ 08/25	OTHER SOLID	8/25/09	1345	X							
2981 ~~+15~~ +157											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: M. Fidino	8/25/09 1345	EAS LOCKED STORAGE 2	8/25/09 1345
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1630	SHANNAN JOHNSON	8/27/09 1630
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1630	FDX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	08/25/09 1130
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-118-446	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: LWSA-BASS4-CARCASS	SAF No.: RC-118	
Ice Chest No.: AFS-04-032	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: 796897471883	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190P9 7Mn 08/28	OTHER SOLID	8/24/09	1600	X							
2981.152158											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1600 8/24/09	EAS LOCKED STORAGE 2	1600 8/24/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1030	Received By/Stored In: SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1030	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In: [signature]	08/28/09 1130
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-118-426	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: LWSA-BASS4-FILLET		SAF No.: RC-118
SAF 61709			
Ice Chest No.: AFS-04-032	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: GROUND TRANSPORT
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A FDX# 796897471883

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

SAMPLE ANALYSIS

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

Sample No.	Matrix *	Sample Date	Sample Time	Total Inoganic Arsenic
J190M9 MW 08/25	OTHER SOLID	8/24/09	1530	X
2981-153 159				

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	8/24/09 1530	EAS LOCKED STORAGE 2 Wendy West	8/24/09 1530
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1030	SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1030	FDX	
Relinquished By/Removed From			05/25/09 1130
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-118-321	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: URSA-BASS4-FILLET	SAF No.: RC-118	
Ice Chest No.: AFS-04-032	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/AF Bill No.: FEDEX 796897471883	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J19042 08/25	OTHER SOLID	8/25/09	1330	X							
2981-154/160											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: M. Fidino	8/25/09 1330	Received By/Stored In: EAS LOCKED STORAGE	8/25/09 1330
Relinquished By/Removed From: EAS LOCKED STORAGE	8/27/09 1030	Received By/Stored In: SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1030	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In	08/28/09 1150
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-118-342	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: URSA-BASS5-CARCASS	SAF No.: RC-118	4/06/09
Ice Chest No.: AFS-04-032	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 796897471883	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J19066	OTHER SOLID	8/25/09	1430	X							
2981-55161											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1430 8/25/09	EAS LOCKED STORAGE 2 Wendy West	1430 8/25/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1030	SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1030	FDX	
Relinquished By/Removed From		Received By/Stored In	08/28/09 1130
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
SJ=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-118-447	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: LWSA-BASS5-CARCASS		SAF No.: RC-118
Ice Chest No.: AFS-04-032	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# 796897471883

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inorganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190R0 ~~7~~ 08/25	OTHER SOLID	8/24/09	1630	X							
2981-~~56~~162											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1630 8/24/09	EAS LOCKED STORAGE 2 Wendy West	1630 8/24/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1030	Received By/Stored In: SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1032	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In	08/28/09 1130
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-118-427	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N MK 61709	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: LWSA-BASS5-FILLET		SAF No.: RC-118
Ice Chest No.: AFS-04-032	Field Logbook No.: EL-1638	COA: BESCRC6520	Method of Shipment: GROUND TRANSPORT
Shipped To: Battelle Marine Sciences	Offsite Property No.: N/A		Bill of Lading/Airbill No.: N/A FDX# 796897471883

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190N0 MK 08/25	OTHER SOLID	8/24/09	1615	X							
2981 ~~157163~~											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1615 8/24/09	EAS LOCKED STORAGE 2 Wendy West	1615 8/24/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	8/27/09 1030	Received By/Stored In: SHANNAN JOHNSON	8/27/09 1030
Relinquished By/Removed From: SHANNAN JOHNSON	8/27/09 1032	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In	08/25/09 1130
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-118-322	Page 1 of 1
Collector: Wendy West	Company Contact: JOAN KESSNER; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 9K N MS 6/1/09
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: URSA-BASS5-FILLET	SAF No.: RC-118	Data Turnaround: 45 Days
Ice Chest No.: AFS-04-032	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#796897471883	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J19043 2981	OTHER SOLID	8/25/09	1415	X							

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: Wendy West; Date/Time: 8/25/09 1415	Received By/Stored In: EAS LOCKED STORAGE 2; Date/Time: 8/25/09 1415	
Relinquished By/Removed From: EAS LOCKED STORAGE 2; Date/Time: 8/27/09 1030	Received By/Stored In: SHANNAN JOHNSON; Date/Time: 8/27/09 1030	
Relinquished By/Removed From: SHANNAN JOHNSON; Date/Time: 8/27/09 1030	Received By/Stored In: FDX	
Relinquished By/Removed From:	Received By/Stored In: 08/28/09 1130	
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

LOG-IN CHECKLIST

145-164 JMS 8/28/09

Reference SOP# MSL-A-001

Central File #: 2981 Sample No(s): ~~139-155~~ Project Manager: Brandenberger

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

Matrix: _____ WP# _____

Yes	No	
		Navy-type Project (requires high-level sample tracking procedures)
		USDA Compliance Agreement Soils. See Compliance Agreement Checklist (PM provided)
		Filter Samples: *Amount:* Entire sample Half of sample
		Freeze dry sample(s) - samples will be weighed and placed in ultralow temp freezer (Login Lab)
		Special instructions:

Sample Preservation Instructions:

See LIMS for archive/disposal information

TO BE COMPLETED UPON SAMPLE ARRIVAL/LOG-IN

Yes	No	N/A	Indicate in Appropriate Box
	✓		Was a custody seal present?
		✓	Was the custody seal intact?
✓			Was cooler(s) temperature(s) within acceptable range of 4±2°C or frozen? (if multiple coolers, note temp. of each) 2.1 °C ___ °C
		✓	Was Project Manager notified of any custody/login discrepancies (cooler temp, sponsor codes, etc)? Comment/Remedy:
✓			Were all chain of custody forms signed and dated?
	✓		Were samples filtered at MSL?

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

Container type: Teflon Poly Glass Cap. Vial Other: Plastic Jars

Notes: Samples Transferred to ziplock jars & put into deep freeze B-1

Completed By: [signature] Date/Time: 08/28/09 1145

SAMPLE PRESERVATION

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

If preservation necessary, record Acid Lot#

Type:			Notes:
	☐	0.2% HNO3	
	☐	0.5% HCl (Hg samples)	
	✓	Refrigerate/Freeze	Deep freeze B-1
	☐	Other	

Completed By: [signature] Date/Time: 08/28/09 1145

Storage Shelf: B-1

SAMPLE LOGIN

Pacific Northwest NATIONAL LABORATORY | Battelle The Business of Innovation

Project Manager: Brandenberger
Date Received: 9/9/2009
Batch: 14
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
J190F5	na	2981-165	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J19077	na	2981-166	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J19078	na	2981-167	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J190F6	na	2981-168	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J190F7	na	2981-169	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J19079	na	2981-170	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J19080	na	2981-171	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J190F8	na	2981-172	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J190F9	na	2981-173	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J19081	na	2981-174	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J190L0	na	2981-175	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J190J0	na	2981-176	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J190L1	na	2981-177	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J190J1	na	2981-178	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/02/09
J190J2	na	2981-179	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/01/09
J190L2	na	2981-180	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/01/09
J190J3	na	2981-181	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/01/09
J190L3	na	2981-182	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/01/09
J190J4	na	2981-183	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/01/09
J190L4	na	2981-184	other solid	Deep Freezer B-1	Total Inorganic Arsenic	09/01/09

SOP#: MSL-A-001

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-118-373	Page 1 of 1

Collector: M. Fidino	Company Contact: JOAN KESSNER Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~9K~~ N SAD 61609
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: 100SA-BASS1-CARCASS	SAF No.: RC-118	Data Turnaround: 45 Days
Ice Chest No.: ERC 01-037	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# 797913346290	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No. ~~159~~ 165 (09/09)	Matrix *	Sample Date	Sample Time								
J190F5 2981.	OTHER SOLID	9/2/09	1030	X							

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: M. Fidino	9/2/09 1030	EAS LOCKED STORAGE	9/2/09 1030
Relinquished By/Removed From: EAS LOCKED STORAGE	9/8/09 1200	Received By/Stored In: SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In	09/02/09 1315
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-118-353	Page 1 of 1

Collector M. Fidino	Company Contact JOAN KESSNER / Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code ~~9K~~ N AD 61609 / Data Turnaround 45 Days
Project Designation Columbia River Component of the RCBRA - Tissues	Sampling Location 100SA-BASS1-FILLET	SAF No. RC-118	
Ice Chest No. ERC-01-037	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# 797913346290	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No. / Matrix * / Sample Date / Sample Time											
J19077 ~~2981-160~~ 166 / OTHER SOLID / 9/2/09 / 1020	X										

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: M. Fidino	9/2/09 1020	EAS LOCKED STORAGE	9/2/09 1020
Relinquished By/Removed From: EAS LOCKED STORAGE	9/2/09 1200	SHANNAN JOHNSON	9/2/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/2/09 1200	FDX	
Relinquished By/Removed From		[illegible]	09/09/09 1315
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-118-354	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: 100SA-BASS2-FILLET		SAF No.: RC-118
Ice Chest No.: ERC 01-037	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# 797913346290

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No. 09/09a	Matrix *	Sample Date	Sample Time								
J19078 2981. ~~167~~	OTHER SOLID	9/2/09	1100	X							
167											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1100 9/9/09	EAS LOCKED STORAGE 2 Wendy West	1100 9/2/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/8/09 1200	Received By/Stored In: SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In: [signature]	09/09/09 1135
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-118-374	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: 100SA-BASS2-CARCASS	SAF No.: RC-118	AD61609
Ice Chest No.: ERC-01-037	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 7979133462 90	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190F6 2981.162	OTHER SOLID	9/2/09	1115	X							
168											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1115 9/2/09	EAS LOCKED STORAGE 2 wendy west	1115 9/2/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2 wendy west	9/8/09 1200	SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	FDX	
Relinquished By/Removed From		[illegible]	09/09/09 1315
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-118-375	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: 100SA-BASS3-CARCASS	SAF No.: RC-118	
Ice Chest No.: ERC 01-037	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 797913346290	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C											
Type of Container	P/G											
No. of Container(s)	1											
Volume	15mL											
SAMPLE ANALYSIS	Total Inoganic Arsenic											
Sample No.	Matrix *	Sample Date	Sample Time									
J190F7 2981 ~~169~~ 169	OTHER SOLID	9/2/09	1315	X								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
M. Fidino	9/2/09 1315	EAS LOCKED STORAGE	9/2/09 1315
EAS LOCKED STORAGE	9/8/09 1200	SHANNAN JOHNSON	9/8/09 1200
SHANNAN JOHNSON	9/8/09 1200	FDX	
			09/09/09 1315
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-118-355	Page 1 of 1
Collector M. F. dino	Company Contact JOAN KESSNER / Telephone No. 375-4688	Project Coordinator KESSNER, JH	Price Code ~~9K~~ N MD 61609 / Data Turnaround 45 Days
Project Designation Columbia River Component of the RCBRA - Tissues	Sampling Location 100SA-BASS3-FILLET	SAF No. RC-118	
Ice Chest No. ERC 01-037	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. 7979133462 90	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No. 09/09	Matrix *	Sample Date	Sample Time								
J19079 2981 ~~164~~	OTHER SOLID	9/2/09	1300	X							
170											

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From M. F. dino	Date/Time 9/2/09 1300	Received By/Stored In EAS LOCKED STORAGE 2	Date/Time 9/2/09 1300
Relinquished By/Removed From EAS LOCKED STORAGE 2	Date/Time 9/8/09 1200	Received By/Stored In SHANNAN JOHNSON	Date/Time 9/8/09 1200
Relinquished By/Removed From SHANNAN JOHNSON	Date/Time 9/8/09 1200	Received By/Stored In FDX	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 09/09/09 1215
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-118-356	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: 100SA-BASS4-FILLET		SAF No.: RC-118
Ice Chest No.: ERC 01-037	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# 797913346290

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C											
Type of Container	P/G											
No. of Container(s)	1											
Volume	15mL											
SAMPLE ANALYSIS	Total Inoganic Arsenic											
Sample No.	Matrix *	Sample Date	Sample Time									
J19080 ~~TM 0960 765~~	OTHER SOLID	9/2/09	1400	X								
2981-171												

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Wendy West	9/2/09 1400	Received By/Stored In: EAS LOCKED STORAGE2	9/2/09 1400
Relinquished By/Removed From: EAS LOCKED STORAGE2	9/8/09 1200	Received By/Stored In: SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	Received By/Stored In: FDX	
Relinquished By/Removed From:		Received By/Stored In:	09/07/09 1315
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-118-376	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: 100SA-BASS4-CARCASS	SAF No.: RC-118	
Ice Chest No.: ERC 01-037	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# 797913346290	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inogmic Arsenic										
Sample No 09/02	Matrix *	Sample Date	Sample Time								
J190F8 MFT66	OTHER SOLID	9/2/09	1430	X							
2981.172											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1430 9/2/09	EAS LOCKED STORAGE 2 (Wendy West)	1430 9/2/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/8/09 1200	SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	FDX	
Relinquished By/Removed From		[illegible]	09/09/09 1315
Relinquished By/Removed From			
Relinquished By/Removed From			

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-118-377	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: 100SA-BASS5-CARCASS		SAF No.: RC-118
Ice Chest No.: ERC 01-037	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 # 797913346290

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190F9	OTHER SOLID	9/2/09	1615	X							
2981-173											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: M. Fidino	9/2/09 1615	EAS LOCKED STORAGE	9/2/09 1615
Relinquished By/Removed From: EAS LOCKED STORAGE	9/8/09 1200	Received By/Stored In: SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In: [illegible]	09/09/09 1315
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-118-357	Page 1 of 1
Collector: M. Fidino	Company Contact: JOAN KESSNER; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 9K N jfs 6609
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: 100SA-BASS5-FILLET	SAF No.: RC-118	Data Turnaround: 45 Days
Ice Chest No.: ERC 01-037	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.: FEDEX 797913346290	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No. / Matrix * / Sample Date / Sample Time											
J19081-MA 09P768	OTHER SOLID	9/2/09	1600	X							
2981 . 174											

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From: M. Fidino	Date/Time: 9/2/09 1600	Received By/Stored In: EAS LOCKED STORAGE 2	Date/Time: 9/2/09 1600
Relinquished By/Removed From: EAS LOCKED STORAGE 2	Date/Time: 9/8/09 1200	Received By/Stored In: SHANNAN JOHNSON	Date/Time: 9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	Date/Time: 9/8/09 1200	Received By/Stored In: FDX	Date/Time:
Relinquished By/Removed From	Date/Time	Received By/Stored In: [signature]	Date/Time: 09/09/09 1315
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-118-408	Page 1 of 1
Collector: Rylie Barron	Company Contact: JOAN KESSNER; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: 9K N 1/4 6/09
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: 300SA-BASS1-CARCASS	SAF No.: RC-118	Data Turnaround: 45 Days
Ice Chest No.: ERC 01-037	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# 797913346290	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190L0 ~~L6~~ 09/09	OTHER SOLID	9/2/09	0930	X							
2981.175											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Rylie Barron	0930 9/2/09	EAS LOCKED STORAGE 2 Rylie Barron	0930 9/2/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/8/09	SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	FDX	
Relinquished By/Removed From		[illegible]	09/09/09 1315
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-118-388	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: 300SA-BASS1-FILLET	SAF No.: RC-118	
Ice Chest No.: ERC 01-037	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# 797913346290	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190J0 09/09 170	OTHER SOLID	9/2/09	0915	X							
2981 · 176											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	0915 9/2/09	Received By/Stored In: EAS LOCKED STORAGE 2 Wendy Keirn	0915 9/2/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/8/09 1200	Received By/Stored In: SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In: [signature]	09/09/09 1315
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-118-409	Page 1 of 1
Collector: Rylie Barron	Company Contact: JOAN KESSNER; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~9K~~ N 1/13/09; Data Turnaround: 45 Days
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: 300SA-BASS2-CARCASS	SAF No.: RC-118	
Ice Chest No.: ERC 01-037	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#797913346290	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190L1 MA 09/09 771	OTHER SOLID	9/2/09	0950	X							
2981. 177											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Rylie Barron RB	0950 9/2/09	Received By/Stored In: EAS LOCKED STORAGE Rylie Barron RB	0950 9/2/09
Relinquished By/Removed From: EAS LOCKED STORAGE	9/8/09 1200	Received By/Stored In: SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In: [signature]	09/09/09 135
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 w/ 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-118-389	Page 1 of 1

Collector: Rylie Barron	Company Contact: JOAN KESSNER Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~9K~~ N AXD 61609
Data Turnaround: 45 Days			
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: 300SA-BASS2-FILLET	SAF No.: RC-118	
Ice Chest No.: ERC 01-037	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 #797913346290	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C											
Type of Container	P/G											
No. of Container(s)	1											
Volume	15mL											
SAMPLE ANALYSIS	Total Inoganic Arsenic											
Sample No.	Matrix *	Sample Date	Sample Time									
J190J1 ~~772~~ 9/09	OTHER SOLID	9/2/09	0945	X								
2981.178												

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Rylie Barron	0945 9/2/09	Received By/Stored In: EAS LOCKED STORAGE 2 Rylie Barron	0945 9/2/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/8/09 1200	Received By/Stored In: SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/9/09 1200	Received By/Stored In: FDX	
Relinquished By/Removed From		Received By/Stored In:	09/09/09 1315
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-118-390	Page 1 of 1
Collector: Wendy West	Company Contact: JOAN KESSNER; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~9K~~ N 1A 616 09
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: 300SA-BASS3-FILLET	SAF No.: RC-118	Data Turnaround: 45 Days
Ice Chest No.: ERC 01-037	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.: FE... 7979133462 90	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No. 09	Matrix *	Sample Date	Sample Time								
J190J2 ~~1~~ 173	OTHER SOLID	9/1/09	1030	X							
2981.179											

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1030 9/1/09	Received By/Stored In	Date/Time 1030 9/1/09
Wendy West		EAS LOCKED STORAGE 2	
Relinquished By/Removed From	Date/Time 9/8/09 1200	Received By/Stored In	Date/Time 9/8/09 1200
EAS LOCKED STORAGE 2		SHANNAN JOHNSON	
Relinquished By/Removed From	Date/Time 9/9/09 1200	Received By/Stored In	Date/Time
SHANNAN JOHNSON			
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 09/09/09 1315
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-118-410	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: 300SA-BASS3-CARCASS		SAF No.: RC-118
Ice Chest No.: ERC 01-037	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# 797913346290

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190L2	OTHER SOLID	9/1/09	1040	X							
2981-180											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1040 9/1/09	EAS LOCKED STORAGE 2 Wendy West	1040 9/1/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/8/09 1200	SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	FDX	
Relinquished By/Removed From		09/09/09	1315
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-118-391	Page 1 of 1

Collector: Wendy West	Company Contact: JOAN KESSNER	Telephone No.: 375-4688	Project Coordinator: KESSNER, JH
Price Code: 9K N 1A61609	Data Turnaround: 45 Days		
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: 300SA-BASS4-FILLET		SAF No.: RC-118
Ice Chest No.: ERC 01-037	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# 797913346298

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C											
Type of Container	P/G											
No. of Container(s)	1											
Volume	15mL											
SAMPLE ANALYSIS	Total Inoganic Arsenic											
Sample No.	Matrix *	Sample Date	Sample Time									
J190J3 MM 09/09 PS	OTHER SOLID	9/1/09	1250	X								
2981.181												

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Wendy West	1250 9/1/09	EAS LOCKED STORAGE 2 Wendy West	1250 9/1/09
EAS LOCKED STORAGE 2	9/8/09 1200	SHANNAN JOHNSON	9/8/09 1200
SHANNAN JOHNSON	9/8/09 1200	FDX	
		09/09/09	1315

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-118-411	Page 1 of 1
Collector: Wendy West	Company Contact: JOAN KESSNER; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~9K~~ N 1/06/09
Project Designation: Columbia River Component of the RCBRA - Tissues	Sampling Location: 300SA-BASS4-CARCASS	SAF No.: RC-118	Data Turnaround: 45 Days
Ice Chest No.: ERC 01-037	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# 797913346290	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No. 01/09	Matrix *	Sample Date	Sample Time								
J190L3 ~~7N796~~	OTHER SOLID	9/1/09	1300	X							
2981.182											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	9/1/09 1300	EAS LOCKED STORAGE 2 Wendy West	9/1/09 1300
Relinquished By/Removed From: EAS LOCKED STORAGE2	9/8/09 1200	SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	FDX	
Relinquished By/Removed From		[illegible]	09/09/09 1315
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-118-392	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: 300SA-BASS5-FILLET	SAF No.: RC-118	AA61609
Ice Chest No.: ERC 01-037	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 # 797913346298	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No. 09/09	Matrix *	Sample Date	Sample Time								
J190J4 MMA	OTHER SOLID	9/1/09	1430	X							
2981.183											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Wendy West	1430 9/1/09	EAS LOCKED STORAGE 2	1430 9/1/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/8/09 1200	SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	FDX	
Relinquished By/Removed From		Received By/Stored In	09/09/09 1315
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.

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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-118-412	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: 300SA-BASS5-CARCASS	SAF No.: RC-118	
Ice Chest No.: ERC 01-037	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# 797913346246	

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

FREEZE "MATRIX COMPOSED OF FISH"

Preservation	Cool 4C										
Type of Container	P/G										
No. of Container(s)	1										
Volume	15mL										
SAMPLE ANALYSIS	Total Inoganic Arsenic										
Sample No.	Matrix *	Sample Date	Sample Time								
J190L4 09/09	OTHER SOLID	9/1/09	1445	X							
2981.184											

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By/Removed From: Wendy West	1445 9/1/09	Received By/Stored In: EAS LOCKED STORAGE 2	1445 9/1/09
Relinquished By/Removed From: EAS LOCKED STORAGE 2	9/8/09 1400	Received By/Stored In: SHANNAN JOHNSON	9/8/09 1200
Relinquished By/Removed From: SHANNAN JOHNSON	9/8/09 1200	Received By/Stored In: FDV	
Relinquished By/Removed From:		Received By/Stored In:	09/09/09 1315
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

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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): ~~159-175~~ 165-184 Project Manager: Brandenburger

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) 2.8 °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: _____

Notes: Samples transfered to Cap. Vials & put in Deep freez D-1

Completed By: [signature] Date/Time: 09/09/09 1315

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 freez D-1
- [ ] Other Notes: _____

Completed By: [signature] Date/Time: 09/09/09 1430