APPENDIX C

FIELD SAMPLING FORMS

PART 2

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B1

Date: 10/21/13 **Vessel:** Tieton

Sampling Crew: Sugalski, Thatcher, Stegner **Vessel Crew:** Saugen, Schut, Tuschhoff

EPA Observer: Monica Tonel **C.R. Observer:** Eric Ooschwee-Voss

Arrival Time: 0944 **Departure Time:** 1018

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 51

Wind (mph): Calm

Clouds/Precipitation: high Fog

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple) — left side of cobble bar

River Mile: 744 Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy) Small ripples

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Rock outcrop upstream of sample area

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

on left side of cobble bar sample location was in an eddy & water was moving upstream swiftly. on the Right side of the cobble bar, water was calm. center of location was on exposed cobble bar. No sample at the site (rejected)

C.R. - cultural resources

Field Supervisor Initials DA Date: 10/22/13

Sample Lead Initials [illegible] Date: 10/21/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 14

Drop # (1) 2 3 Cast Time 0948 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1153507.79 NORTHING: 542746?.90

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel 30
% Cobbles 70
% Silica Glass: ___

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0036 Time: 0948
Homogenized Sample: ___ Time: ___
Other: ___ Time: ___

Sediment (SE) Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %
Duplicate SE Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %
Split SE Samples (EPA/NPS/CCT):				# Containers:	___	Volume:	___ %
Pore Water (PW) Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %

Sample Lead Initials ___ Date: 10/21/13 Field Supervisor Initials DA Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 13

Drop # 1 (2) 3 Cast Time 0949 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453510.30 NORTHING: 5427457.14

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 144-0957 Time: 0951
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: ES Date: 10/21/13 Field Supervisor Initials: DA Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

3 cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 12

Drop # 1 2 (3) Cast Time 0952 Sampler Penetration (inches): 1nl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453487.80 NORTHING: 5127454.39

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 164 - 0061 Time: 0953
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/21/13 Field Supervisor Initials: DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Jamie & Abby

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 13

Drop # (1) 2 3 Cast Time 0953 Sampler Penetration (inches): incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453501.64 NORTHING: 5427448.54

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman X
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0062 Time: 0954 10/21/13
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials [illegible] Date: 10/21/13 Field Supervisor Initials DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

rocks & trace sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 12

Drop # 1 (2) 3 Cast Time 1004 Sampler Penetration (inches): 1 in

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453533.87 NORTHING: 5427395.17

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0063 Time: 1005
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/21/13 Field Supervisor Initials: OH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobbles and gravel

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 9

Drop # 1 2 (3) Cast Time 1007 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453554.22 NORTHING: 5427431.46

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials JK Date: 10/21/13 Field Supervisor Initials DK Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

WKR

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 9

Drop # (1) 2 3 Cast Time 1010 Sampler Penetration (inches): Inv

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453527.92 NORTHING: 5427391.51

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials: [illegible] Date: 10/21/13 Field Supervisor Initials: DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 9

Drop # 1 (2) 3 Cast Time 1012 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453551.72 NORTHING: 5427421.00

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0005 Time: 1013
Homogenized Sample: ___ Time: ___
Other: ___ Time: ___

Sediment (SE) Sample ID: ___	Time: ___	# Containers: ___	Volume: ___ %
Duplicate SE Sample ID: ___	Time: ___	# Containers: ___	Volume: ___ %
Split SE Samples (EPA/NPS/CCT):		# Containers: ___	Volume: ___ %
Pore Water (PW) Sample ID: ___	Time: ___	# Containers: ___	Volume: ___ %

Sample Lead Initials AA Date: 10/21/13 Field Supervisor Initials DA Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** C-B1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 8

Drop # 1 2 (3) Cast Time 1014 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453504.68 NORTHING: 5427379.79

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___ % Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials AF Date: 10/21/13 Field Supervisor Initials DA Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-B1

Date: 10/21/13 **Vessel:** Tiekon

Camera Serial #: #1

Photo ID: 104-0052 Time: 9:00	Photo ID: 104-0053 Time: 9:45
Photographer: M. Stegner (MS)	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Station ID	Description: rock outcrop on ~~top~~ right side of river / Station location
Photo ID: 104-0054 Time: 9:45	Photo ID: 104-0055 Time: 9:47
Photographer: MS	Photographer:
Photo Orientation:	Photo Orientation: north
Description: Cobble bar on left side of river	Description: Overview towards border crossing building gravel & cobble bar
Photo ID: 104-0056 Time: 9:48	Photo ID: 104-0057 Time: 9:51
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Gravel/cobbles in Grab #1 (APID1)	Description: Cobbles in Grab #2 (APID2)
Photo ID: 104-0058 Time: 9:52	Photo ID: 104-0061 Time: 9:53
Photographer: MS	Photographer: MS (MS 10/21/2013)
Photo Orientation: -	Photo Orientation: -
Description: Gravel bar adjacent to Sample location	Description: Cobbles in Grab #3 (APID3)

Field Supervisor Initials: AM Date: 10/22/13

Sample Lead Initials: [signature] Date: 10/21/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-B1

Date: 10/21/2013 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 104-0059 Time: 9:52	Photo ID: 104-0060 Time: 9:53
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Shallow water & adjacent gravel bar	Description: Cobbles at river bottom
Photo ID: 104-0061 Time: 9:53	Photo ID: 104-0062 Time: 9:54
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Cobbles in Grab #3 (AP1D3) (MS)	Description: Cobbles & Sand in Grab #4 (AP2D1)
Photo ID: 104-0063 Time: 10:05	Photo ID: 104-0064 Time: 10:13
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Cobbles in Grab # 5 (AP2D2)	Description: Water in Grab # 3 (AP3D2)
Photo ID: 104-0065 Time:	Photo ID: 104-0067 Time:
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description:	Description:

Field Supervisor Initials: AH Date: 10/22/13

Sample Lead Initials: [illegible] Date: 10/21/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B2

Date: 10/22/13 **Vessel:** Tieton

Sampling Crew: Sugatsky, Stegner, Thatcher **Vessel Crew:** Saugen, Schut, TUSchhoff

EPA Observer: Monica Tonel **C.R. Observer:** Eric Oosahwee-Voss

Arrival Time: 0908 **Departure Time:** 0945

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): 45
Wind (mph): light Breeze
Clouds/Precipitation: Overcast

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 742 Boat Traffic: _____

Water Surface: (Calm) (Small Waves) (Choppy) current ripples

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

River current was swift at sampling location.

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Station was ~~abandoned~~ rejected ED 10/23/13 after 1 grab due to safety & equipment concerns. Drift speed for boat was 2.5Kt.

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/24/13

Sample Lead Initials [illegible] Date: 10/22/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 25

Drop # (1) 2 3 Cast Time 894P Sampler Penetration (inches): Ing

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 451645.96 NORTHING: 5424106.33

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen (X)
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials [illegible] Date: 10/22/13 Field Supervisor Initials DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

water

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-B2

Date: 10/22/2013 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 104-0115	Time: 8:53	Photo ID: 104-0116	Time: 9:09
Photographer: Michelle Stegner (ms)		Photographer: MS	
Photo Orientation: -		Photo Orientation: north	
Description: Station ID		Description: Overview of sample location upstream	
Photo ID: 104-0117	Time: 9:09	Photo ID: 104-0118	Time: 9:09
Photographer: MS		Photographer: MS	
Photo Orientation: -		Photo Orientation: -	
Description: overview of station towards right bank		Description: Overview left bank	
Photo ID: 104-0119	Time:	Photo ID: 104-0120	Time:
Photographer: MS		Photographer:	
Photo Orientation: -		Photo Orientation:	
Description: 10/21 Grab #1 (MP101)		Description:	
Photo ID: 104-0121	Time:	Photo ID: 104-0122	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials____ Date:____

Sample Lead Initials: KS Date: 10/22/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: 1-B3

Date: 10/21/13 Vessel: Tietan

Sampling Crew: Sagelski, Thatcher, Steiger Vessel Crew: Sauer, Schut, Tuschoff

EPA Observer: Monica Toal C.R. Observer: Erie Oeschner-Voss

Arrival Time: 1210 Departure Time: 1315

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): 56
Wind (mph): Calm
Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 740 Boat Traffic: Observer

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs: (see Photo Log for descriptions) Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

The bottom could be observed from the boat and it was ~~ft~~ 10/21/13 cobbles. The current was swift in this location. 9 empty grabs. Sample is rejected and the reserve locations are exhausted or previously used.

C.R. - cultural resources

Field Supervisor Initials: DH Date: 10/22/13

Sample Lead Initials: JS Date: 10/21/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 14

Drop # (1) 2 3 Cast Time 1252 Sampler Penetration (inches): In

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 449424.36 NORTHING: 542560.85

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials: [illegible] Date: 10/21/13 Field Supervisor Initials: DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 15

Drop # 1 (2) 3 Cast Time 1253 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 449396.85 NORTHING: 5422353.93

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___ % Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 109-0087 Time: 1254
Homogenized Sample: ___ Time: ___
Other: ___ Time: ___

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/21/13 Field Supervisor Initials: DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B3

Anchor Point (max 3) 1 2 3 Water Depth (feet): 10

Drop # 1 2 3 Cast Time 1254 Sampler Penetration (inches): ~2 in

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 449374.17 NORTHING: 5422537.89

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials AA Date: 10/21/13 Field Supervisor Initials DA Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

WLR

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B3

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 11

Drop # (1) 2 3 Cast Time 1257 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 449377.02 NORTHING: 5422539.64

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___ % Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%	
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%	
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%	
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%	

Sample Lead Initials: [illegible] Date: 10/21/13 Field Supervisor Initials: DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B3

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 13

Drop # 1 (2) 3 Cast Time 1239 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 449363.72 NORTHING: 5422530.90

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/21/13 Field Supervisor Initials: DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B3

Anchor Point (max 3) 1 2 3 Water Depth (feet): 14

Drop # 1 2 3 Cast Time 1301 Sampler Penetration (inches): Ind

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 449359.39 NORTHING: 542522.99

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0088 Time: 1302
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: AS Date: 10/22/13 Field Supervisor Initials: DM Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B3

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 15

Drop # (1) 2 3 Cast Time 1303 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 449355.43 NORTHING: 5422528.16

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:		Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:		Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):			# Containers:	Volume:	%
Pore Water (PW) Sample ID:		Time:	# Containers:	Volume:	%

Sample Lead Initials: [illegible] Date: 10/21/13 Field Supervisor Initials: [illegible] Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B3

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 15

Drop # 1 (2) 3 Cast Time 1304 Sampler Penetration (inches): 1ni

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 449343.28 NORTHING: 5422523.59

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:		Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):			# Containers:	Volume:	%
Pore Water (PW) Sample ID:		Time:	# Containers:	Volume:	%

Sample Lead Initials JB Date: 10/21/13 Field Supervisor Initials AM Date: 10/22/13

LW CLW

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B3

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 15

Drop # 1 2 (3) Cast Time 1306 Sampler Penetration (inches): 7 ml

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 449357.27 NORTHING: 5422524.31

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None (Hydrogen sulfide)
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 1011-0038 Time: 1307
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials [illegible] Date: 10/21/13 Field Supervisor Initials AOH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-B3

Date: 10/21/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0083	Time: 12:32	Photo ID: 104-0084	Time: 12:50
Photographer: M. Stegner		Photographer:	
Photo Orientation: —		Photo Orientation: North	
Description: Station ID		Description: Upriver	
Photo ID: 104-0085	Time: 12:50	Photo ID: 104-0086	Time: 12:50
Photographer: MS		Photographer: MS	
Photo Orientation: East		Photo Orientation: West	
Description: left side of river		Description: right side of river	
Photo ID: 104-0087	Time: 12:54	Photo ID: 104-0088	Time: 13:02
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Grab #2 (AP1D2) Water		Description: Grab #6 (AP2D3) Water	
Photo ID: 104-0089	Time: 13:07	Photo ID:	Time:
Photographer: MS		Photographer:	
Photo Orientation: —		Photo Orientation:	
Description: Grab #9 (AP3D3) Water		Description:	

Field Supervisor Initials: KH Date: 10/22/13

Sample Lead Initials: JS Date: 10/21/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 1-B5

Date: 10/18/13

Vessel: Treten

Sampling Crew: Thatcher, Sogalski, Stegner

Vessel Crew: ~~Treten~~ Sagan, Schut, Tuschhoff 10/18/13

EPA Observer: Monica Tonel

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1443

Departure Time: 1706

River Stage:

Water Surface Elev. (ft): ~~1286~~ unknown 10/18/13

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): ≈ 60

Wind (mph): Calm

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 737

Boat Traffic:

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): Sand bar directly upstream

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Sample is composite of grabs 4, 8 & 12. All grabs were acceptable, but there was not enough material to completely fill the required sample containers after 12 attempts. Per bottom paragraph of page A-12 of the FSP, this location can be considered acceptable and the reserves will not need to be visited.

C.R. - cultural resources

Field Supervisor Initials: DA Date: 10/24/13

Sample Lead Initials: [illegible] Date: 10/18/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 18

Drop # (1) 2 3 Cast Time 1445 Sampler Penetration (inches): Incl.

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446349.48 NORTHING: 5421152.85

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: water washed out su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: ____ Tubes: ____ Macrophytes: ____
Debris(twigs/leaves): ____ Other: ____

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0020 Time: 1446
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%
Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____%
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Sample Lead Initials [illegible] Date: 10/24/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sediment & weeds plus gravel

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-BS

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 6

Drop # 1 (2) 3 Cast Time 1454 Sampler Penetration (inches): 4

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446346.26 NORTHING: 5421167.29

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected
water washed out

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None ~~Hydrogen sulfide~~
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0021 Time: 1454
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials AA Date: 10/16/13 Field Supervisor Initials DM Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sediment, vegetation, gravel

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B5

Anchor Point (max 3) 1 2 3 **Water Depth (feet):** 5

Drop # 1 2 3 Cast Time 1456 **Sampler Penetration (inches):** ~nil

Angle (< 5°max) Yes No **Cultural Resources Observed?** No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446357.35 NORTHING: 5421175.14

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	~~Rejected~~

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0022 Time: 1457
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/18/13 Field Supervisor Initials: [illegible] Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 8

Drop # (1) 2 3 Cast Time 1459 Sampler Penetration (inches): 5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446365.96 NORTHING: 5421166.48

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.22 su Description: ____

Sediment Characteristics

Final
Type: 35 % Silt 35 10/18/13 (<1/16 mm)
45 % Sand 45 (1/16 - 2 mm)
5 % Gravel 10/18/13 5
% Cobbles ____
15 % Silica Glass: 15

Color: Munsell Color Chart #: ____ Description: Dark gray Silty Sand

Redox Boundary: Present? (Yes) No; If present -- Depth Below Sediment Surface (inches): 1/2"

Odor: None (Hydrogen sulfide) Other: ____

Amphipods: Insects in water column / Amphipods Tubes: Macrophytes:
Debris(twigs/leaves): Other: Snails Fish, leach, red worm

Stratified sediment: Yes (No) Sheen Present: Yes (No)

Sample Collected Using
SES Van Veen X
10/18/13 Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: 104 - 0023 Time: 1500

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/18/13 Field Supervisor Initials: DPH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Silty Sand overlying a Sandy Gravel

Vegetation present. Caught a small believe

Sieved

about 7 gallons of Sediment. about one handful of gravel was removed via Sieving

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B5

Anchor Point (max 3) 1 (2) 3 Water Depth (feet):

Drop # 1 (2) 3 Cast Time 1541 Sampler Penetration (inches): 1in

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446355.65 NORTHING: 5421172.26

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0033 Time: 1541
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:		Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):			# Containers:	Volume:	%
Pore Water (PW) Sample ID:		Time:	# Containers:	Volume:	%

Sample Lead Initials: Date: 10/18/13 Field Supervisor Initials: DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

logged on 5 rocks

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B5

Anchor Point (max 3) 1 (2) 3 Water Depth (feet):

Drop # 1 2 (3) Cast Time 1545 Sampler Penetration (inches): tnl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446363.18 NORTHING: 5421167.13

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-6034 Time: 1545
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: ____ Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):	# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____ Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/18/13 Field Supervisor Initials: DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

rock & vegetation in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B5

Anchor Point (max 3) 1 2 (3) Water Depth (feet): _____

Drop # (1) 2 3 Cast Time _____ Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446387.26 NORTHING: 5421178.57

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0035 Time: 1553
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %
Duplicate SE Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:	_____	Volume:	_____ %
Pore Water (PW) Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %

Sample Lead Initials AC Date: 10/18/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Silty Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B5

Anchor Point (max 3) 1 2 (3) Water Depth (feet): _____

Drop # 1 (2) 3 Cast Time 1555 Sampler Penetration (inches): 2

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446381.44 NORTHING: 5421171.63

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: 8.22 su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description: _____

Redox Boundary: Present? Yes _____ No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0037 Time: 1601
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %
Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %
Split SE Samples (EPA/NPS/CCT): _____ # Containers: _____ Volume: _____ %
Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials [signature] Date: 10/18/13 Field Supervisor Initials AA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

1 cobble, 1 cup gravel
1 gallon of sediment

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B5

Anchor Point (max 3) 1 2 (3) Water Depth (feet):

Drop # 1 2 (3) Cast Time 1605 Sampler Penetration (inches): 7 in.

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446343.60 NORTHING: 5421185.04

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None ~~Hydrogen sulfide~~
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 164-0038 Time: 1607
Homogenized Sample: ____ Time:
Other: Time:

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials [illegible] Date: 10/18/13 Field Supervisor Initials DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

One rock

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B5

Anchor Point (max 3) 1 2 3 (4) Water Depth (feet):

Drop # (1) 2 3 Cast Time 1609 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446335.77 NORTHING: 5421178.89

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0010 Time: 1610
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials KL Date: 10/18/13 Field Supervisor Initials DM Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sediment: vegetation. Sample washed out

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B6 1-B5 ED 10/22/13

Anchor Point (max 3) 1 2 3 (4) Water Depth (feet):

Drop # 1 (2) 3 Cast Time 1614 Sampler Penetration (inches): Full

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446342.04 NORTHING: 5421188.12

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	~~NO~~
2. Overlying water present?	YES	~~NO~~
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	~~NO~~
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 1614 - 0011 Time: 1614
Homogenized Sample: ____ Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials [illegible] Date 10/18/13 Field Supervisor Initials DA Date 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

grwl

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** ~~1-B6~~ 1-B5 ED 10/22/13

Anchor Point (max 3) 1 2 3 (4) Water Depth (feet):

Drop # 1 2 (3) Cast Time Sampler Penetration (inches): 2

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446339.85 NORTHING: 5421172.88

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? (YES) NO
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? (YES) NO
5. Desired penetration depth (4 to 6 inches) achieved? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES (NO)
7. Sample is: (Accepted) Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 7.83 su Description: Wet

Sediment Characteristics Before After + homogenization

Type: % Silt 20 (<1/16 mm) 30
% Sand 30 (1/16 - 2 mm) 65
% Gravel 50
% Cobbles —
% Silica Glass: — 5

Color: Munsell Color Chart #: 5Y 3/1
Description: very dark gray silty Sand

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/2

Odor: None (Hydrogen sulfide)
Other:

Amphipods: yes Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Sandy gravel

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0047 Time: 1624
Homogenized Sample: 104-0048 Time: 1814
Other: Time:

Sediment (SE) Sample ID: SE-1-B6 B5 Time: 1754 # Containers: 6 Volume: ≈70 %
Duplicate SE Sample ID: ED 10/22/13 Time: # Containers: Volume: %
Split SE Samples (EPA/NPS/CCT): B5 ED 10/22/13 # Containers: Volume: %
Pore Water (PW) Sample ID: PW-1-B6 Time: 1632 # Containers: 3 Volume: 100 %

Sample Lead Initials [initials] Date: 10/18/13 Field Supervisor Initials DA Date: 10/24/18

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

about 1 gallon of sandy gravel

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

10/18/13

Project: 36310189 **Station Identifier:** ~~1-R10~~ MS 1-B5

Date: 10/18/2013 **Vessel:** Teton

Camera Serial #: #1

Photo ID: 104-0016 **Time:** 14:44	**Photo ID:** 104-0017 **Time:** 14:44
Photographer: M. Stegner	**Photographer:** Stegner
Photo Orientation: —	**Photo Orientation:** last
Description: Station 1-B5 ID	**Description:** Overview ~~right bank~~ MS upstream left bank
Photo ID: 104-0018 **Time:** 14:44	**Photo ID:** 104-0019 **Time:** 14:44
Photographer: Stegner	**Photographer:** Stegner
Photo Orientation: West	**Photo Orientation:** North
Description: Overview ~~East~~ MS ~~left~~ ~~(right)~~ ~~bank~~ upstream right bank	**Description:** Overview upstream
Photo ID: 104-0020 **Time:** 14:46	**Photo ID:** 104-0021 **Time:** 14:54
Photographer: Stegner	**Photographer:** Stegner
Photo Orientation: —	**Photo Orientation:** —
Description: Vegtation & Sediment in Drop#1 (AP1D1)	**Description:** Veg & sediment in Drop #2 (AP1D2)
Photo ID: 104-0022 **Time:** 14:57	**Photo ID:** 104-0023 **Time:** 15:00
Photographer: Stegner	**Photographer:** Stegner
Photo Orientation: —	**Photo Orientation:** —
Description: gravel in Drop#3 (AP1D3)	**Description:** Water/veg/sed in Drop#4 (AP1D4)

Field Supervisor Initials: DH Date: 10/18/13

Sample Lead Initials: [illegible] Date: 10/18/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

10/15/13

Project: 36310189 **Station Identifier:** 1-B5

Date: 10/18/2013 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 104-0024 **Time:** 15:02	**Photo ID:** 105-0025 **Time:** 15:05
Photographer: M. Stegner	**Photographer:** Stegner
Photo Orientation: —	**Photo Orientation:** —
Description: Drop # 4, crew Siphoning water & grab w/ Vegetation @ bottom	**Description:** Veg in Drop # 4
Photo ID: 105-0026 **Time:** 15:10	**Photo ID:** 105-0027 **Time:** 15:10
Photographer: Stegner	**Photographer:** Stegner
Photo Orientation: —	**Photo Orientation:** —
Description: Veg & Sed in Drop #4 (after Syphoning water)	**Description:** Walleye in Drop #4
Photo ID: 105-0028 **Time:** 15:10	**Photo ID:** 105-0029 **Time:** 15:12
Photographer: Stegner	**Photographer:** Stegner
Photo Orientation: —	**Photo Orientation:** —
Description: Walleye in Drop #4	**Description:** Drop #4 Veg & Sed
Photo ID: 104-0030 **Time:** 15:14	**Photo ID:** 104-0031 **Time:** 15:16
Photographer: Stegner	**Photographer:** Stegner
Photo Orientation: —	**Photo Orientation:** —
Description: Sediment in Drop #4 (after veg removed)	**Description:** leech in Drop #4

Field Supervisor Initials: AM Date: 10/21/13

Sample Lead Initials: AS Date: 10/18/13

URS

10/15/13

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-B5

Date: 10/18/2013 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 104-0032	**Time:** 15:19	**Photo ID:** 104-0033	**Time:** 15:41
Photographer: M Stegner (MS)		**Photographer:** MS	
Photo Orientation: —		**Photo Orientation:** —	
Description: Drop #4 leechin Sediment from Grab		**Description:** Drop #5 (AP2D2) Vegetation in grab	
Photo ID: 104-0034	**Time:** 15:45	**Photo ID:** 104-0035	**Time:** 15:53
Photographer: MS		**Photographer:** MS	
Photo Orientation: —		**Photo Orientation:** —	
Description: Drop #6 (AP2D3) one small cobble Stuck in grab		**Description:** Drop #7 (AP3 D1) sediment in Grab	
Photo ID: 104-0036	**Time:** 15:55	**Photo ID:** 104-0037	**Time:** 16:01
Photographer: MS		**Photographer:** MS	
Photo Orientation: —		**Photo Orientation:** — (MS)	
Description: Drop #8 (AP3D2) Water/sed in grab		**Description:** Sediment in Drop #8 (AP3D2)	
Photo ID: 104-0038	**Time:** 16:07	**Photo ID:** 104-0040	**Time:** 16:10
Photographer: MS		**Photographer:** MS	
Photo Orientation: — (MS)		**Photo Orientation:** — 10 (MS)	
Description: Rock in Drop #~~10~~ 9 grab		**Description:** Drop #~~10~~ sed/veg in grab	

Field Supervisor Initials: DA Date: 10/24/13

Sample Lead Initials: ZS Date: 10/15/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-B5

Date: 10/18/2013 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 104-0041	Time: 16:14	Photo ID: 104-0042	Time: 16:16
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Drop # 11		Description: Rope broke - lost grab in water	
Photo ID: 104-0043	Time: 16:18	Photo ID: 104-0044	Time: 16:22
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: attaching rope to grab		Description: attaching rope to grab	
Photo ID: 104-0045	Time: 16:22	Photo ID: 104-0046	Time: 16:23
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: retrieving the lost grab!		Description: Drop #12 water & sediment in grab	
Photo ID: 104-0047	Time: 16:24	Photo ID: 104-0048	Time: 18:14
Photographer: MS		Photographer: Sugich	
Photo Orientation: —		Photo Orientation:	
Description: Drop #12		Description: Homogenized Sample	

Field Supervisor Initials: DA Date: 10/24/18

Sample Lead Initials: MC Date: 10/18/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-BS

Date: 10/15/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 104-0049 Time: 1814	Photo ID: 104-0050 Time: 1814
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Homogenized Sample	Description: Homogenized Sample
Photo ID: 104-0051 Time: 1815	Photo ID: Time:
Photographer: Sugelski	Photographer:
Photo Orientation:	Photo Orientation:
Description: Homogenized Sample	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DA Date: 10/24/13

Sample Lead Initials: JS Date: 10/15/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 1-B6

Date: 10/21/13

Vessel: Tieton

Sampling Crew: Thatcher, Stegner, Sugawski

Vessel Crew: ~~Tieton~~ Saugen, Schut, Tuschhoff

EPA Observer: Monica Tomel

C.R. Observer: Eric Oosahuree-Voss

Arrival Time: 1323

Departure Time: 1338

River Stage:

Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): 64

Wind (mph): Calm

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple) 10/21/13

River Mile: 738

Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy) Current

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Depth of water was only 8 feet. Bottom surface could be observed and it consisted primarily of cobbles. With the swift moving current in the area it was decided to not attempt the station and move directly to the reserve.

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/22/13

Sample Lead Initials [signature] Date: 10/21/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-B6

Date: 10/21/2013 **Vessel:** Tiefon

Camera Serial #: #1 Lumix

Photo ID: 104-0090 Time: 13:23	Photo ID: 104-0091 Time: 13:28
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: North
Description: Station ID	Description: Overview of Sample area upstream
Photo ID: 104-0092 Time: 13:28	Photo ID: 104-0093 Time: 13:23
Photographer: MS	Photographer: MS
Photo Orientation: West	Photo Orientation: East
Description: right bank of river	Description: left bank of river
Photo ID: 104-0093 Time: 13:28 (MS 10/22/13)	Photo ID: 104-0094 Time: 13:28
Photographer: MS	Photographer: MS
Photo Orientation: ~~East~~	Photo Orientation: —
Description: Rocks @ bottom of river at Idge of Sample area	Description: Rocks @ bottom of river at Idge of Sample area
Photo ID: 104-0095 Time: 13:30	Photo ID: 104-0096 Time: 13:30
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: bottom of river @ center of Sample area	Description: bottom of river @ center of Sample area

Field Supervisor Initials: DH Date: 10/22/13

Sample Lead Initials: MS Date: 10/21/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-B6

Date: 10/21/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0097 Time: 13:31	Photo ID: 104-0098 Time: 13:32
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: bottom of river in middle of sample area	Description: bottom of river at edge of sample area
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 10/22/13

Sample Lead Initials: JM Date: 10/21/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 1B-C1

Date: 10/22/13

Vessel: Tieton

Sampling Crew: Sugalski, Stegner, Thatcher

Vessel Crew: Sougen, Schot, Tuschhoff

EPA Observer: Monica Torel

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1430

Departure Time: 1707

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 65

Wind (mph): calm

Clouds/Precipitation: clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 734

Boat Traffic: ~~at~~ none

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample location between peninsula & shore, downstream of the bridge. Flow of water was barley noticable

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Not sampled from boat. Sampled with poner. 8 grabs composited. MS/MSD collected for this location. Rinsate was collected for poner, tub and the sieve while waiting for pore water.

~~||||~~ |||

C.R. - cultural resources

Field Supervisor Initials: DA Date: 10/24/13

Sample Lead Initials: JS Date: 10/22/2013

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1B-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 2

Drop # (1) 2 3 Cast Time 1441 Sampler Penetration (inches): 3

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 442912 NORTHING: 5418855

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 7.86 su Description: MS/MSD

Sediment Characteristics

Type: % Silt 30 (<1/16 mm)
% Sand 65 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: 5

Color: Munsell Color Chart #: 2.5Y ~~2.5/1~~ 3/1
Description: very dark gray silty fine sand

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: snails

Stratified sediment: Yes (No)
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar X
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0150 Time: 1441
Homogenized Sample: 104-0152 Time: 1647
Other: Time:

Sediment (SE) Sample ID: SE-1B-C1	Time: 1648	# Containers: 9 (10/22/13)	Volume: 100 %	MS/MSD
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %	
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %	
Pore Water (PW) Sample ID: PW-1B-C1	Time: 1506	# Containers: 9	Volume: 100 %	

Sample Lead Initials: AS Date: 10/22/13 Field Supervisor Initials: AA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

very dark gray Silty Sand. Some Grass present in grabs
~~Brown~~ 10/22/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 1B-C1

Date: 10/22/2013 Vessel: Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-176 Time: 14:34	Photo ID: 104-0177 Time: 14:40
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: east
Description: Station ID	Description: Overview of Sample location
Photo ID: 104-0178 Time: 14:40	Photo ID: 104-0179 Time: 14:41
Photographer: MS	Photographer: MS
Photo Orientation: north	Photo Orientation: South
Description: Overview upstream toward Northport bridge	Description: Overview downstream towards river channel
Photo ID: 104-0180 Time: 14:41	Photo ID: 104-181 Time: 16:14
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Grab #1	Description: Porewater in progress
Photo ID: 104-0182 Time: 16:47	Photo ID: 104-0183 Time: 16:48
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: homoginized Sample in tub	Description: homoginized Sample in Scoop

Field Supervisor Initials: OH Date: 10/24/13

Sample Lead Initials: JS Date: 10/22/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 1B-R1

Date: 10/22/13

Vessel: Tieten

Sampling Crew: Sugeski, Stegner, Thatcher

Vessel Crew: Saugen, Schut, Tuschhoff

EPA Observer: Monica Tonel

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1023

Departure Time:

River Stage:

Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): 50

Wind (mph): light breeze

Clouds/Precipitation: Overcast

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 734

Boat Traffic:

Water Surface: (Calm) (Small Waves) (Choppy) Currents Ripples

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Bridge for HWY 25 just upstream of location. Cabin along right bank and bed rock outcrop

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

only rocks and trace sand recovered from location. After the 5th grab it was noted that the weight holder was bent from a hard impact on the river bottom

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/24/13

Sample Lead Initials [illegible] Date: 10/22/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1B-R1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 34

Drop # (1) 2 3 Cast Time 1029 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 442945.93 NORTHING: 5419142.95

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/22/13 Field Supervisor Initials: DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1B-R1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 21

Drop # 1 (2) 3 Cast Time 1033 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 442940.37 NORTHING: 5119206.54

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0124 Time: 1035
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials AC Date: 10/22/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

3 large cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1B-R1

Anchor Point (max 3) 1 2 3 Water Depth (feet): 23

Drop # 1 2 3 Cast Time 1036 Sampler Penetration (inches): 1 ml

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 442977.96 NORTHING: ~~5419241~~ 10/22/13 5419214.86

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel
% Cobbles } 100
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0125 Time: 1057
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials [signature] Date: 10/22/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Cobbles !
gravel

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1B-R1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 22

Drop # (1) 2 3 Cast Time 1039 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 442971.16 NORTHING: 5419213.63

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: JE Date: 10/23/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1B-R1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 19

Drop # 1 (2) 3 Cast Time 1040 Sampler Penetration (inches): Inl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 442938.14 NORTHING: 5419217.65

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-027 Time: 1041
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials AK Date: 10/22/13 Field Supervisor Initials ____ Date: ____

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one vial

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1B-R1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 28

Drop # 1 2 (3) Cast Time 1643 Sampler Penetration (inches): Inv

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 442953.90 NORTHING: 5419188.25

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/22/13 Field Supervisor Initials: AH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

WLW

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1B-R1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 38

Drop # (1) 2 3 Cast Time 1046 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 442956.22 NORTHING: 5411168.98

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/22/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 113-81

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 21

Drop # 1 (2) 3 Cast Time 1049 Sampler Penetration (inches): Incl.

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 442933.00 NORTHING: 5419190.19

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0129 Time: 1050
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials JS Date: 10/22/13 Field Supervisor Initials DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

One cobble
Trace Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1B-SE1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 19

Drop # 1 2 (3) Cast Time 1052 Sampler Penetration (inches): 1 in

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 442935.82 NORTHING: 5419201.12

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	10/22/13 YES	(NO)
2. Overlying water present?	(YES)	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____ } 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None (Hydrogen sulfide)
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0130 Time: 1052
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/22/13 Field Supervisor Initials: AM Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

2 rocks

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LB-R1

Date: 10/22/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0119	Time: 10:19	Photo ID: 104-0120	Time: 10:24
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: North	
Description: Station ID		Description: Overview Northpoint Bridge Upstream	
Photo ID: 104-0121	Time: 10:24	Photo ID: 104-0122	Time: 10:24
Photographer: MS		Photographer: MS	
Photo Orientation: West		Photo Orientation: South	
Description: Right bank		Description: Overview downstream	
Photo ID: 104-0123	Time: 10:27	Photo ID: 104-0124	Time: 10:35
Photographer: MS		Photographer: MS	
Photo Orientation: East		Photo Orientation: —	
Description: Overview left bank		Description: Grab #2 (RPID2) three cobbles & Water in Grab	
Photo ID: 104-0125	Time: 10:37	Photo ID: 104-0126	Time: 10:38
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Grab # 3 (RPID3) Gravel & Cobbles in open Grab		Description: MS ~~Rocks~~ Cobbles from Grab # 3 w/ insects covering surface	

Field Supervisor Initials: DH Date: 10/24/13

Sample Lead Initials: JL Date: 10/22/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1B-R1

Date: 10/22/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0127	Time: 10:41	Photo ID: 104-0128	Time: 10:45
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Grab #5 w/ water and one cobble in grab		Description: overview of damaged outrigger plate from drop	
Photo ID: 104-0129	Time: 10:50	Photo ID: 104-0130	Time: 10:52
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Grab #8 (AP3D2) w/ one cobble and trace black sand		Description: Grab #9 (AP3D3) two cobbles in open grab	
Photo ID: 104-0131	Time: 10:53	Photo ID:	Time:
Photographer: MS		Photographer:	
Photo Orientation: —		Photo Orientation:	
Description: profile view of outrigger bar that is bent		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials DH Date: 10/24/13

Sample Lead Initials [illegible] Date: 10/22/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 | Station Identifier: 1B-R2

Date: 10/22/13 | Vessel: Tiedon

Sampling Crew: Sugarski, Stegner, Thiele | Vessel Crew: Sawyer, Schut, Tuschhoff

EPA Observer: Monica Tonel | C.R. Observer: Eric DeSahwe-Voss

Arrival Time: 1303 | Departure Time: 1427

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 57

Wind (mph): light breeze

Clouds/Precipitation: overcast

Site Information:

Boat Position: (Powered) (Anchored) | River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 734 | Boat Traffic: N/A

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): ~~collected GS Site~~ Station located 23 10/22/13 between cobble/sand remission shore.

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ | Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ | Photo ID: _____ Time: _____

General Notes:

collected similar to a tributary. Collected with Ponar after 22 grabs

Grabs = HH HH HH HH II (22)

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/24/13

Sample Lead Initials _____ Date: 10/22/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1B-RZ

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 2

Drop # (1) 2 3 Cast Time 1318 Sampler Penetration (inches): 4

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 044 2518 NORTHING: 541 88 46

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 7.38 su Description:

Sediment Characteristics

Type: % Silt 70 (<1/16 mm)
% Sand 30 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: 10YR 3/2 10/22/13
Description: ~~Dark olive gray Silty Fine Sand~~ ~~Dark olive gray silt with fine Sand~~

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None (Hydrogen sulfide)
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: Snail

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen
Eckman
Ponar X
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104 - 0142 Time: 1316
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: SE-1B-RZ	Time: 1408	# Containers: 7	Volume: 100 %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): SE-1B-RZ		# Containers: 1	Volume: 100 %
Pore Water (PW) Sample ID: PW-1B-RZ	Time: 1352	# Containers: 3	Volume: 100 %

Sample Lead Initials JP Date: 10/22/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Very dark grayish brown
Silt with fine Sand
10YR 3/2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 16-R2

Date: 10/22/2013 **Vessel:** Tiston

Camera Serial #: #1 Lumix

Photo ID: 104-0132	Time: 11:48	Photo ID: 104-0133	Time: 11:51
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: North	
Description: Station ID		Description: overview of station (on sand/gravel bar facing upstream	
Photo ID: 104-0134	Time: 11:51	Photo ID: 104-0135	Time: 11:51
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: West	
Description: Cobbles at bottom of river		Description: right river bank	
Photo ID: 104-0136	Time: 11:51	Photo ID: 104-0137	Time: 13:11
Photographer: MS		Photographer: MS	
Photo Orientation: east		Photo Orientation: north	
Description: left river bank		Description: overview	
Photo ID: 104-0138	Time: 13:12	Photo ID: 104-0139	Time: 13:12
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: overview of sample location		Description: overview of sample location	

Field Supervisor Initials: AOH Date: 10/24/13

Sample Lead Initials _____ Date: 10/22/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1B.R2

Date: 10/22/2013 **Vessel:** Tiefon

Camera Serial #: #1 Lumix

Photo ID: 104-0140	Time: 13:12	Photo ID: 104-0141	Time: 13:16
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Sample location overview		Description: overview	
Photo ID: 104-0142	Time: 13:16	Photo ID: 104-0143	Time: 13:17
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Grab #1		Description: Grab #2 in action	
Photo ID: 104-0144	Time: 13:18	Photo ID: 104-0145	Time: 13:19
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Grab #2 in bucket		Description: Grab #3 in bucket	
Photo ID: 104-0146	Time: 13:19	Photo ID: 104-0146	Time:
Photographer: MS		Photographer: MS	
Photo Orientation: MS ~~Grab #3~~ —		Photo Orientation: —	
Description: Grab #3 in bucket		Description: Grab #4	

Field Supervisor Initials: DA Date: 10/24/13

Sample Lead Initials _____ Date: 10/22/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1B-R2

Date: 10/22/2013 **Vessel:** Tiefon

Camera Serial #: #1 Lumix

Photo ID: 104-0147	Time: 13:21	Photo ID: 104-0148	Time: 13:22
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Grab #4		Description: Grab #4	
Photo ID: 104-0149	Time: 13:24	Photo ID: 104-0150	Time: 13:25
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Grab #5		Description: Grab #6	
Photo ID: 104-0151	Time: 13:27	Photo ID: 104-0152	Time: 13:28
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Grab #7		Description: Grab #8	
Photo ID: 104-0153	Time: 13:30	Photo ID: 104-0154	Time: 13:31
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Grab #9		Description: Grab #10	

Field Supervisor Initials: DH Date: 10/24/13

Sample Lead Initials _____ Date: 10/22/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1B-R2

Date: 10/22/2013 **Vessel:** Tiekon

Camera Serial #: #1 Lumix

Photo ID: 104-0155 MS Time: 13:32	Photo ID: 104-0156 MS Time: 13:33
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Grab #11 in action	Description: Grab #11 in bucket
Photo ID: 104-0157 Time: 13:34	Photo ID: 104-0158 MS Time: 13:35
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Grab #12	Description: Grab #13
Photo ID: 104-0159 Time: 13:36	Photo ID: 104-0160 Time: 13:37
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Grab #14	Description: Grab #15 in action
Photo ID: 104-0161 Time: 13:38	Photo ID: 104-0162 Time: 13:39
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Grab #15 in bucket	Description: Grab #16 in bucket

Field Supervisor Initials: DA Date: 10/24/13

Sample Lead Initials _____ Date: 10/22/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1B-R2

Date: 10/22/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0163	Time: 13:40	Photo ID: 104-0164	Time: 13:41
Photographer: MS		Photographer: MS	
Photo Orientation: -		Photo Orientation: -	
Description: Grab # 17		Description: Grab #18	
Photo ID: 104-0165	Time: 13:42	Photo ID: 104-0166	Time: 13:43
Photographer: MS		Photographer: MS	
Photo Orientation: -		Photo Orientation: -	
Description: Grab # 18		Description: Grab #19	
Photo ID: 104-0167	Time: 13:44	Photo ID: 104-0168	Time: 13:45
Photographer: MS		Photographer: MS	
Photo Orientation: -		Photo Orientation: -	
Description: Grab # 20		Description: Grab #21	
Photo ID: 104-0169	Time: 13:47	Photo ID: 104-0170	Time: 13:47
Photographer: MS		Photographer: MS	
Photo Orientation: -		Photo Orientation: -	
Description: Snail from Shovel		Description: Grab # 22 in bucket	

Field Supervisor Initials: DH Date: 10/24/13

Sample Lead Initials _____ Date: 10/22/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1B-R2

Date: 10/22/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0171 Time: 14:00	Photo ID: 104-0172 Time: 14:08
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: porewater in process	Description: homoginized sample in process / complete
Photo ID: 104-0173 Time: 1413	Photo ID: 104-0174 Time: 14:13
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: homoginized Sample in bucket	Description: homoginized sample in Scoop
Photo ID: 104-0175 Time: 14:23	Photo ID: Time:
Photographer: MS	Photographer:
Photo Orientation: -	Photo Orientation:
Description: Sediment Close-up	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials DA Date: 10/24/13

Sample Lead Initials _____ Date: 10/22/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 1-R1

Date: 10/21/13

Vessel: Tieton

Sampling Crew: Sugalski, Thatcher, Stegner

Vessel Crew: Sawyer, Schut, Tuschoff

EPA Observer: Monica Tonel

C.R. Observer: Eric Ooschwee-Voss

Arrival Time: 1020

Departure Time: 1200

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 56

Wind (mph): calm

Clouds/Precipitation: overcast

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 744

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

cobble bar upstream of location located in calm eddie. Tire & log spotted within the radius

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Sample is combination of grabs 1 & 4. Grab 1 was stratified. Grab 4 was not stratified. MS/MSD collected at this station

C.R. - cultural resources

Field Supervisor Initials: DH Date: 10/22/13

Sample Lead Initials: [illegible] Date: 10/21/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-R1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 10

Drop # (1) 2 3 Cast Time 1028 Sampler Penetration (inches): 5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453454.60 NORTHING: 5427297.27

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.31 su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand 40 (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: 60

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/8

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0072 Time: 1032
Homogenized Sample: ____ Time: ____
Other: 104-0071 Time: 1032

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/21/13 Field Supervisor Initials: AM Date: 10/22/13

1/2" Brown Sand
1" of gray Sand
1" of brown Sand
3/4 of black silica glass

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-R1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 5

Drop # 1 (2) 3 Cast Time 1040 Sampler Penetration (inches): Ird

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453452.03 NORTHING: 5427290.77

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #: Description: ___

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ___

Odor: None Hydrogen sulfide Other: ___

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen (X)
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0075 Time: 1041
Homogenized Sample: ___ Time: ___
Other: Time: ___

Sediment (SE) Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %
Duplicate SE Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %

Sample Lead Initials AA Date: 10/21/13 Field Supervisor Initials DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Coarse gravel, one rock

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-R1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 7

Drop # 1 2 (3) Cast Time 1045 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453455.61 NORTHING: 5427303.63

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____ % Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0076 Time: 1046
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials JB Date: 10/21/13 Field Supervisor Initials DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sandy Gravel. Incomplete closure & sample washed out

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-R1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 14

Drop # (1) 2 3 Cast Time 1047 Sampler Penetration (inches): 11

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 453432.21 NORTHING: 5427284.33

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? (YES) NO
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? (YES) NO
5. Desired penetration depth (4 to 6 inches) achieved? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES (NO)
7. Sample is: (Accepted) Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.12 su Description: ms/msD

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand 75 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: 25

Color: Munsell Color Chart #: 2.5Y 3/1
Description: Very dark gray medium fine sand

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: Daphnia's in water column

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0077 Time: 1052
Homogenized Sample: 104-0051 Time: 1144 ~~4802~~
Other: 104-0080 Time: 1144

Sediment (SE) Sample ID: SE-1-R1 Time: 1140 # Containers: 10/21/13 ~~8~~ 11 Volume: 100 % ms/msD 6802 + 15gal

~~Duplicate~~ ms/msD SE Sample ID: PW-1-R1 Time: 1115 # Containers: 6 Volume: 100 %

Split SE Samples (EPA/NPS/CCT): SE-1-R1 1140 # Containers: 1 Volume: % -5gal

Pore Water (PW) Sample ID: PW-1-R1 Time: 1115 # Containers: 3 Volume: 100 %

Sample Lead Initials [signature] Date: 10/21/13 Field Supervisor Initials DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-R1

Date: 10/21/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0066 Time: 10:23	Photo ID: 104-0067 Time: 10:28
Photographer: M. Stegner (ms)	Photographer: MS
Photo Orientation: —	Photo Orientation: West
Description: Station ID	Description: right bank
Photo ID: 104-0068 Time: 10:28	Photo ID: 104-0069 Time: 10:28
Photographer: MS	Photographer: MS
Photo Orientation: East	Photo Orientation: South
Description: left bank	Description: downstream
Photo ID: 104-0070 Time: 10:29	Photo ID: 104-0071 Time: 10:32
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab #1 (AP1D1) Sediment/Water	Description: Grab #1 Sediment
Photo ID: 104-0072 Time: 10:32	Photo ID: 104-0073 Time: 10:33
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab #1 Sediment in w/o water	Description: Sediment in Scoop Grab #1

Field Supervisor Initials: AH Date: 10/22/13

Sample Lead Initials: [signature] Date: 10/21/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-R1

Date: 10/21/2013 **Vessel:** Tiefon

Camera Serial #: #1

Photo ID: 104-0074 Time: 10:33	Photo ID: 104-0075 Time: 10:41
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Sediment in Scoop Grab #1	Description: Grab #2 - rocks (AP1D2)
Photo ID: 104-0076 Time: 1046	Photo ID: 104-0077 Time: 10:52
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Grab #3 (AP1D3) Sediment & rock in open grab	Description: Grab #4 (AP2D1) Sediment (Full grab!)
Photo ID: 104-0078 Time: 11:16	Photo ID: 104-0079 Time: 11:17
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Porewater from MS ~~Grab~~ Sample	Description: Porewater from Sample
Photo ID: 104-0080 Time: 11:44	Photo ID: 104-0081 Time: 11:44
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Homogenized sample in scoop	Description: Homogenized Sample in tub

104-0082 | 11:53
MS
-
Homogenized sample in bucket

Field Supervisor Initials: KM Date: 10/22/13

Sample Lead Initials: MS Date: 10/21/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 1-RZ

Date: 10/21/13

Vessel: Tieton

Sampling Crew: Sugalski, Stegner, Thatcher

Vessel Crew: Saugen, Schut, Tuschhoff

EPA Observer: Monica Toni

C.R. Observer: Eric Oosahuee-Vose

Arrival Time: 1355

Departure Time: 1510

River Stage:

Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): 63

Wind (mph): co light Breeze

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile:

Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sandy beach next to shore. House at top of hillside and a dock was located just upstream of sample location

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

It should be noted that two people in wet suits and a dredge was observed in this general location on Saturday.

Reserve for 1-B6

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/22/13

Sample Lead Initials AS Date: 0/21/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 60

Drop # (1) 2 3 Cast Time 1355 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 452637.44 NORTHING: 5424691.02

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0104 Time: 1356
Homogenized Sample: ___ Time: ___
Other: Time: ___

Sediment (SE) Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %
Duplicate SE Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %
Split SE Samples (EPA/NPS/CCT):	___			# Containers:	___	Volume:	___ %
Pore Water (PW) Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %

Sample Lead Initials [illegible] Date: 10/21/13 Field Supervisor Initials AOH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 7

Drop # 1 (2) 3 Cast Time 1356 Sampler Penetration (inches): 14.1

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 452639.52 NORTHING: 5424651.35

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 1051-0105 Time: 1357
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [signature] Date: 10/15/13 Field Supervisor Initials: DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B2

Anchor Point (max 3) 1 2 3 Water Depth (feet): 5

Drop # 1 2 3 Cast Time 1358 Sampler Penetration (inches): Ind

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 452629.69 NORTHING: 5424707.91

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0106 Time: 1359
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials [illegible] Date: 10/21/13 Field Supervisor Initials DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-RE

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 9

Drop # (1) 2 3 Cast Time 1400 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 452629.35 NORTHING: 5424675.88

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0107 Time: 1400
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/21/13 Field Supervisor Initials: DA Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 9

Drop # 1 (2) 3 Cast Time 1401 Sampler Penetration (inches): 13

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 452614.77 NORTHING: 5424713.51

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand 60 (1/16 - 2 mm)
% Gravel 40
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None —— Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 164-0108 Time: 1402
Homogenized Sample: ____ Time: —
Other: ____ Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers:	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: [illegible] Date: 10/21/13 Field Supervisor Initials: DH Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravelly Sand.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-R2

Anchor Point (max 3) 1 2 3 Water Depth (feet): ~3

Drop # 1 2 3 Cast Time 1409 Sampler Penetration (inches): 9

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 452607.49 NORTHING: 5424703.46

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES NO
2. Overlying water present? YES NO
3. Overlying water excessively turbid? YES NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES NO
5. Desired penetration depth (4 to 6 inches) achieved? YES NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES NO
7. Sample is: Accepted Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % Accepted Rejected

pH of Sediment in Sampler: 8.19 su Description: white for metals blue stone for remaining

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand 30 (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: 70

Color: Munsell Color Chart #: 5Y 2.5/1
Description: Black Sand medium

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): none ~~[illegible]~~ Other:

1" grayish Brown Sand
5" black sand

Stratified sediment: Yes No	Sample Collected Using	Photo Numbers 's (see Photo Log for descriptions)
Sheen Present: Yes No	Van Veen X	Sediment in Grab: 104-0109 Time: 1412
	Eckman	Homogenized Sample: 104-0113 Time: 1450
	Ponar	Other: Time:
	Shovel	

Sediment (SE) Sample ID: SE-1-R2 Time: 1450 # Containers: 3 + ~~4~~ 3 DRA Volume: _____ %
Duplicate SE Sample ID: MUD0014 ~~SE-1-R2~~ JS 10/21/13 Time: 1450 # Containers: 4 Volume: _____ %
Split SE Samples (EPA/NPS/CCT): SE-1-R2 # Containers: 1 Volume: _____ %
Pore Water (PW) Sample ID: PW-1-R2 Time: 1424 # Containers: 3 Volume: 100 %

-32 oz + ~~3.15 gal~~ 13.5 gal JS 10/21/13
-32 oz
-4.5 gal

Sample Lead Initials JS Date: 10/21/13 Field Supervisor Initials DA Date: 10/22/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-R2

Date: 10/21/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0099 Time: 13:51	Photo ID: 104-~~0098~~ 0100 (MS) Time: 13:51
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: — north
Description: Station ID	Description: right bank of river & sampler
Photo ID: 104-0101 Time: 13:51	Photo ID: 104-0102 Time: 13:52
Photographer: MS	Photographer: MS
Photo Orientation: west	Photo Orientation: east
Description: right bank of river	Description: left bank of river (Black Sand Beach)
Photo ID: 104-0103 Time: 13:53	Photo ID: 104-0104 Time: 13:56
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Cobbles at bottom of river	Description: Grab #1 (APID1) gravels & minimal sediment in grab
Photo ID: 104-0105 Time: 13:57	Photo ID: 104-0106 Time: 13:59
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Sediment in Grab #2 (APID2)	Description: Cobble stuck in grab #3

Field Supervisor Initials OA Date: 10/22/13

Sample Lead Initials [illegible] Date: 10/21/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-R2

Date: 10/21/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0107 Time: 14:00	Photo ID: 104-0108 Time: 14:02
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab # 4 trace Sediment	Description: Grab # 5 with gravel and sediment
Photo ID: 104-0109 Time: 14:12	Photo ID: 104-0110 Time: 14:14
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab # 6 (AP2D3) Sediment (11 inches)	Description: Grab # 6 Sediment in Scoop
Photo ID: 104-0111 Time: 14:16	Photo ID: 104-0112 Time: 14:19
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: dock + boat at beach upstream of Sample location	Description: Grab # 6 pre-homogenized Sample
Photo ID: 104-0113 Time: 14:50	Photo ID: 104-0114 Time: 14:57
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Homogenized Sample	Description: Sand from homogenized Sample

Field Supervisor Initials: DH Date: 10/22/13

Sample Lead Initials: [signature] Date: 10/21/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 1-R10

Date: 10/18/13

Vessel: Tieton

Sampling Crew: Thatcher, Sugalski, Stegner

Vessel Crew: Saugen, Schut, Tuschhoff

EPA Observer: Monica Torres

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1401

Departure Time: 1440

River Stage:

Water Surface Elev. (ft): ~~1286.1~~ 23 10/18/13

Water Surface Elevation Source: ~~800-824-4916~~ 23 10/18/13

Weather Conditions Upon Arrival

Temp (°F): 52

Wind (mph): Calm

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 737

Boat Traffic: Observer

Water Surface: (Calm) (Small Waves) (Choppy) Current

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Cobble bar along left bank
Sand bar with gravel along rt bank

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Station abandoned due to Current.

C.R. - cultural resources

Field Supervisor Initials: DH Date: 10/19/13

Sample Lead Initials: [illegible] Date: 10/18/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-R10

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 29

Drop # (1) 2 3 Cast Time 1407 Sampler Penetration (inches): 1nd

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446617.26 NORTHING: 5420993.50

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): _____ # Containers: _____ Volume: _____ %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials [illegible] Date: 10/18/13 Field Supervisor Initials [illegible] Date: 10/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 1-R10

Date: 10/18/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 104-0013 Time: 1319	Photo ID: 104-0014 Time: 14:04
Photographer: Sigelsky	Photographer: M. Stegner
Photo Orientation:	Photo Orientation: (MS) ~~South~~ North ~~South~~ (MS)
Description: Stephen ID	Description: Overview left bank Upstream
Photo ID: 104-0015 Time: 14:04	Photo ID: 104-0016 Time:
Photographer: M. Stegner	Photographer: Stegner
Photo Orientation: South	Photo Orientation: —
Description: Overview right bank downstream	Description: ~~MS South~~
Photo ID: 17 Time:	Photo ID: 18 Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: KH Date: 10/19/13

Sample Lead Initials: MS Date: 10/18/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 2-B1

Date: 10/23/13

Vessel: Tieton

Sampling Crew: Stegner, Sugalski, Thatcher

Vessel Crew: Saugen, Schut, Tuschhoff

EPA Observer: Monica Tonel

C.R. Observer: Eric Ossahuwee-Voss

Arrival Time: 1023

Departure Time: 1200

River Stage:

Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): 50

Wind (mph): light breeze

Clouds/Precipitation: overcast

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 733

Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy) light surface disturbance

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

island upstream of location

Sample Location Photo IDs: (see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Sample is composite of grabs 4 & 5.

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/24/13

Sample Lead Initials [illegible] Date: 10/23/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 7

Drop # (1) 2 3 Cast Time 1024 Sampler Penetration (inches): 1 inch

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 441089.54 NORTHING: 5417257.55

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles 100
% Silica Glass: _____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen (✓)
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0201 Time: 1025
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: [illegible] Date: 10/23/13 Field Supervisor Initials: AA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

One rock

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 9

Drop # 1 (2) 3 Cast Time 1075 Sampler Penetration (inches): ~3

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 441095.77 NORTHING: 5417238.09

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ~ su Description: ~

Sediment Characteristics

Type: % Silt ~ (<1/16 mm)
% Sand ~ (1/16 - 2 mm)
% Gravel ~
% Cobbles ~
% Silica Glass: ~

Color: Munsell Color Chart #:
Description: ~

Redox Boundary: Present? ~ Yes No
If present -- Depth Below Sediment Surface (inches): ~

Odor: None ~ Hydrogen sulfide
Other: ~

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0202 Time: 1027
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %

Duplicate SE Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %

Split SE Samples (EPA/NPS/CCT): ~ # Containers: ~ Volume: ~ %

Pore Water (PW) Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %

Sample Lead Initials [illegible] Date: 10/23/13 Field Supervisor Initials AM Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sand; gravel

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 11

Drop # 1 2 (3) Cast Time 1027 Sampler Penetration (inches): 7in

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 441079.59 NORTHING: 5417249.14

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #: ___ Description: ___

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ___

Odor: None ___ Hydrogen sulfide Other: ___

Amphipods: ___ Tubes: ___ Macrophytes: ___
Debris(twigs/leaves): ___ Other: ___

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-6203 Time: 1028
Homogenized Sample: ___ Time: ___
Other: ___ Time: ___

Sediment (SE) Sample ID: ___ Time: ___ # Containers: ___ Volume: ___ %
Duplicate SE Sample ID: ___ Time: ___ # Containers: ___ Volume: ___ %
Split SE Samples (EPA/NPS/CCT): ___ # Containers: ___ Volume: ___ %
Pore Water (PW) Sample ID: ___ Time: ___ # Containers: ___ Volume: ___ %

Sample Lead Initials AS Date: 10/23/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobbles & small amount of sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 8

Drop # (1) 2 3 Cast Time 1029 Sampler Penetration (inches): 5.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 441082.61 NORTHING: 5417286.48

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.09 su Description: —

Sediment Characteristics

Type: % Silt ≈ 10 (<1/16 mm)
% Sand ≈ 90 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: —
Description: —

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0204 Time: 1036
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: [illegible] Date: 10/23/13 Field Supervisor Initials: DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

~~bio~~ vegetation on top of sediment sample
Grey Silty Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 9

Drop # 1 (2) 3 Cast Time 1044 Sampler Penetration (inches): 8.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 444090.99 NORTHING: 5411284.65

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.11 su Description: 2 white stones, one blue manual method

Sediment Characteristics

Type: % Silt 30 (<1/16 mm)
% Sand 65 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass: 5

Color: Munsell Color Chart #: 2.5Y 4/1
Description: Dark gray silty Sand

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Other: Hydrogen sulfide

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: Snail

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 100-0208 Time: 1054
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: SE-2-B1	Time: 1145	# Containers: 7	Volume: 100 %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): SE-2-B1		# Containers: 1	Volume: 100 %
Pore Water (PW) Sample ID: PW-2-B1	Time: 1101	# Containers: 3	Volume: 100 %

Sample Lead Initials: AS Date: 10/23/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-B1

Date: 10/23/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0197	Time: 10:17	Photo ID: 104-0198	Time: 10:23
Photographer: MS		Photographer: MS	
Photo Orientation: –		Photo Orientation: north	
Description: Station ID		Description: Sample location facing upstream	
Photo ID: 104-0199	Time: 10:23	Photo ID: 104-0200	Time: 10:23
Photographer: MS		Photographer: MS	
Photo Orientation: east		Photo Orientation: west	
Description: right bank		Description: left bank	
Photo ID: 104-0201	Time: 10:25	Photo ID: 104-0202	Time: 10:27
Photographer: MS		Photographer: MS	
Photo Orientation: –		Photo Orientation: –	
Description: Grab #1 (API D1) cobble stuck in grab		Description: Grab #2 (API D2) Cobbles in grab	
Photo ID: 104-0203	Time: 10:28	Photo ID: 104-0204	Time: 10:36
Photographer: MS		Photographer: MS	
Photo Orientation: –		Photo Orientation: –	
Description: Grab #3 (API D3) sediment in grab		Description: Grab #4 sediment in ~~scoop~~ (MS) grab	

Field Supervisor Initials DH Date: 10/24/13

Sample Lead Initials JS Date: 10/23/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-B1

Date: 10/23/2013 **Vessel:** Tiaton

Camera Serial #: #1 Lumix

Photo ID: 104-0205	Time: 10:37	Photo ID: 104-0206	Time: 10:50
Photographer: MS		Photographer: MS	
Photo Orientation: -		Photo Orientation: —	
Description: Grab # ~~5~~ 4 Sediment in Scoop		Description: Shell in Grab # 5	
Photo ID: 104-0207	Time: 10:51	Photo ID: 104-0208	Time: 10:54
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: —	
Description: Grab #5 Sediment in Grab		Description: Grab #5 Sediment in Scoop	
Photo ID: 104-0209	Time: 11:05	Photo ID: 104-0210	Time: 11:09
Photographer: MS		Photographer: MS	
Photo Orientation: —		Photo Orientation: South	
Description: Pore Water Sampling		Description: Overview of Sample location	
Photo ID: 104-0211	Time: 11:43	Photo ID: 104-0212	Time:
Photographer: MS		Photographer:	
Photo Orientation: —		Photo Orientation:	
Description: Homogenized Sample		Description:	

Field Supervisor Initials: OH Date: 10/24/13

Sample Lead Initials: JS Date: 10/23/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Date: 10/23/13 **Vessel:** Tieton

Sampling Crew: Sugalski, Thatcher, Stegner **Vessel Crew:** Saugen, Schut, Tuschhoff

EPA Observer: Monica Tonel **C.R. Observer:** Eric Oosahwee-Voss

Arrival Time: 1252 **Departure Time:** 1440

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 63

Wind (mph): light breeze

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 732 Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy) small surface disturbance

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Sample collected from 9th grab.
Pore water was manual method

C.R. - cultural resources

Field Supervisor Initials: DH Date: 10/24/13

Sample Lead Initials: [illegible] Date: 10/23/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 25

Drop # (1) 2 3 Cast Time 1253 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 490350.30 NORTHING: 5466799.60

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel — >100
% Cobbles —
% Silica Glass:

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0216 Time: 1254
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials [illegible] Date: 10/23/13 Field Supervisor Initials DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Gravel & cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 25

Drop # 1 (2) 3 Cast Time 1256 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440356.07 NORTHING: 5416802.61

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen (X)
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0217 Time: 1257
Homogenized Sample: ___ Time: ___
Other: ___ Time: ___

Sediment (SE) Sample ID: ___	Time: ___	# Containers: ___	Volume: ___ %
Duplicate SE Sample ID: ___	Time: ___	# Containers: ___	Volume: ___ %
Split SE Samples (EPA/NPS/CCT): ___		# Containers: ___	Volume: ___ %
Pore Water (PW) Sample ID: ___	Time: ___	# Containers: ___	Volume: ___ %

Sample Lead Initials JS Date: 10/23/13 Field Supervisor Initials AM Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) 1 2 3 Water Depth (feet): 23

Drop # 1 2 3 Cast Time 1258 Sampler Penetration (inches): Incl

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440370.70 NORTHING: 5416773.23

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0219 Time: 1259
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials CS Date: 10/23/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

3 rocks

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 23

Drop # (1) 2 3 Cast Time 1300 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 450352.53 NORTHING: 5416762.59

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____ >100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None ____ Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0219 Time: 1301
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: JS Date: 10/23/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Gravel & cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 24

Drop # 1 (2) 3 Cast Time 1302 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440369.69 NORTHING: 5116767.61

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ___ % Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0220 Time: 1303
Homogenized Sample: ___ Time: ___
Other: ___ Time: ___

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/23/13 Field Supervisor Initials: AOA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

rock

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 30

Drop # 1 2 (3) Cast Time 1305 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 446372.43 NORTHING: 5116828.18

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted (Rejected)

pH of Sediment in Sampler: 8.28 su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None — Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-2222 Time: 1309
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: X	Time: X	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials LL Date: 10/23/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobbles and small amount of sand & gravel

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 20

Drop # (1) 2 3 Cast Time 1313 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440343.70 NORTHING: 5416800.68

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____ } 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/23/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

2 cores

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 19

Drop # 1 (2) 3 Cast Time 1315 Sampler Penetration (inches): Ind.

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 4403510 NORTHING: 541 6867.62

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____ } 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0224 Time: 1315
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%
Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____%
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Sample Lead Initials [illegible] Date: 10/23/13 Field Supervisor Initials AH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel & cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 21

Drop # 1 2 (3) Cast Time 1316 Sampler Penetration (inches): 7.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440369.25 NORTHING: 5416812.82

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? (YES) NO
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? (YES) NO
5. Desired penetration depth (4 to 6 inches) achieved? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES (NO)
7. Sample is: (Accepted) Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.13 su Description: 2 white Stone 1 blue manual method

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand 60 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: 40

Color: Munsell Color Chart #: 10YR 2/1
Description: Black medium fine Sand

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: Snails & Snail Shells

1" brown silty sand
6.5" gray sand

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ~~104-0224~~ Time: 6
Homogenized Sample: 104-0228 Time: ~~15~~ 1415
Other: 104-0225 Time: 1323

Sediment (SE) Sample ID: SE-2-B2 Time: 1417 # Containers: 7 Volume: 100 % 32 oct 1315 gal

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): SE-2-B2 # Containers: 1 Volume: 100 % 4.5 gal

Pore Water (PW) Sample ID: PW-2-B2 Time: 1348 # Containers: 3 Volume: 100 % 150 mL

Sample Lead Initials JS Date: 10/23/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-B2

Date: 10/23/2013 **Vessel:** Tleton

Camera Serial #: #1 Lumix

Photo ID: 104-0212 Time: 12:52	Photo ID: 104-0213 Time: 12:54
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: north
Description: Station ID	Description: ops overview upstream
Photo ID: 104-0214 Time: 12:54	Photo ID: 104-0215 Time: 12:54
Photographer: MS	Photographer: MS
Photo Orientation: West	Photo Orientation: East
Description: right river bank	Description: left river bank
Photo ID: 104-0216 Time: 12:54	Photo ID: 104-0217 Time: 12:57
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation:
Description: Grab #1 (AP1D1) Cobbles in grab	Description: Grab #2 (AP1D2) Cobble stuck in grab
Photo ID: 104-0218 Time: 12:59	Photo ID: 104-0219 Time: 13:01
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab #3 (AP1D3)	Description: Grab #4 (AP2D1)

Field Supervisor Initials: JA Date: 10/24/13

Sample Lead Initials: [signature] Date: 10/23/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-B2

Date: 10/23/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0220 Time: 13:03	Photo ID: 104-0221 Time: 13:06
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab # 5 one cobbles Stuck in grab	Description: Grab # 6 trace sediment & one cobble, gravel in grab
Photo ID: 104-0222 Time: 13:09	Photo ID: 104-0223 Time: 13:11
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab #4 sediment in grab	Description: Grab # 6 sediment in scoop
Photo ID: 104-0224 Time: 13:15	Photo ID: 104-0225 Time: 13:23
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab # 8 Cobbles & Gravels in Grab	Description: Grab #9 (AP303) sediment in grab
Photo ID: 104-0226 Time: 13:28	Photo ID: 104-0227 Time: 13:53
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab #9 sediment in scoop	Description: porewater sampling

Field Supervisor Initials: DH Date: 10/24/13

Sample Lead Initials: [signature] Date: 10/23/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-B2

Date: 10/23/2013 **Vessel:** Teton

Camera Serial #: #1 Lumix

Photo ID: 104-0228 Time: 14:15	Photo ID: 104-0229 Time: 14:20
Photographer: MS	Photographer: MS
Photo Orientation:	Photo Orientation:
Description: homogenized ~~sample~~ sediment (MS 10/23)	Description: sediment closeup
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DA Date: 10/24/13

Sample Lead Initials: [signature] Date: 10/23/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 2-B4

Date: 10/17/13

Vessel: Tieton

Sampling Crew: Sugalski, Thatcher, Stegner

Vessel Crew: Saugen, Tuschhoff, Schut

EPA Observer: Monica Tonel

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1257

Departure Time: 1359

River Stage:

Water Surface Elev. (ft): 1286.4

Water Surface Elevation Source: 800-824-4916

Weather Conditions Upon Arrival

Temp (°F): 67

Wind (mph): Calm

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 730

Boat Traffic:

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Sample is from grab 8. Sample location is rejected. Approx 2 oz of material collected after sieving w/ 5mm Sieve

C.R. - cultural resources

Field Supervisor Initials: DH Date: 10/17/13

Sample Lead Initials: [illegible] Date: 10/17/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 44

Drop # (1) 2 3 Cast Time 1303 Sampler Penetration (inches): ~

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438170.47 NORTHING: 5114345.96

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ~ % Accepted Rejected

pH of Sediment in Sampler: ~ su Description: ~

Sediment Characteristics

Type: % Silt ~ (<1/16 mm)
% Sand ~ (1/16 - 2 mm)
% Gravel ~
% Cobbles ~
% Silica Glass: ~

Color: Munsell Color Chart #:
Description: ~

Redox Boundary: Present? ~ Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None ~ Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ~ Time: ~
Homogenized Sample: ~ Time: ~
Other: ~ Time: ~

Sediment (SE) Sample ID:	~	Time:	~	# Containers:	~	Volume:	~ %
Duplicate SE Sample ID:	~	Time:	~	# Containers:	~	Volume:	~ %
Split SE Samples (EPA/NPS/CCT):				# Containers:	~	Volume:	~ %
Pore Water (PW) Sample ID:	~	Time:	~	# Containers:	~	Volume:	~ %

Sample Lead Initials JC Date: 10/17/13 Field Supervisor Initials DH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 45

Drop # 1 (2) 3 Cast Time 1309 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438158.74 NORTHING: 5414334.19

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen (✓)
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/7/13 Field Supervisor Initials: DA Date: 10/7/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 41

Drop # 1 2 (3) Cast Time 1314 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438174.04 NORTHING: 5411300.00

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0954 Time: 1315
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: AOA Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobble in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B4

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 43

Drop # (1) 2 3 Cast Time 1320 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438131.09 NORTHING: 5414324.49

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen /
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0955 Time: 1321
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: DH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one rock in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B4

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 40

Drop # 1 (2) 3 Cast Time 1324 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438144.90 NORTHING: 5414288.66

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____ 3-100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0956 Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials [illegible] Date: 10/17/13 Field Supervisor Initials DH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel & cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B4

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 41

Drop # 1 2 (3) Cast Time 1328 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438178.43 NORTHING: 5414299.10

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: —% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):				# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: AOH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B4

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 41

Drop # (1) 2 3 Cast Time 1332 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438204.29 NORTHING: 5411432.04

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: —% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel — } 100%
% Cobbles — }
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None (Hydrogen sulfide)
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: [illegible] Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel & cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B4

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 40

Drop # 1 (2) 3 Cast Time 1335 Sampler Penetration (inches): unknown

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438170.20 NORTHING: 5411292.701

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.33 su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm) After sieving

% Sand 5 (1/16 - 2 mm) 75

% Gravel 65

% Cobbles 30

% Silica Glass: 21 25

Color: Munsell Color Chart #:
Description: Brownish gray medium coarse Sand

Redox Boundary: Present? ____ Yes No
If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0935 Time: 1340
Homogenized Sample: 103-0934 Time: 1357
Other: Time:

Sediment (SE) Sample ID: SE-2-B4	Time: 1355	# Containers: 1	Volume: 202	%	
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%	
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____	%	
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%	

Sample Lead Initials [illegible] Date: 10/7/13 Field Supervisor Initials AOA Date: 10/7/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Gravel, cobbles & Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B4

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 41

Drop # 1 2 (3) Cast Time 1344 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438161.51 NORTHING: 5414296.70

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description:

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: DM Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only water

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-BC4

Date: 10/17/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0950 Time: 1235	Photo ID: 103-0951 Time: 1245
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: mazama and fishing boat at location
Photo ID: 103-0952 Time: 1246	Photo ID: 103-0953 Time: 1252
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: mazama retrieving the grab	Description: Traveling through the Buoys to 2-BC4
Photo ID: 103-0954 Time: 1315	Photo ID: 103-0955 Time: 1321
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: cobble in 3rd grab	Description: Cobble in 4th grab
Photo ID: 103-0956 Time: 1325	Photo ID: 103-0957 Time: 1333
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Substrate in 5th grab	Description: Substrate in 7th grab

Field Supervisor Initials AOA Date: 10/17/13

Sample Lead Initials [illegible] Date: 10/17/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-B4

Date: 10/17/13 **Vessel:** Tieten

Camera Serial #: #1

Photo ID: 103-0958	Time: 1340	Photo ID: 103-0954	Time: 1351
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: collecting material from 8th grab		Description: Homogenized Sample	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials LOA Date: 10/17/13

Sample Lead Initials ZC Date: 10/17/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2B-R7

Date: 10/24/13 **Vessel:** Tiaton

Sampling Crew: Sugalski, Thatcher, Steger **Vessel Crew:** Saugen, Schut, Tuschhoff

EPA Observer: Marylin Gaither **C.R. Observer:** Eric Oosthuizen Voss

Arrival Time: 0900 **Departure Time:** 9:36

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 50

Wind (mph): light breeze

Clouds/Precipitation: overcast

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 778 Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Little Dalles located just upstream
Bed rock outcrops

Sample Location Photo IDs: (see Photo Log for descriptions) Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Sample was sieved and was from the 6th grab

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 10/24/13

Sample Lead Initials: [illegible] Date: 10/25/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 28-R22

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 26

Drop # (1) 2 3 Cast Time 0900 Sampler Penetration (inches): +/-1

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 435844.38 NORTHING: 5413585.09

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ~ % Accepted Rejected

pH of Sediment in Sampler: ~ su Description:

Sediment Characteristics

Type: % Silt ~ (<1/16 mm)
% Sand ~ (1/16 - 2 mm)
% Gravel ~
% Cobbles ~
% Silica Glass: ~

Color: Munsell Color Chart #:
Description: ~

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): ~

Odor: None Hydrogen sulfide
Other:

Amphipods: ~ Tubes: Macrophytes: ~
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 104-0234 Time: 0902
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %

Duplicate SE Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %

Split SE Samples (EPA/NPS/CCT): ~ # Containers: ~ Volume: ~ %

Pore Water (PW) Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %

Sample Lead Initials JK Date: 10/04/13 Field Supervisor Initials JOA Date: 10/04/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

large cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 28-B-22

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 29

Drop # 1 (2) 3 Cast Time 0902 Sampler Penetration (inches): 1 inch

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 435827.78 NORTHING: 5113585.15

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/24/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only 1 water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 28-122

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 32

Drop # 1 2 (3) Cast Time 0905 Sampler Penetration (inches): 1 ml

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 435805.48 NORTHING: 5413575.65

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials JE Date: 10/24/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2B-22

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 31

Drop # (1) 2 3 Cast Time 0909 Sampler Penetration (inches): Ind.

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 435848.50 NORTHING: 5413583.94

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

10/24/13

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 164-0235 Time: 0911
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials: Date: 10/24/13 Field Supervisor Initials: Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 28-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 22

Drop # 1 (2) 3 Cast Time 0911 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 435839.47 NORTHING: 5413595.22

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials JS Date: 10/24/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2B R2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 31

Drop # 1 2 (3) Cast Time 0913 Sampler Penetration (inches): Tmi

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 435348.58 NORTHING: 5413606.07

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted (Rejected)

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 20 (1/16 - 2 mm)
% Gravel 70
% Cobbles —
% Silica Glass: 5

Color: Munsell Color Chart #: 5Y 3/2
Description: Dark olive gray Sandy gravel

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0236 Time: 9:14
Homogenized Sample: 104-0239 Time: 0927
Other: Time:

Sediment (SE) Sample ID: SE-2B-R2	Time: 0924	# Containers: 1 X 2	Volume: 1202	%	
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%	
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%	
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%	

Sample Lead Initials: [illegible] Date: 10/24/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sandy Gravel

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 28-R2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 29

Drop # (1) 2 3 Cast Time 0917 Sampler Penetration (inches): 5ml

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 435849.93 NORTHING: 5413602.17

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0237 Time: 0918
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/24/13 Field Supervisor Initials: DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

True soul : grad

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2B-R2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 24

Drop # 1 (2) 3 Cast Time 0920 Sampler Penetration (inches): 7in

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 435845.57 NORTHING: 5413592.74

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: [illegible] Date: 10/24/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

D. d not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** ZB-R2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 25

Drop # 1 2 (3) Cast Time 0921 Sampler Penetration (inches): 1in1

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 435851.22 NORTHING: 5413590.72

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: Time: # Containers: Volume: %
Duplicate SE Sample ID: Time: # Containers: Volume: %
Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %
Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials [illegible] Date: 10/24/13 Field Supervisor Initials DH Date 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

D.d MWT
clave

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2B-R2

Anchor Point (max 3) 1 2 3 (4) Water Depth (feet): 30

Drop # (1) 2 3 Cast Time 0923 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: 435848.24 {NAD_83_UTM_Zone_11_North}
EASTING: ~~435538~~ NORTHING: 5413607.56

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? YES (NO)
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES (NO)
5. Desired penetration depth (4 to 6 inches) achieved? YES (NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? (YES) NO
7. Sample is: Accepted (Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles 100
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None — Hydrogen sulfide
Other:

Amphipods: Tubes: — Macrophytes:
Debris(twigs/leaves): — Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 1040238 Time: 0924
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials JG Date: 10/24/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

One cobble

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2B-R2

Date: 10/24/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0230 **Time:** 9:00	**Photo ID:** 104-0231 **Time:** 9:00
Photographer: Michelle Steyner (MS)	**Photographer:** MS
Photo Orientation: —	**Photo Orientation:** North
Description: Station ID	**Description:** upstream overview @ sample location
Photo ID: 104-0232 **Time:** 9:00	**Photo ID:** 104-0233 **Time:** 9:00
Photographer: MS	**Photographer:** MS
Photo Orientation: West	**Photo Orientation:** East
Description: right bank of river	**Description:** left bank of river
Photo ID: 104-0234 **Time:** 9:02	**Photo ID:** 104-0235 **Time:** 9:11
Photographer: MS	**Photographer:** MS
Photo Orientation: —	**Photo Orientation:** —
Description: Grab #1 (AP1D1) Cobbles & water in grab	**Description:** Grab #4 (AP2D1) Cobbles in grab
Photo ID: 104-0236 **Time:** 9:14	**Photo ID:** 104-0237 **Time:** 9:18
Photographer: MS	**Photographer:** MS
Photo Orientation: —	**Photo Orientation:** —
Description: Grab #6 (AP2D3) gravel and trace sediment in open grab	**Description:** Grab #7 (AP3D1) gravel & trace sand in open grab

Field Supervisor Initials: DH Date: 10/24/13

Sample Lead Initials: [signature] Date: 10/24/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2B-R2

Date: 10/24/2013 **Vessel:** Tiston

Camera Serial #: #1 Lumix

Photo ID: 104-0238 Time: 9:24	Photo ID: 104-0239 Time: 9:27
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Grab #10 (AP3D3) Cobble stuck in grab	Description: Screened sample in tub
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: OH Date: 10/24/13

Sample Lead Initials: MS Date: 10/24/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 | Station Identifier: 2-R1

Date: 10/23/13 | Vessel: Tiexton

Sampling Crew: Sugalski, Degnan, Thiele | Vessel Crew: Sawyer, Schut, Tuschhoff

EPA Observer: Monica Tonel | C.R. Observer: Erin Oosahwee-Voss

Arrival Time: 0940 | Departure Time: 1015

River Stage:
Water Surface Elev. (ft):
Water Surface Elevation Source:

Weather Conditions Upon Arrival
Temp (°F): 48
Wind (mph): light brave
Clouds/Precipitation: overcast

Site Information:

Boat Position: (Powered) (Anchored) | River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 732 | Boat Traffic: observer

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): Island just upstream

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: | Time: | Photo ID: | Time:

Photo ID: | Time: | Photo ID: | Time:

General Notes:

Sample is composite of grabs 1 & 3

This is the Reserve for 2-B5

C.R. - cultural resources

Field Supervisor Initials: DH | Date: 10/24/13

Sample Lead Initials: JS | Date: 10/23/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 22

Drop # (1) 2 3 Cast Time 0842 Sampler Penetration (inches): 6.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 441059.61 NORTHING: 5417084.40

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.22 su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/4"

Odor: None Hydrogen sulfide
Other: —

Amphipods: ~~Amph~~ Scuds Tubes: Macrophytes:
Debris(twigs/leaves): Other: Daphnids (water fleas)

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-01 83 Time: 3:47
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: JK Date: 10/23/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

15-18 gallons

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 18

Drop # 1 (2) 3 Cast Time 0855 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 444084.31 NORTHING: 5417091.21

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description:

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand 5 (1/16 - 2 mm)
% Gravel 95
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: — Macrophytes: —
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 164-0190 Time: 0856
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials [illegible] Date: 10/23/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel : true soil

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R1

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 21

Drop # 1 2 (3) Cast Time 0857 Sampler Penetration (inches): 5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 441060.35 NORTHING: 5417084.69

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.13 su Description: Collected w/ one white stone i one blue stone, manual method

Sediment Characteristics

Type: % Silt 20 (<1/16 mm)
% Sand 55 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: 25

Color: Munsell Color Chart #: 5Y 3/1
Description: Very dark gray, silty Sand

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/4

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: Small Shells (white) in Sand

1/4" - Brown silty Sand
1" - Gray silty Sand
3.5" - Brown silty Sand

Stratified sediment: (Yes) No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0191 Time: 9:03
Homogenized Sample: 104-0195 Time: 0955
Other: 104-0195 Time: 0955

Sediment (SE) Sample ID: SE-2-R1	Time: 0950	# Containers: 11	Volume: 100 %
Duplicate SE Sample ID: MUDCR15	Time:	# Containers: 4	Volume: 100 %
Split SE Samples (EPA/NPS/CCT): SE-2-R1		# Containers: 1	Volume: 100 %
Pore Water (PW) Sample ID: PW-2-R1	Time: 0943	# Containers: 3	Volume: 100 %

Sample Lead Initials: [illegible] Date: 10/23/13 Field Supervisor Initials: DM Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Some Vegetation in grab

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-R1

Date: 10/23/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0184 Time: 8:32	Photo ID: 104-0185 Time: 8:42
Photographer: Michelle Stegner (MS)	Photographer: MS
Photo Orientation: —	Photo Orientation: north
Description: Station ID	Description: Overview
Photo ID: 104-0186 Time: 8:42	Photo ID: 104-0187 Time: 8:42
Photographer: MS	Photographer: MS
Photo Orientation: West	Photo Orientation: East
Description: right river bank	Description: left river bank
Photo ID: 104-0188 Time: 847	Photo ID: 104-0189 Time: 8:48
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab #1 (AP1D1) Sediment in grab	Description: Grab #1 Sediment in scoop
Photo ID: 104-0190 Time: 8:56	Photo ID: 104-0191 Time: 9:03
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab #2 (AP1D2) rock stuck in grab	Description: Grab #3 (AP1D3) Sediment in grab

Field Supervisor Initials: OA Date: 10/23/13

Sample Lead Initials: [illegible] Date: 10/28/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-R1

Date: 10/23/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0192	Time: 8:48	Photo ID: 104-0193	Time: 9:13
Photographer: MS		Photographer: MS	
Photo Orientation: -		Photo Orientation: -	
Description: Grab #3 Sediment in Scoop		Description: Shell in Grab #3	
Photo ID: 104-0194	Time: 9:15	Photo ID: 104-0195	Time: 9:55
Photographer: MS		Photographer: MS	
Photo Orientation: -		Photo Orientation: -	
Description: Porewater process		Description: Homogenized sample	
Photo ID: 104-0196	Time: 10:06	Photo ID:	Time:
Photographer: MS		Photographer:	
Photo Orientation: -		Photo Orientation:	
Description: Sediment close-up		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials DH Date: 10/25/13

Sample Lead Initials [illegible] Date: 10/23/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 2-R2

Date: 10/17/13

Vessel: Tieton

Sampling Crew: Sugalski, Thatcher, Steyer

Vessel Crew: Swigen, Schut, Tuschhoff

EPA Observer: Monica Toral

C.R. Observer: Eric Ooshuell

Arrival Time: 1409

Departure Time: 15.06

River Stage:

Water Surface Elev. (ft): 1286.41

Water Surface Elevation Source: 800-824-4916

Weather Conditions Upon Arrival

Temp (°F): 65

Wind (mph): Calm

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: RM 730

Boat Traffic: observers EPA

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, bluffs, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs: (see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Coordinates for 6th grab were missed. noted snails & various insects on many of the cobbles retrieved.

C.R. - cultural resources

Field Supervisor Initials: KOH Date: 10/17/13

Sample Lead Initials: [illegible] Date: 10/17/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 5

Drop # (1) 2 3 Cast Time 1427 Sampler Penetration (inches): ~

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440517.73 NORTHING: 5417292.59

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ~ su Description: ~

Sediment Characteristics

Type: % Silt ~ (<1/16 mm)
% Sand ~ (1/16 - 2 mm)
% Gravel ~
% Cobbles 100
% Silica Glass: ~

Color: Munsell Color Chart #:
Description: ~

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): ~

Odor: None ~ Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: Some insects

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ~ 103-0963 Time: 1430
Homogenized Sample: ~ Time: ~
Other: ~ Time: ~

Sediment (SE) Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %
Duplicate SE Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %
Split SE Samples (EPA/NPS/CCT): ~ # Containers: ~ Volume: ~ %
Pore Water (PW) Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %

Sample Lead Initials JS Date: 9/17/13 Field Supervisor Initials JOH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 4.4

Drop # 1 (2) 3 Cast Time 1132 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1140524.45 NORTHING: 5417268.91

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: —% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: —
Description: —

Redox Boundary: Present? Yes No —
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials AS Date: 10/17/13 Field Supervisor Initials AM Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Vegetation in water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 17

Drop # 1 2 (3) Cast Time 1434 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440565.05 NORTHING: 5417338.75

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #: Description: —

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: ____

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 163-C16 Time: 1436
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: [illegible] Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

~~water~~ 10/17/13
cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-RR

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 17

Drop # (1) 2 3 Cast Time 1437 Sampler Penetration (inches): ~

Angle (< 5°max) ~~Yes~~ No Cultural Resources Observed? ~~No~~ Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440556.48 NORTHING: 5417321.93

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ~ % Accepted Rejected

pH of Sediment in Sampler: ~ su Description: ~

Sediment Characteristics

Type: % Silt ~ (<1/16 mm)
% Sand ~ (1/16 - 2 mm)
% Gravel ~
% Cobbles ~
% Silica Glass: ~

Color: Munsell Color Chart #:
Description: ~

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): ~

Odor: None Hydrogen sulfide
Other: ~

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): ~ Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0965 Time: 1437
Homogenized Sample: ~ Time: ~
Other: ~ Time: ~

Sediment (SE) Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %
Duplicate SE Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %
Split SE Samples (EPA/NPS/CCT): ~ # Containers: ~ Volume: ~ %
Pore Water (PW) Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %

Sample Lead Initials JS Date: 10/7/13 Field Supervisor Initials AOA Date: 10/7/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

One cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 12

Drop # 1 (2) 3 Cast Time 1438 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440537.56 NORTHING: 5417325.80

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: KH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): ≈10 feet

Drop # 1 2 (3) Cast Time 1440 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: missed NORTHING: missed

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 30
% Cobbles 70
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: ____

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0966 Time: 1441
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials AS Date: 10/17/13 Field Supervisor Initials AOA Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel i cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 12

Drop # (1) 2 3 Cast Time 1447 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440556.69 NORTHING: 5417302.73

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

BB 10/17/13

Porewater

Cumulative Percent of Porewater Syringe filled: / % Accepted Rejected

pH of Sediment in Sampler: / su Description: /

Sediment Characteristics

Type: % Silt / (<1/16 mm)
% Sand / (1/16 - 2 mm)
% Gravel /
% Cobbles A 100
% Silica Glass: /

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None — Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0967 Time: 1448
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: /	Time: /	# Containers: /	Volume: /	%
Duplicate SE Sample ID: /	Time: /	# Containers: /	Volume: /	%
Split SE Samples (EPA/NPS/CCT): / /		# Containers: /	Volume: /	%
Pore Water (PW) Sample ID: /	Time: /	# Containers: /	Volume: /	%

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials DH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 9

Drop # 1 (2) 3 Cast Time 1451 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1440589.93 NORTHING: 5417318.33

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 25 } 100
% Cobbles 75 }
% Silica Glass: ____

Color: Munsell Color Chart #: Description: —

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: lots of inverts

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0168 Time: 1452
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials [illegible] Date: 10/17/13 Field Supervisor Initials ZOA Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Gravel cobbly

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 11

Drop # 1 2 (3) Cast Time 1453 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440562.49 NORTHING: 5417309.38

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles 100
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: insects

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0969 Time: 1454
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials JS Date: 10/17/13 Field Supervisor Initials JH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Cobbles

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-R2

Date: 10/17/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0960 Time: 1404	Photo ID: 103-0961 Time: 1413
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Subsurface conditions near center of station
Photo ID: 103-0962 Time: 1414	Photo ID: ~~103-0964~~ 103-0963 Time: 1430
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: —	Photo Orientation: ~~Left~~ aft, 17 Oct 13
Description: Subsurface conditions at edge of radius.	Description: Near Drop API D1 Rocks on bottom
Photo ID: 103-0964 Time: 1436	Photo ID: 103-0965 Time: 14:37
Photographer: Stegner	Photographer: Stegner
Photo Orientation: —	Photo Orientation: —
Description: One Cobble in API Drop3 (Drop #3)	Description: One Cobble in AP2 Drop 1 (Drop #4)
Photo ID: 103-0966 Time: 14:41	Photo ID: 103-0967 Time: 14:48
Photographer: Stegner	Photographer: Stegner
Photo Orientation:	Photo Orientation: —
Description: Cobbles/gravels in Drop #6 (AP2 Drop 3)	Description: Water ~~#6~~ Cobbles in Drop #7 (AP3 Drop 1)

Field Supervisor Initials: AM Date: 10/17/13

Sample Lead Initials: AS Date: 10/17/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-R2

Date: 10/17/2013 **Vessel:** Tleton

Camera Serial #: #1

Photo ID: 103-0968 Time: 14:52	Photo ID: 103-0969 Time: 14:54
Photographer: Stegner	Photographer: Stegner
Photo Orientation:	Photo Orientation: —
Description: Cobbles in Drop #8 (AP3 D2)	Description: Cobbles in Drop #9 (AP3 D3)
Photo ID: 103-0970 Time: 14:56	Photo ID: 103-0971 Time: 14:56
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation: —
Description: Snail on Cobble (Drop #9)	Description: Snail & Insects on Cobble (Drop #9)
Photo ID: 103-0972 Time: 14:56	Photo ID: Time:
Photographer: Sugalski	Photographer:
Photo Orientation:	Photo Orientation:
Description: Snail and Insects on Cobble. (Drop #9)	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: [illegible] Date: 10/17/13

Sample Lead Initials: [illegible] Date: 10/17/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 2-R3

Date: 10/18/13

Vessel: Tieten

Sampling Crew: Thatcher, Sugalski, Stegner

Vessel Crew: Saugen, Schut, Tuschhoff

EPA Observer: Monica Tonel

C.R. Observer: Eric Ooschwee-Voss

Arrival Time: 1103

Departure Time: 1325

River Stage:

Water Surface Elev. (ft): 1286.1 10/18/13 @0000

Water Surface Elevation Source: 800-824-4916

Weather Conditions Upon Arrival

Temp (°F): 50

Wind (mph): Calm

Clouds/Precipitation: Fog

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 732

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy) (Ripples)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs: (see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Sample was combo of grabs 1 & 2

C.R. - cultural resources

Field Supervisor Initials KDH Date: 10/19/13

Sample Lead Initials [illegible] Date: 10/18/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 9

Drop # (1) 2 3 Cast Time 1105 Sampler Penetration (inches): 6.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 440013.46 NORTHING: 5416670.20

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.14 su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide Other:

Amphipods: insects Tubes: Macrophytes: some vegetation
Debris(twigs/leaves): Other: snails

Stratified sediment: Yes (No) Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0005 Time: 1112
Homogenized Sample: ____ Time:
Other: 104-0006 Time: 1113

Sediment (SE) Sample ID:	Time:	# Containers:	Volume: %
Duplicate SE Sample ID:	Time:	# Containers:	Volume: %
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: %
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume: %

Sample Lead Initials: [illegible] Date: 10/18/13 Field Supervisor Initials: [illegible] Date: 10/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

about 10 gulps of silty sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R3

Anchor Point (max 3) 1 2 3 Water Depth (feet): 5

Drop # 1 2 3 Cast Time 1124 Sampler Penetration (inches): 6.5

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 439999.85 NORTHING: 5416664.29

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES NO
2. Overlying water present? YES NO
3. Overlying water excessively turbid? YES NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES NO
5. Desired penetration depth (4 to 6 inches) achieved? YES NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES NO
7. Sample is: Accepted Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % Accepted Rejected

pH of Sediment in Sampler: 7.97 su Description: wet

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 80 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass: 15

Color: Munsell Color Chart #: 5Y 3/1
Description: very dark gray medium fine sand w/ trace silt

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes: a small amount of vegetation
Debris(twigs/leaves): Other: Snails

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0007 Time: 1130
Homogenized Sample: 104-0010 Time: 1237
Other: 140008 Time: 1130

Sediment (SE) Sample ID: SE-2-R3 Time: 1236 # Containers: ~~3~~ 7 Volume: 100 % 15 gal 3202+ ~~10 gal~~ 10/18/13

Duplicate SE Sample ID: — Time: — # Containers: 10/18/13 — Volume: — %

Split SE Samples (EPA/NPS/CCT): SE-2-R3 1236 # Containers: 1 Volume: 100 % — 5 gal

Pore Water (PW) Sample ID: PW-2-R3 Time: 1148 # Containers: 3 Volume: 100 %

no overlying water

Sample Lead Initials: [illegible] Date: 10/18/13 Field Supervisor Initials: DH Date: 10/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Approx. 10 gallons

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-R3

Date: 10/18/2013 **Vessel:** Tiefon

Camera Serial #: #1

Photo ID: 104-0001 Time: 10:54	Photo ID: 104-0002 Time: 11:03
Photographer: Stegner	Photographer: Stegner
Photo Orientation: —	Photo Orientation: —
Description: Station 2-R3	Description: Overview Drop #1
Photo ID: 104-0003 Time: 11:04	Photo ID: 104-0004 Time: 11:04
Photographer: Stegner	Photographer: Stegner
Photo Orientation: West	Photo Orientation: East
Description: overview right bank	Description: overview left bank
Photo ID: 104-0005 Time: 11:12	Photo ID: 104-0006 Time: 11:13
Photographer: Stegner	Photographer: Stegner
Photo Orientation: —	Photo Orientation: —
Description: Drop #1 (AP1D1) Sediment in Grab	Description: Drop #1 (AP1D1) Sediment in Grab
Photo ID: 104-0007 Time: 11:30	Photo ID: 104-0008 Time: 11:30
Photographer: Stegner	Photographer: Stegner
Photo Orientation: —	Photo Orientation: —
Description: Drop # 2 (AP1D2) Sediment in Grab	Description: Drop # 2 (AP1D2) Sediment in Grab

Field Supervisor Initials: DH Date: 10/19/13

Sample Lead Initials _____ Date: _____

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-B3

Date: 10/18/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 104-009 Time: 1235	Photo ID: 104-0010 Time: 1237
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Homogenized Sample	Description: Homogenized Sample
Photo ID: 104-0011 Time: 1243	Photo ID: 104-0012 Time: 1244
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Homogenized Sediment through hand lens	Description: Homogenized Sediment through hand lens
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 10/19/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 2-R4

Date: 10/17/13

Vessel: Tieton

Sampling Crew: Sugasi, Thatcher, Stegner

Vessel Crew: Saggen, Schut, Tuschhoff

EPA Observer: Monica Tonel

C.R. Observer: Eric Ooschwee-Voss

Arrival Time: 7 1514

Departure Time: 1550

River Stage: 10/17/13

Water Surface Elev. (ft): 1286.4

Water Surface Elevation Source: 800-824-4916

Weather Conditions Upon Arrival

Temp (°F): 72

Wind (mph): Calm

Cloude/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 731

Boat Traffic:

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

railroad & small railroad retaining wall along left bank along with large bedrock outcrop set back from bank

Sample Location Photo IDs: (see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/17/13

Sample Lead Initials [illegible] Date: 10/17/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-RU1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 38

Drop # (1) 2 3 Cast Time 1518 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 413936.05 NORTHING: 5415631.22

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles 100
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen 7
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-975 Time: 1519
Homogenized Sample: — Time: —
Other: Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials JB Date: 10/17/13 Field Supervisor Initials DH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Cobble

True Seal

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

2-RM

Project Number: 36310189 **Station Identifier:** 3-RM 10/17/13

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 39

Drop # 1 (2) 3 Cast Time 1521 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 439355.37 NORTHING: 5415600.82

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel 100
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: _____

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: KOH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

4 pieces of gravel

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

2-RA

Project Number: 36310189 **Station Identifier:** 10/17/13 2-RA

Anchor Point (max 3) 1 2 3 Water Depth (feet): 40

Drop # 1 2 3 Cast Time 1524 Sampler Penetration (inches): —

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 439361.36 NORTHING: 5115615.00

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 5
% Cobbles ~~100~~ 95
% Silica Glass: JS 10/17/13

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0976 Time: 1525
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials JS Date: 10/17/13 Field Supervisor Initials KAH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Cobbles : one piece of gravel.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

10/17/13

Project Number: 36310189 **Station Identifier:** 3-2-84

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 40

Drop # (1) 2 3 Cast Time 1528 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 439375.62 NORTHING: 5411564.45

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles 100
% Silica Glass: —

Color: Munsell Color Chart #: —
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None — Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 105-0977 Time: 1530
Homogenized Sample: — Time:
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: JB Date: 10/17/13 Field Supervisor Initials: AOA Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R4

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 37

Drop # 1 (2) 3 Cast Time 1531 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 439367.43 NORTHING: 5415609.91

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0978 Time: 1532
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials [illegible] Date: 10/17/13 Field Supervisor Initials LOH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one large cobble. many insects on cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-824

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 44

Drop # 1 2 (3) Cast Time 1534 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 439355.23 NORTHING: 5415646.00

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles 100
% Silica Glass: _____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None — Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): — Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0983 Time: 1534
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):				# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: DH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R4

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 43

Drop # (1) 2 3 Cast Time 1538 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 439352.72 NORTHING: 5415611.63

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: ____

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials [illegible] Date: 10/17/13 Field Supervisor Initials KOH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

2 cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-84

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 43

Drop # 1 (2) 3 Cast Time 1540 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1139365.66 NORTHING: 5415635.87

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: KOA Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B4

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 43

Drop # 1 2 (3) Cast Time 1543 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 439349.58 NORTHING: 5415607.34

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: —% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: —

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles 100
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 163-0956 Time: 1544
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials JG Date: 10/17/13 Field Supervisor Initials JON Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Z-RU

Date: 10/17/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0973 Time: 1504	Photo ID: 103-0974 Time: 1517
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation: left bank
Description: Station ID	Description: left bank, including railroad tie retaining wall.
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Continued → See page #2 & #3

Field Supervisor Initials: KOH Date: 10/17/13

Sample Lead Initials: [illegible] Date: 10/17/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-R4

Date: 10/17/2013 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0975 Time: 15:19	Photo ID: 103-0976 Time: 15:25
Photographer: Stegner	Photographer: Stegner
Photo Orientation:	Photo Orientation:
Description: Cobble in Drop #1 (AP1D1)	Description: Cobbles in Drop #3 (AP1D3)
Photo ID: 103-0977 Time: 15:30	Photo ID: 103-0978 Time: 15:32
Photographer: Stegner	Photographer: Stegner
Photo Orientation: —	Photo Orientation: —
Description: Cobbles in Drop #4 (AP2D1)	Description: Cobble in Drop #5
Photo ID: 103-0979 Time: 15:34	Photo ID: 105-0980 Time: 15:34
Photographer: Stegner	Photographer: Stegner
Photo Orientation:	Photo Orientation:
Description: Cobble from Drop #5 Covered w/ insects & Sponge	Description: Insects on Cobble from Drop #5
Photo ID: 105-0981 Time: 15:34	Photo ID: 105-0982 Time: 15:35
Photographer: Stegner	Photographer: Stegner
Photo Orientation:	Photo Orientation: —
Description: Freshwater Sponge on Cobble from Drop #5	Description: Insect on Cobble from Drop #5

Field Supervisor Initials: KH Date: 10/19/13

Sample Lead Initials: JS Date: 10/17/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-R4

Date: 10/17/2013 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0983 Time: 15:36	Photo ID: 103-0984 Time: 15:41
Photographer: Stegner	Photographer: Stegner
Photo Orientation: —	Photo Orientation:
Description: Cobbles in Drop #6 (AP2 D3)	Description: Insect (on Cobble Drop #5)
Photo ID: 103-0985 Time: 15:41	Photo ID: 105-0986 Time: 15:44
Photographer: Stegner	Photographer: Stegner
Photo Orientation:	Photo Orientation:
Description: Insect (on Cobble Drop #5)	Description: Cobble in Drop #9 (AP3 D3)
Photo ID: 105-0987 Time: 15:47	Photo ID: 105-0988 Time: 15:48
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: —	Photo Orientation:
Description: Insect (Drop #5)	Description: Insect (Drop #5)
Photo ID: 105-0989 Time: 15:48	Photo ID: 105-0990 Time: 15:49
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Insect (Drop #5)	Description: Insect (Drop #5)

Field Supervisor Initials: AM Date: 10/17/13

Sample Lead Initials: [illegible] Date: 10/17/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 2-R6

Date: 10/18/13

Vessel: Tiglen

Sampling Crew: Thatcher, Svezlicka, Stegner

Vessel Crew: Sawyer, Schut, Tuschhoff

EPA Observer: Monica Tonel

C.R. Observer: Eric Oeschwee-Voss

Arrival Time: 1005

Departure Time: 1050

River Stage:

Water Surface Elev. (ft): 1286.1 10/18/13 20:00

Water Surface Elevation Source: 800-824-4916

Weather Conditions Upon Arrival

Temp (°F): 45

Wind (mph): -

Clouds/Precipitation: Fog

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 731

Boat Traffic: observer EPA

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, cliffsites, construction, etc.)

Sample Location Photo IDs: (see Photo Log for descriptions)

Camera ID: #1

Photo ID: ____ Time: ____ Photo ID: ____ Time: ____

Photo ID: ____ Time: ____ Photo ID: ____ Time: ____

General Notes:

location is rejected

No sample collected. Recovered only rocks

C.R. - cultural resources

Field Supervisor Initials: DN Date: 10/19/13

Sample Lead Initials: JS Date: 10/18/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-RC

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 51

Drop # (1) 2 3 Cast Time 1010 Sampler Penetration (inches): ~~Could not penetrate~~ 10/18/13 indeterminate

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 938907.18 NORTHING: 5411516.86

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____ } 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0943 Time: 1012
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/18/13 Field Supervisor Initials: DH Date: 10/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel & cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-26

Anchor Point (max 3) 6 2 3 Water Depth (feet): 51

Drop # 1 (2) 3 Cast Time 1015 Sampler Penetration (inches): indeterminate

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438882.60 NORTHING: 5415203.40

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None (Hydrogen sulfide) Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT):		# Containers: ____	Volume: ____	%
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials AS Date: 10/15/13 Field Supervisor Initials PA Date: 10/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 52

Drop # 1 2 (3) Cast Time 1020 Sampler Penetration (inches): indeterminate

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 938914.80 NORTHING: 5115208.73

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 30
% Cobbles 70
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0994 Time: 1021
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/18/13 Field Supervisor Initials: AOH Date: 10/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel & cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 52

Drop # (1) 2 3 Cast Time 1024 Sampler Penetration (inches): Incl.

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438923.18 NORTHING: 5415206.32

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None (Hydrogen sulfide) Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 9/15/13 Field Supervisor Initials: DH Date: 10/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

WCH

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7-D2

Anchor Point (max 3) 1 (2) 3 **Water Depth (feet):** 51

Drop # 1 (2) 3 Cast Time 1027 **Sampler Penetration (inches):** indeterminate (Ind.)

Angle (< 5°max) (Yes) No @ 10/15/13 **Cultural Resources Observed?** (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: ~~438914.51~~ 438914.51 NORTHING: 5415190.49

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0995 Time: 1029
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials [illegible] Date: 10/15/13 Field Supervisor Initials [illegible] Date: 10/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

One very large cobble almost a boulder

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 50

Drop # 1 2 (3) Cast Time 1033 Sampler Penetration (inches): Incl.

Angle (< 5°max) Yes (No) Cultural Resources Observed? ~~No~~ Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438907.17 NORTHING: 5415231.31

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____ } 10%
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 03-0996 Time: 1034
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%	
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%	
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%	
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%	

Sample Lead Initials: [illegible] Date: 10/18/13 Field Supervisor Initials: DA Date: 10/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel / cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R6

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 51

Drop # (1) 2 3 Cast Time 1036 Sampler Penetration (inches): 1 mil.

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438925.99 NORTHING: 5415217.25

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ___ % Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles 100
% Silica Glass: ___

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-00197 Time: 1038
Homogenized Sample: ___ Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials CS Date: 10/5/13 Field Supervisor Initials DH Date: 10/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R6

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 46

Drop # 1 (2) 3 Cast Time 1040 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 438946.03 NORTHING: 5415196.39

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0198 Time: 1041
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials JA Date: 10/18/13 Field Supervisor Initials AOK Date: 10/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R6

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 50

Drop # 1 2 (3) Cast Time 1043 Sampler Penetration (inches): Incl.

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1138951.12 NORTHING: 541521O.02

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: BH Date: 10/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one cobble

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-R6

Date: 10/18/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0991 Time: 0906	Photo ID: 103-0992 Time: 0944
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Reserve station we thought we were going to	Description: Reserve station we actually went to
Photo ID: 103-0993 Time: 10:12	Photo ID: 103-0994 Time: 10:21
Photographer: Stegner	Photographer: Stegner
Photo Orientation: —	Photo Orientation: —
Description: Cobbles & gravels in 2-R6 Drop #1 (AP1 D1)	Description: One gravel & one cobble in Drop #2 (AP1 D2)
Photo ID: 103-0995 Time: 10:29	Photo ID: 103-0996 Time: 10:34
Photographer: Stegner	Photographer: Stegner
Photo Orientation:	Photo Orientation:
Description: Boulder in Drop #5 (AP2 Drop2)	Description: gravels & one cobble in Drop #6 (AP2 Drop3)
Photo ID: 103-0997 Time: 10:38	Photo ID: 103-0998 Time: 10:41
Photographer: Stegner	Photographer: Stegner
Photo Orientation: —	Photo Orientation: —
Description: 2 cobbles in Drop #7 (AP1 Drop1)	Description: 2 cobbles in Drop #8 (AP3 Drop2)

Field Supervisor Initials: DH Date: 10/19/13

Sample Lead Initials _____ Date: _____

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-RL6

Date: 10/18/2013 **Vessel:** Tiefon

Camera Serial #: 71

Photo ID: 103-0999 Time: 10:45	Photo ID: Time:
Photographer: Stegner	Photographer:
Photo Orientation: —	Photo Orientation:
Description: One cobble in Drop#9 (AP3 Drop3)	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials AOA Date: 10/19/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R9

Date: 10/15/13 **Vessel:** Tieton

Sampling Crew: Sigalski, Bielmeier, Thatcher **Vessel Crew:** Saugen, Schul, Tuschhoff

EPA Observer: Monica Tonel **C.R. Observer:** Eric Oosahuee-Voss

Arrival Time: 0900 **Departure Time:** 1020

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 43

Wind (mph): calm

Clouds/Precipitation: Fog

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 729 Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Bed rock out crop on left Bank

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Bed

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/15/13

Sample Lead Initials _____ Date: 10/15/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R9

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 92

Drop # (1) 2 3 Cast Time 0912 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1137164.96 NORTHING: 541384 1.56

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials KL Date: 10/15/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-129

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 89

Drop # 1 (2) 3 Cast Time 0919 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 437120.99 NORTHING: 5413844.40

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials JS Date: 10/15/13 Field Supervisor Initials KH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R9

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 85

Drop # 1 2 (3) Cast Time 0924 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 437126.53 NORTHING: 5413822.24

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: JB Date: 10/15/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R9

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 89

Drop # (1) 2 3 Cast Time 0931 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 437129.36 NORTHING: 5413830.98

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: JOH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

D.d not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R9

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 89

Drop # 1 (2) 3 Cast Time 0937 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 437126.85 NORTHING: 5413837.83

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods:
Debris(twigs/leaves):
Tubes:
Other:
Macrophytes:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-C851 Time: 0939
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:		Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):			# Containers:	Volume:	%
Pore Water (PW) Sample ID:		Time:	# Containers:	Volume:	%

Sample Lead Initials [illegible] Date: 10/15/13 Field Supervisor Initials DA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R9

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 88

Drop # 1 2 (3) Cast Time 0943 Sampler Penetration (inches): ~

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 437141.07 NORTHING: 5413829.43

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ~ su Description: ~

Sediment Characteristics

Type: % Silt ~ (<1/16 mm)
% Sand ~ (1/16 - 2 mm)
% Gravel ~
% Cobbles ~
% Silica Glass: ~

Color: Munsell Color Chart #:
Description: ~

Redox Boundary: Present? ~ Yes No
If present -- Depth Below Sediment Surface (inches): ~

Odor: None ~ Hydrogen sulfide
Other: ~

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ~
Ponar ~
Shovel ~

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ~ Time: ~
Homogenized Sample: ~ Time: ~
Other: ~ Time: ~

Sediment (SE) Sample ID:	~	Time:	~	# Containers:	~	Volume:	~ %
Duplicate SE Sample ID:	~	Time:	~	# Containers:	~	Volume:	~ %
Split SE Samples (EPA/NPS/CCT):	~			# Containers:	~	Volume:	~ %
Pore Water (PW) Sample ID:	~	Time:	~	# Containers:	~	Volume:	~ %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: AM Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R9

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 89

Drop # (1) 2 3 Cast Time 0950 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 437133.83 NORTHING: 5413831.37

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____ ~100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT):		# Containers: ____	Volume: ____	%
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel & cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R9

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 87

Drop # 1 (2) 3 Cast Time 09 36 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 437114.30 NORTHING: 5413819.37

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____ ~100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel & cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-B9

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 88

Drop # 1 2 (3) Cast Time 1003 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1137095.30 NORTHING: 5113808.71

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: % Accepted Rejected

pH of Sediment in Sampler: su Description:

Sediment Characteristics

Type: % Silt (<1/16 mm)
% Sand (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials: CS Date: 10/15/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only water

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-R9

Date: 10/15/13 **Vessel:** Tiglen

Camera Serial #: #1

Photo ID: 103-0847 Time: 0855	Photo ID: 103-0848 Time: 0914
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation: left bank
Description: Station ID	Description: Bed rock outcrop at station on left bank
Photo ID: 103-0849 Time: 0922	Photo ID: 103-0850 Time: 0922
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: Upstream	Photo Orientation: upstream/right bank
Description: left bank conditions	Description: Right bank near Sample location
Photo ID: 103-0851 Time: 0939	Photo ID: 103-0852 Time: 0952
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: cobbles in 5th grab	Description: rocks in 7th grab
Photo ID: 103-0853 Time: 0958	Photo ID: Time:
Photographer: Sugalski	Photographer:
Photo Orientation:	Photo Orientation:
Description: rocks in 8th grab	Description:

Field Supervisor Initials: MA Date: 10/15/13

Sample Lead Initials: [illegible] Date: 10/15/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 2-R10

Date: 10/15/13

Vessel: Tieton

Sampling Crew: Sugalski, Belmann, Thatcher

Vessel Crew: Sagen, Schut, Tuschhoff

EPA Observer: Monica Tonel

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1030

Departure Time: 1045

River Stage:

Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): 50

Wind (mph): Calm

Clouds/Precipitation: Partly Cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile:

Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Station was abandoned after snagging the grab & almost loosing it. Station is located at the head of the dalles.

C.R. - cultural resources

Field Supervisor Initials: DA Date: 10/15/13

Sample Lead Initials: [illegible] Date: 10/15/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 2-R10

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 98

Drop # (1) 2 3 Cast Time 1029 Sampler Penetration (inches): _____

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 436519.10 NORTHING: 5413693.48

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____	%
Duplicate SE Sample ID: _____	Time: _____	# Containers: _____	Volume: _____	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____	%

Sample Lead Initials BB Date: 10/15/13 Field Supervisor Initials KM Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only Water.
Grab became stuck on bottom; was removed using boat power.

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 2-R10

Date: 10/15/13 **Vessel:** Tieten

Camera Serial #: #1

Photo ID: 103-0854 Time: 1025	Photo ID: 103-0855 Time: 1045
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation: Down Stream
Description: Station ID	Description: 2-R10 is located near center of photo, note bedrock outcrop on Rt bank
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials LJH Date: 10/15/13

Sample Lead Initials [illegible] Date: 10/15/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3-B1

Date: 10/16/13

Vessel: Tieton

Sampling Crew: Sugalski, Thatcher, Stegner

Vessel Crew: Seigen, Tuschhoff, Schut

EPA Observer: Monica Tonzi

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1410

Departure Time: 1522

River Stage:

Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): 75

Wind (mph): Calm

Clouds/Precipitation: Partly Cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 72.5

Boat Traffic:

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.):

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Rejected sample was composite of grabs 2 and 7.

C.R. - cultural resources

Field Supervisor Initials: DA Date: 10/18/13

Sample Lead Initials: [illegible] Date: 10/16/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 82

Drop # (1) 2 3 Cast Time 1412 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432407.66 NORTHING: 5410566.98

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand 1 (1/16 - 2 mm)
% Gravel 69
% Cobbles 30
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None — Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0926 Time: 1414
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials JS Date: 10/18/13 Field Supervisor Initials DA Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 76

Drop # 1 (2) 3 Cast Time 1417 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432380.87 NORTHING: 5410515.13

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand 80 (1/16 - 2 mm)
% Gravel 20
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-8429 Time: 1420
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: DH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

≈ 8oz of sand recovered after grain was removed

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 76

Drop # 1 2 (3) Cast Time 1425 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432465.54 NORTHING: 5410521.83

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand Trace (1/16 - 2 mm)
% Gravel 100
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0930 Time: 1427
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: [illegible] Date: 10/18/13 Field Supervisor Initials: [illegible] Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

rock in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 70

Drop # (1) 2 3 Cast Time 1430 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? ~~No~~ Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432411.58 NORTHING: 5410516.30

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: ____

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: DH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-81

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 85

Drop # 1 (2) 3 Cast Time 1435 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432393.37 NORTHING: 5410574.32

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes: —
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials [illegible] Date: 10/16/13 Field Supervisor Initials [illegible] Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one rock

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 82

Drop # 1 2 (3) Cast Time 1439 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432383.16 NORTHING: 5410546.65

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles 100
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None — Hydrogen sulfide
Other:

Amphipods: — Tubes: Macrophytes: —
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0931 Time: 1441
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials [illegible] Date: 10/16/13 Field Supervisor Initials DH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

One cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 77

Drop # (1) 2 3 Cast Time 1444 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432369.58 NORTHING: 5410505.55

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.04 su Description: —

Sediment Characteristics

Type: % Silt 4/16/13 (<1/16 mm)
% Sand ~~~100 95~~ 30 (1/16 - 2 mm)
% Gravel 5
% Cobbles —
% Silica Glass: 25

Color: Munsell Color Chart #: 2.5Y 3/1
Description: Very dark gray medium Sand

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0932 Time: 1447
Homogenized Sample: ____ Time: ____
Other: 103-0937 Time: ____

Sediment (SE) Sample ID: SE-3-B1 Time: 1507 # Containers: 3 Volume: 3/7 %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials [illegible] Date: 10/16/13 Field Supervisor Initials [illegible] Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

~12 02 oz Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 78

Drop # 1 (2) 3 Cast Time 1454 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432378.49 NORTHING: 5410513.40

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials CB Date: 10/16/13 Field Supervisor Initials KOH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 71

Drop # 1 2 (3) Cast Time 1459 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432410.82 NORTHING: 5410519.26

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand 1 (1/16 - 2 mm)
% Gravel 99
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: —
Description:

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0934 Time: 1300
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: CS Date: 10/16/13 Field Supervisor Initials: DH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Gravel ; Trace Sand

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-B1

Date: 10/16/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0925 Time: 1357	Photo ID: 103-0926 Time: 1414
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: material in 1st grab
Photo ID: 103-0927 Time: 1418	Photo ID: 103-0928 Time: 1418
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: left bank	Photo Orientation: Right bank/upstream
Description: left bank during retrieval of grab	Description: ~~left~~ 10/16/13 Right bank during retrieval of grab
Photo ID: 103-0929 Time: 1420	Photo ID: 103-0930 Time: 1427
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: material in 2 grab that was rejected	Description: 3rd grab
Photo ID: 103-0931 Time: 1441	Photo ID: 103-0932 Time: 1447
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: material in 6th grab	Description: material in 7th grab

Field Supervisor Initials: DH Date: 10/18/13

Sample Lead Initials: [illegible] Date: 10/16/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-B1

Date: 10/16/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0932 Time: 1447	Photo ID: 103-0934 Time: 1448 10/16/13
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: material in 7th grab	Description: material in 9th grab
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 10/18/13

Sample Lead Initials: [illegible] Date: 10/16/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3 B2

Date: 10/16/13

Vessel: Tieton

Sampling Crew: Stegner, Thatcher, Sugcisa

Vessel Crew: Saugen, Tuschhoff, Schut

EPA Observer: Monica Tonel

C.R. Observer: Erie Oosaltuee-Voss

Arrival Time: 1244

Departure Time: 1350

River Stage:

Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): 65

Wind (mph): light breeze

Clouds/Precipitation: Mostly Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 724

Boat Traffic:

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Homes along left Bank

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

rejected location. One 8oz jar was filled from compositing grabs 7 and 8

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 10/18/13

Sample Lead Initials: [illegible] Date: 10/16/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 62

Drop # (1) 2 3 Cast Time 1248 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432199.29 NORTHING: ~~540 8532.86~~ 540 8532.96 10/16/13

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: —% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles 100
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None — Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: 103-0916	Volume: 1249	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials [illegible] Date: 10/16/13 Field Supervisor Initials KDH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Cobble in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 61

Drop # 1 (2) 3 Cast Time 1254 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432214.37 NORTHING: 5408512.17

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.05 su Description:

Sediment Characteristics

Type: % Silt 1 (<1/16 mm)
% Sand (1/16 - 2 mm)
% Gravel
% Cobbles 99
% Silica Glass:

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0918 Time: 1300
Homogenized Sample: Time:
Other: 103-0917 Time: 1256

photo of material from grab

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: Date: 10/16/13 Field Supervisor Initials: DA Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Cobbles & Trace amount of Soil ~2oz

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 63

Drop # 1 2 (3) Cast Time 1302 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432175.93 NORTHING: 5408532.81

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: CS Date: 10/16/13 Field Supervisor Initials: AH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 61

Drop # (1) 2 3 Cast Time 1305 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432162.83 NORTHING: 5408516.50

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: —% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? ~~Yes~~ No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials [illegible] Date: 10/16/13 Field Supervisor Initials [illegible] Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 62

Drop # 1 (2) 3 Cast Time 1309 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432189.93 NORTHING: 5408495.51

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: 1 % Accepted Rejected

pH of Sediment in Sampler: su Description:

Sediment Characteristics

Type: % Silt (<1/16 mm)
% Sand (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: AA Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 64

Drop # 1 2 (3) Cast Time 1314 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432222.44 NORTHING: 5408535.36

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel 15
% Cobbles 85
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0919 Time: 1315
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: AB Date: 10/16/13 Field Supervisor Initials: DA Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel: cobbly

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-B2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 63

Drop # (1) 2 3 Cast Time 1317 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1132227.71 NORTHING: 540855.61

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	~~Rejected~~

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes: —
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: DH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 61

Drop # 1 (2) 3 Cast Time 1324 Sampler Penetration (inches): <1

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432183.16 NORTHING: 5408493.53

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.05 su Description: —

Sediment Characteristics

Type: % Silt 10/16/13 (<1/16 mm)
% Sand ~99-14 (1/16 - 2 mm)
% Gravel Trace ~1
% Cobbles ____
% Silica Glass: 85

Color: Munsell Color Chart #: 10YR 2/1
Description: Black medium coarse Sand with trace gravel

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches): ____

Odor: None ~~Hydrogen sulfide~~
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): None Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0021 Time: 1328
Homogenized Sample: ____ Time: ____
Other: 103-0022 Time: 1328

Sediment (SE) Sample ID: SE-3-B2	Time: 1340	# Containers: 1	Volume: 1/7	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: DH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sand
~60Z

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 60

Drop # 1 2 (3) Cast Time 1335 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432176.99 NORTHING: 5408494.70

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0023 Time: 1336
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials [signature] Date: 10/16/13 Field Supervisor Initials DH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only Water

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-B2

Date: 10/16/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0914 Time: 1237	Photo ID: 103-0915 Time: 1246
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Preparing for deployment of 1st grab
Photo ID: 103-0916 Time: 1249	Photo ID: 103-0917 Time: 1256
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Cobble in 1st grab	Description: Cobble from 2nd grab
Photo ID: 103-0918 Time: 1300	Photo ID: 103-0919 Time: 1315
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: material removed from grab	Description: material in grab #6
Photo ID: 103-0920 Time: 1328	Photo ID: 103-0921 Time: 1328
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: material in grab 8	Description: Material in grab #8

Field Supervisor Initials: DH Date: 10/16/13

Sample Lead Initials: JB Date: 10/16/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-B2

Date: 10/16/13 **Vessel:** Tyeton

Camera Serial #: #1

Photo ID: 103-0922	Time: 1328	Photo ID: 103-0923	Time: 1336
Photographer: Sugelski		Photographer: Sugelski	
Photo Orientation:		Photo Orientation:	
Description: Material in grab #8		Description: water in grab #9	
Photo ID: 103-0924	Time: 1336	Photo ID:	Time:
Photographer: Sugelski		Photographer:	
Photo Orientation:		Photo Orientation:	
Description: Emptying water from Grab		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials: DH Date: 10/18/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 | Station Identifier: 3-B3

Date: 10/16/13 | Vessel: Tiefan

Sampling Crew: Thatcher, Sugalski, Skyrm | Vessel Crew: Seeger, Tuschhoff, Sihut

EPA Observer: Monica Toni | C.R. Observer: Eric Oosahwee

Arrival Time: 0915 | Departure Time: 1222

River Stage:
Water Surface Elev. (ft):
Water Surface Elevation Source:

Weather Conditions Upon Arrival
Temp (°F): 48
Wind (mph): Calm
Clouds/Precipitation: Overcast

Site Information:

Boat Position: (Powered) (Anchored) | River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 72.4 | Boat Traffic:

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes (No)

Notable shore surface features (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): log boom just off of shore. location is between boom & shore.

Sample Location Photo IDs: (see Photo Log for descriptions) | Camera ID: #1

Photo ID: ____ Time: ____ | Photo ID: ____ Time: ____

Photo ID: ____ Time: ____ | Photo ID: ____ Time: ____

General Notes:

Sample is composite of grabs 1, 5, 10 & 11

C.R. - cultural resources

Field Supervisor Initials: JH Date: 10/18/13

Sample Lead Initials: JS Date: 10/16/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 12

Drop # (1) 2 3 Cast Time 0912 Sampler Penetration (inches): 5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431668.77 NORTHING: 5408594.46

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.43 su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches): ____

Odor: (None) Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: vegetation, Daphnids, possible ~~fairy shrimp~~

Zo 10/16/13

Stratified sediment: Yes (No) Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0814 Time: 0923
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: DR Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Vegetation!
Silty Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 11

Drop # 1 (2) 3 Cast Time 0932 Sampler Penetration (inches): ~2

Angle (< 5°max) ~~Yes~~ No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431657.29 NORTHING: 5408615.61

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(~~NO~~)
2. Overlying water present?	YES	(~~NO~~)
3. Overlying water excessively turbid?	YES	(~~NO~~)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(~~NO~~)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(~~NO~~)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(~~Rejected~~)

Porewater

Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #:
Description: ~~Silt~~ Silty Sand

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): ___

Odor: None Hydrogen sulfide
Other: ___

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0900 Time: 0933
Homogenized Sample: ___ Time: ___
Other: ___ Time: ___

Sediment (SE) Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %
Duplicate SE Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %
Split SE Samples (EPA/NPS/CCT):	___			# Containers:	___	Volume:	___ %
Pore Water (PW) Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %

Sample Lead Initials: JS Date: 10/16/13 Field Supervisor Initials: DH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Some sediment, grab was open

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 11

Drop # 1 2 (3) Cast Time 0935 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431652.54 NORTHING: 5408595.56

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None ~~Hydrogen sulfide~~
Other: ____

Amphipods: Tubes: ~~Macrophytes:~~
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen (✓)
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: [illegible] Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B3

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 12

Drop # (1) 2 3 Cast Time 0940 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431661.18 NORTHING: 5408583.21

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None (Hydrogen sulfide)
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0901 Time: 0941
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: DH Date: 10/18/13

cobbles & Vegetation

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3 B3

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 12

Drop # 1 (2) 3 Cast Time 0944 Sampler Penetration (inches): 4

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431658.27 NORTHING: 5408551.95

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: water drained before pH collected su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0902 Time: 0946
Homogenized Sample: ____ Time:
Other: Time:

Sediment (SE) Sample ID:		Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:		Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):			# Containers:	Volume:	%
Pore Water (PW) Sample ID:		Time:	# Containers:	Volume:	%

Sample Lead Initials: Date: 10/16/13 Field Supervisor Initials: DH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Vegetation & Silty Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B3

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 14

Drop # 1 2 (3) Cast Time 0957 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431664.99 NORTHING: 5408568.42

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles 100
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time:
Homogenized Sample: — Time:
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT):		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials [illegible] Date: 10/16/13 Field Supervisor Initials AOH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobble in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B3

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 15

Drop # (1) 2 3 Cast Time 0955 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 4316656.56 NORTHING: 5408561.56

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0904 Time: 0954
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: DA Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Gravel & cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B3

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 12

Drop # 1 (2) 3 Cast Time 1001 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431648.62 NORTHING: 5408594.21

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: —
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: AS Date: 10/16/13 Field Supervisor Initials: KH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Vegetation

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B3

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 12

Drop # 1 2 (3) Cast Time 1003 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431640.97 NORTHING: 5408577.91

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): — Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0905 Time: 1004
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: KM Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Vegetation in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B3

Anchor Point (max 3) 1 2 3 (4) Water Depth (feet): 12

Drop # (1) 2 3 Cast Time 1005 Sampler Penetration (inches): 5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431654.23 NORTHING: 5408570.50

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? (YES) NO
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? (YES) NO
5. Desired penetration depth (4 to 6 inches) achieved? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES (NO)
7. Sample is: (Accepted) Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.14 su Description: ____

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: ____

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): Other: —

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0906 Time: 1009
Homogenized Sample: ____ Time: ____
Other: 103-0907 Time: 1009

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: DH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Silty Sand
& vegetation
Some sediment lost after in Stored
from bottom. The top was collected
as sample

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B3

Anchor Point (max 3) 1 2 3 (4) Water Depth (feet): 12

Drop # 1 (2) 3 Cast Time 1019 Sampler Penetration (inches): 7

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431656.13 NORTHING: 5408568.90

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.14 su Description:

Sediment Characteristics

Type: % Silt True (<1/16 mm)
% Sand ≈100 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 2.5 Y 3/1
Description: Very dark gray fine sand w/ trace silt

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: Vegetation, Snails

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0908 Time: 1027
Homogenized Sample: 103-0910 Time: 1137
Other: 103-0909 Time: 1028

Sediment (SE) Sample ID: SE-3-B3	Time: 1138	# Containers: 7	Volume: 100	%
Duplicate SE Sample ID: SE-3-B3	Time: 1138	# Containers: 1	Volume: 100	%
Split SE Samples (EPA/NPS/CCT): SE-3-B3		# Containers: 1	Volume: 100	%
Pore Water (PW) Sample ID: PW-3D3	Time: 1040	# Containers: 3	Volume: 100	%

Sample Lead Initials: [illegible] Date: 10/16/13 Field Supervisor Initials: DH Date: 10/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-B3

Date: 10/16/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0893 Time: 0913	Photo ID: 103-0894 Time: 0923
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: 1st grab in sample
Photo ID: 103-0895 Time: 0923	Photo ID: 103-0896 Time: 0923
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: ~~possible ferry shrimp~~ Insect JS 10/16/13 in 1st grab	Description: ~~possible ferry shrimp~~ Insect JS 10/16/13 in 1st grab
Photo ID: 103-0897 Time: 0924	Photo ID: 103-0898 Time: 0928
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: ~~possible ferry shrimp~~ Insect JS 10/16/13 in 1st grab	Description: ~~possible ferry shrimp~~ Insect JS 10/16/13 in 1st grab
Photo ID: 103-0899 Time: 0929	Photo ID: 103-0900 Time: 0933
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: ~~possible ferry shrimp~~ Insect JS 10/16/13 in 1st grab	Description: rejected 2nd grab

Field Supervisor Initials: DH Date: 10/18/13

Sample Lead Initials: JS Date: 10/16/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-B3

Date: 10/16/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0901 Time: 0941	Photo ID: 103-0902 Time: 0946
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Sediment in 4th grab	Description: Sediment in 5th grab
Photo ID: 103-0903 Time: 0946	Photo ID: 103-0904 Time: 0959
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Snail in Sample from 5th grab	Description: material in 7th grab
Photo ID: 103-0905 Time: 1004	Photo ID: 103-0906 Time: 1009
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Rejected 9th grab	Description: Accepted 10th grab
Photo ID: 103-0907 Time: 1009	Photo ID: 103-0908 Time: 1027
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Accepted 10th grab	Description: Sediment in 11th grab

Field Supervisor Initials: [illegible] Date: 10/18/13

Sample Lead Initials: [illegible] Date: 10/16/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-B3

Date: 10/16/13 **Vessel:** Treden

Camera Serial #: #1

Photo ID: 103-0909 Time: 1028	Photo ID: 103-0910 Time: 1137
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in 11th grab	Description: Homogenized Sediment
Photo ID: 103-0911 Time: 1143	Photo ID: 103-0912 Time: 1144
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation: Downstream / left bank
Description: Filling bioassay sample containers	Description: Processing the sample at Eric Weatherman's dock near China bend
Photo ID: 103-0913 Time: 1147	Photo ID: Time:
Photographer: Sugalski	Photographer:
Photo Orientation:	Photo Orientation:
Description: COC to UPS for Sample	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 10/18/13

Sample Lead Initials: JS Date: 10/16/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3-B4

Date: 10/14/13

Vessel: Tieton

Sampling Crew: Sugalski, Bielmann, Thatcher

Vessel Crew: Tuschhoff, Schut, Saorgen

EPA Observer: Monica Tonel

C.R. Observer: Eric Oosatwee

Arrival Time: 1346

Departure Time: 1448

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 72

Wind (mph): Calm

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 723

Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Island upstream

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Rejected location.

Collected a rejected sample of grabs

9 & 5. 2 jars were used. One was full and one was about 1/4 full. (8oz jars). The second jar was labeled AVS/SEM although there is ~~no~~ 10/14/13 head space ~~be in accordance w/ the priority listing in the FSP~~ 10/14/13. The jar was labeled AVS/SEM even though there is head space in accordance with the priority list in the FSP.

C.R. - cultural resources

Field Supervisor Initials DA Date: 10/15/13

Sample Lead Initials [illegible] Date: 10/14/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 48

Drop # (1) 2 3 Cast Time 1354 Sampler Penetration (inches): 1

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431648.45 NORTHING: 5407532.68

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 95
% Cobbles 5
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-836 Time: 1355
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: JS Date: 10/14/13 Field Supervisor Initials: AH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Gravel & cobbles did not completely close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 52

Drop # 1 (2) 3 Cast Time 1359 Sampler Penetration (inches): 1

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431634.91 NORTHING: 5407499.42

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 90
% Cobbles 10
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____		____	# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials AS Date: 10/14/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Coarse Gravel & cobbles.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B4

Anchor Point (max 3) 1 2 3 Water Depth (feet): 54

Drop # 1 2 3 Cast Time 1404 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431659.39 NORTHING: 5407487.57

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: / % Accepted Rejected

pH of Sediment in Sampler: su Description:

Sediment Characteristics

Type: % Silt (<1/16 mm)
% Sand (1/16 - 2 mm)
% Gravel 95
% Cobbles 5
% Silica Glass:

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0837 Time: 1405
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: Time: # Containers: Volume: %

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials [illegible] Date: 10/14/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel : cobbles

URS

10/14/13

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B4

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 53

Drop # (1) 2 3 Cast Time 1407 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431028.82 NORTHING: 5407475.03

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel — 3
% Cobbles — 100
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None — Hydrogen sulfide
Other:

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: JS Date: 10/14/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

rocks (coarse gravel (cobble)

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B4

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 36

Drop # 1 (2) 3 Cast Time 1412 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431066.88 NORTHING: 5407463.14
431066.88

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted (Rejected)

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time:

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials [illegible] Date: 10/11/13 Field Supervisor Initials DA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

small amounts of Seal in

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B4

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 54

Drop # 1 2 (3) Cast Time 1431 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431097.26 NORTHING: 5407481.9

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/14/13 Field Supervisor Initials: JOH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobble in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B4

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 55

Drop # (1) 2 3 Cast Time 1424 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431065.17 NORTHING: 5407473.27

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel 20
% Cobbles 50
% Silica Glass: —

Color: Munsell Color Chart #: —
Description: —

Redox Boundary: Present? — Yes — No —
If present -- Depth Below Sediment Surface (inches): —

Odor: None — Hydrogen sulfide —
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0840 Time: 1425
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials [illegible] Date: 10/14/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B4

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 55

Drop # 1 (2) 3 Cast Time 1427 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431060.40 NORTHING: 5407466.68

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel 100
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: [illegible] Date: 10/14/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Two rocks

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B4

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 55

Drop # 1 2 (3) Cast Time 1431 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431058.70 NORTHING: 5407457.90

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand 40 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: 60

Color: Munsell Color Chart #: 2.5 3/1
Description: very dark grayish brown

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0341 Time: 1433
Homogenized Sample: 103-0343 Time: 1446
Other: Homogenized 103-0342 Time: 1436

Sediment (SE) Sample ID: SE-3-B4 Time: 1436 # Containers: 2 Volume: 10 %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: 0 %

Sample Lead Initials JR Date: 10/14/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Small amount of Sediment

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3.B4

Date: 10/14/13 **Vessel:** Tilton

Camera Serial #: #1

Photo ID: 103-0834 Time: 1331	Photo ID: 103-0835 Time: 1354
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation: Upstream
Description: Station ID	Description: 1st cast, observer boat upstream along w/ island
Photo ID: 103-0836 Time: 1355	Photo ID: 103-0837 Time: 1405
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Gravel/cobble in grab	Description: Rocks in grab
~~Photo ID: 103-0836 Time: 1355~~	~~Photo ID: 103-0837 Time: 1405~~
~~Photographer: Sugalski~~	~~Photographer: Sugalski~~
Photo Orientation:	Photo Orientation:
~~Description: Sediment in grab~~	~~Description: Sediment in grab~~
Photo ID: 103-0838 Time: 1414	Photo ID: 103-0839 Time: 1416
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in grab	Description: collected Sediment from repeated Sample

JB 10/14/13

Field Supervisor Initials: DH Date: 10/15/13

Sample Lead Initials: JB Date: 10/14/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-B4

Date: 10/14/13 **Vessel:** Tyee

Camera Serial #: #1

Photo ID: 103-0840 Time: 1425	Photo ID: 103-0841 Time: 1433
Photographer: Sugishi	Photographer: Sugishi
Photo Orientation:	Photo Orientation:
Description: Back in grab	Description: Sediment in ogeital grab
Photo ID: 103-0842 Time: 1436	Photo ID: 103-0843 Time: 1446
Photographer: Sugishi	Photographer: Sugishi
Photo Orientation:	Photo Orientation:
Description: Homogenized Sediment	Description: Homogenized Sample in full 8oz jar.
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 10/15/13

Sample Lead Initials: [illegible] Date: 10/14/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3-B5

Date: 10/14/13

Vessel: Tieten

Sampling Crew: Thatcher, Bielmann, Sugalski

Vessel Crew: Schut, Toschnoff, Saugen

EPA Observer:

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 0945

Departure Time: 1053

River Stage:

Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): 48

Wind (mph): calm

Clouds/Precipitation: clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple) Slight

River Mile: 723

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Boat launch

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Attempted 9 grabs
most grabs contained cobbles
will need Reserve location

C.R. - cultural resources

Field Supervisor Initials [illegible] Date: 10/15/13

Sample Lead Initials [illegible] Date: 10/14/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B5

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 65

Drop # (1) 2 3 Cast Time 0917 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1130564.74 NORTHING: 540764.21

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials: JS Date: 10/14/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not clot

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B5

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 63

Drop # 1 (2) 3 Cast Time 0952 Sampler Penetration (inches): 0

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430509.46 NORTHING: 5407043.77

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: ____

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 1035-0813 Time: 0955
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials JJ Date: 10/14/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

4 or more Cobble Sized Rocks

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B5

Anchor Point (max 3) 1 2 3 Water Depth (feet): 63

Drop # 1 2 3 Cast Time 1000 Sampler Penetration (inches): —

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1305441.88 NORTHING: 540 7036.13

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials MM Date: 10/14/13 Field Supervisor Initials DM Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B5

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 64

Drop # (1) 2 3 Cast Time 1005 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1130506.70 NORTHING: 540705.76

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand 1 (1/16 - 2 mm)
% Gravel ____
% Cobbles 99
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0314 Time: 1009
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials JH Date: 10/14/13 Field Supervisor Initials DA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

2 cobbles
1 rock Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B5

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 63

Drop # 1 (2) 3 Cast Time 1014 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430 523.81 NORTHING: 54 7038.35

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles 100
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0315 Time: 1016
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: [illegible] Date: 10/14/13 Field Supervisor Initials: [illegible] Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobbles in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B5

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 63

Drop # 1 2 (3) Cast Time 1020 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430471.30 NORTHING: 5407045.06

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials [illegible] Date: 10/14/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

two small Rocks @ 10/14/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B5

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 67

Drop # (1) 2 3 Cast Time _____ Sampler Penetration (inches): _____

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1130485.90 NORTHING: 540705 3.55

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles 100
% Silica Glass: _____

Color: Munsell Color Chart #: _____ Description: _____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): _____

Odor: None ~~Hydrogen sulfide~~ Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0816 Time: 1029
Homogenized Sample: _____ Time: _____
Other: _____ Time: _____

Sediment (SE) Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %
Duplicate SE Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %
Split SE Samples (EPA/NPS/CCT):	_____			# Containers:	_____	Volume:	_____ %
Pore Water (PW) Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %

Sample Lead Initials JJ Date: 10/14/13 Field Supervisor Initials AM Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B5

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 66

Drop # 1 (2) 3 Cast Time 1033 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430499.42 NORTHING: 5467069.49

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ≈20
% Cobbles ≈80
% Silica Glass: ___

Color: Munsell Color Chart #: ___ Description: ___

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ___

Odor: None Hydrogen sulfide Other: ___

Amphipods: ___ Tubes: ___ Macrophytes: ___
Debris(twigs/leaves): ___ Other: ___

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ___
Eckman X
Ponar ___
Shovel ___

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0517 Time: 1035
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—		—	# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials JJ Date: 10/14/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Good 1
rebbus

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B5

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 66

Drop # 1 2 (3) Cast Time 1034 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430490.90 NORTHING: 5407067.86

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel 100
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials [illegible] Date: 10/14/13 Field Supervisor Initials [illegible] Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

One rock

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-B5

Date: 10/14/13 **Vessel:** Triton

Camera Serial #: #1

Photo ID: 103-0812 Time: 0944	Photo ID: 103-0813 Time: 0955
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Cobbles in 2nd grab
Photo ID: 103-0814 Time: 1009	Photo ID: 103-0815 Time: 1016
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation: Left Bank
Description: Cobbles in 4th grab	Description: ~~Fe~~ cobble in grab
Photo ID: 103-0816 Time: 1024	Photo ID: 103-0817 Time: 1035
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Cobbles & gravel in grab	Description: cobbles & gravel in grab
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 10/15/13

Sample Lead Initials: [illegible] Date: 10/14/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3-B6

Date: 10/15/13

Vessel: Treton

Sampling Crew: Bielsmann, Sugalski, Thatcher

Vessel Crew: Saugen, Schut, Tuschhoff

EPA Observer:

C.R. Observer: Eric Oosahuee-Voss

Arrival Time: 1402

Departure Time: 1449

River Stage:

Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): 63

Wind (mph): Calm

Clouds/Precipitation: mostly clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 722

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

about 25' from shore the water is about 10 feet deep; many boulders are observed under water

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/15/13

Sample Lead Initials AS Date: 10/15/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 36

Drop # (1) 2 3 Cast Time 1402 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429286.44 NORTHING: 5407494.73

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: BH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 21

Drop # 1 (2) 3 Cast Time 1410 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429265.70 NORTHING: 5407467.20

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials AP Date: 10/15/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 51

Drop # 1 2 (3) Cast Time 1412 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429239.64 NORTHING: 5407459.26

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None ~~Hydrogen sulfide~~
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume: %
Duplicate SE Sample ID:	Time:	# Containers:	Volume: %
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: %
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume: %

Sample Lead Initials: LS Date: 10/15/13 Field Supervisor Initials: DN Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 64

Drop # (1) 2 3 Cast Time 1416 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429252.30 NORTHING: 5407494.34

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time:
Homogenized Sample: ____ Time:
Other: Time:

Sediment (SE) Sample ID:		Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:		Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):			# Containers:	Volume:	%
Pore Water (PW) Sample ID:		Time:	# Containers:	Volume:	%

Sample Lead Initials [illegible] Date: 10/15/13 Field Supervisor Initials DA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-BG

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 31

Drop # 1 (2) 3 Cast Time 1419 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429360.32 NORTHING: 5407483.09

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ✓ % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: ✓ Tubes: ✓ Macrophytes: ✓
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials AS Date: 10/15/13 Field Supervisor Initials DA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 36

Drop # 1 2 (3) Cast Time 1422 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 424294.31 NORTHING: 5407463.53

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	(NO)
7. Sample is:	Accepted	(Rejected)

10/15/13

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials JB Date: 10/15/13 Field Supervisor Initials DA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B6

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 58

Drop # (1) 2 3 Cast Time 1425 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 4729264.69 NORTHING: 5407431.61

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: 100% Boulder

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen (X)
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0375 Time: 1427
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: [illegible] Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

1 Boulder

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-86

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 63

Drop # 1 (2) 3 Cast Time 1132 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1194779.77 NORTHING: 5407477.94

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____ % Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: KOA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B6

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 38

Drop # 1 2 (3) Cast Time 1436 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1129313.20 NORTHING: 5407465.18

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Sample Collected Using	Photo Numbers 's (see Photo Log for descriptions)
Stratified sediment: Yes No	Van Veen X
Sheen Present: Yes No	Eckman ____
	Ponar ____
	Shovel ____
	Sediment in Grab: ____ Time: ____
	Homogenized Sample: ____ Time: ____
	Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____	%
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: [illegible] Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only water

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-B6

Date: 10/15/13 **Vessel:** Tiptem

Camera Serial #: #1

Photo ID: 103-0874 Time: 1401	Photo ID: 103-0875 Time: 1427
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Boulder in grab #7
Photo ID: 103-0876 Time: 1427	Photo ID: 103-0877 Time: 1436
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation: Upstream left bank
Description: Boulder in Grab	Description: retrieving 6th grab
Photo ID: 103-0878 Time: 1436	Photo ID: 103-0879 Time: 1437
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: upstream, rt bank	Photo Orientation:
Description: retrieval of 6th grab.	Description: placing the grab into the stand before leaving the site
Photo ID:	Photo ID:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: KM Date: 10/15/13

Sample Lead Initials: [illegible] Date: 10/15/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C1

Date: 10/8/13 **Vessel:** Tieton

Sampling Crew: Bjelmen, Cebanillas, Sugalski **Vessel Crew:** Seguin, Jenkins, Schut

EPA Observer: Laura Buelow **C.R. Observer:** Eric Ooschwee-Voss

Arrival Time: 1454 **Departure Time:** 1517

River Stage:
Water Surface Elev. (ft): 1285.6

Water Surface Elevation Source:
800-824-4916

Weather Conditions Upon Arrival
Temp (°F): 74

Wind (mph): light

Clouds/Precipitation: mostly cloudy

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 720 Boat Traffic: observer

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Outcrop on right bank

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Attempted twice on 10/8/13. 1st grab did not close. 2nd grab only had water. Called it a day after the 2nd grab

C.R. - cultural resources

Field Supervisor Initials: DH Date: 10/10/13

Sample Lead Initials: [illegible] Date: 10/5/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3B-C1 (part deux)

Date: 10/9/13

Vessel: Tiltron

Sampling Crew: Sugalski, Bielmann, Cabrera, Villag

Vessel Crew: Saugen, Schut, Jenkins

EPA Observer: Laura Buelow

C.R. Observer: Ray Depuydt

Arrival Time: 1441

Departure Time: 1528

River Stage:

Water Surface Elev. (ft): 1285.6

Water Surface Elevation Source: 800-874-4916

Weather Conditions Upon Arrival

Temp (°F): 77

Wind (mph): Calm

Clouds/Precipitation: Partly Cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 720

Boat Traffic: observer

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Outcrop on right bank

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

After 9 attempts, only one large cobble was retrieved.

Will need to try reserve station

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/10/13

Sample Lead Initials [illegible] Date: 10/9/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 56

Drop # (1) 2 3 Cast Time 1500 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 426964.61 NORTHING: 5407443.90

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials [illegible] Date: 10/5/13 Field Supervisor Initials [illegible] Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 54

Drop # 1 (2) 3 Cast Time 1503 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 426935.36 NORTHING: 5407490.70

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen (X)
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):				# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials: JS Date: 10/5/13 Field Supervisor Initials: JM Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

All water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 45

Drop # 1 2 (3) Cast Time 1497 Sampler Penetration (inches): —

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 4269736.61 NORTHING: 5407478.69

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/9/13 Field Supervisor Initials: AM Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 54

Drop # (1) 2 3 Cast Time 1455 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 426950.47 NORTHING: 5407433.05

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials JB Date: 10/9/13 Field Supervisor Initials DH Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 54

Drop # 1 (2) 3 Cast Time 1300 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 472006.57 NORTHING: 5407488.50

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: —
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen —
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: — Date: 10/9/13 Field Supervisor Initials: DH Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 58

Drop # 1 2 (3) Cast Time 1503 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 426969.73 NORTHING: 5407419.11

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: — % (Accepted) Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: / Description: —

Redox Boundary: Present? (Yes) No; If present -- Depth Below Sediment Surface (inches): —

Odor: None (Hydrogen sulfide) Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials [illegible] Date: 10/9/13 Field Supervisor Initials [illegible] Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water. No Sample

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 62

Drop # (1) 2 3 Cast Time 1509 Sampler Penetration (inches): ~

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 426983.51 NORTHING: 5407432.64

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ~

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ~ Description: ~

Redox Boundary: Present? ~ Yes ~ No ~ If present -- Depth Below Sediment Surface (inches): ~

Odor: None ~ Hydrogen sulfide Other: ~

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ~
Homogenized Sample: ~ Time: ~
Other: ~ Time: ~

Sediment (SE) Sample ID: ____ Time: ~ # Containers: ~ Volume: ~ %
Duplicate SE Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %
Split SE Samples (EPA/NPS/CCT): ~ # Containers: ~ Volume: ~ %
Pore Water (PW) Sample ID: ~ Time: ~ # Containers: ~ Volume: ~ %

Sample Lead Initials: [illegible] Date: 10/9/13 Field Supervisor Initials: DH Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 42

Drop # 1 (2) 3 Cast Time 1511 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 426951.17 NORTHING: 5407452.83

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials: [illegible] Date: 10/9/13 Field Supervisor Initials: DH Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one local cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 43

Drop # 1 2 (3) Cast Time 1517 Sampler Penetration (inches): —

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 4269 33.67 NORTHING: 540746 1.99

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: —
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials JK Date: 10/9/13 Field Supervisor Initials DH Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3B-C1

Date: 10/9/13 **Vessel:** Tixton

Camera Serial #: #1

Photo ID: 103-0310 Time: 1444	Photo ID: 103-0311 Time: 1512
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation: upstream/Rt Bank
Description: Station ID	Description: cobble in grab
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: JH Date: 10/10/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3B-C3

Date: 10/5/13

Vessel: Tieton

Sampling Crew: Sugalski, Cabanillas, Bielmann

Vessel Crew: Jenkins, Schut, Saugen

EPA Observer: Laura Buelow

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1125

Departure Time: 1315

River Stage:

Water Surface Elev. (ft): 1285.6

Water Surface Elevation Source: 800-824-4916

Weather Conditions Upon Arrival

Temp (°F): 62

Wind (mph): light Breeze

Clouds/Precipitation: mostly Cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 715

Boat Traffic: + observer

Water Surface: (Calm) (Small Waves) (Choppy) - in between

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Grab results & acceptance criteria discussed ~~by~~ 10/5/13 with EPA Rep. It was determined the sample was accepted on the 2nd grab.

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/10/13

Sample Lead Initials [illegible] Date: 10/8/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 80

Drop # (1) 2 3 Cast Time 1130 Sampler Penetration (inches): —

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 422914.36 NORTHING: 5401203.25

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: —% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials [illegible] Date: 10/8/13 Field Supervisor Initials KH Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Z 28/14/8/13

Page 1 of 2

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3B-C3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 82

Drop # 1 (2) 3 Cast Time 1138 Sampler Penetration (inches): 2" on one side, 5" on other = 7 Average = 5+2/2 = 3.5"

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 4729371.97 NORTHING: 5401182.31

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% (Accepted) Rejected

pH of Sediment in Sampler: 8.22 su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand 20 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: 80

Color: Munsell Color Chart #: 10YR 3/1
Description: medium fine Black Sand

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods:
Debris(twigs/leaves):
Tubes:
Other: Snail Shell
Macrophytes:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0774 Time: 1143
Homogenized Sample: 103-0776 Time: 1231
Other: 103-0775 Time: 1143

Sediment (SE) Sample ID: SE-3B-C3 Time: 1232 # Containers: 5 Volume: 100 % (320z + Sg=1)

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: PW-3B-C3 Time: 1202 # Containers: 3 Volume: 100 %

Sample Lead Initials: [illegible] Date: 10/8/13 Field Supervisor Initials: [illegible] Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3B-C3

Date: 10/8/13 **Vessel:** Tiefer

Camera Serial #: #1

Photo ID: 103-0773 Time: 1107	Photo ID: 103-0774 Time: 1113
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Sediment in Grab
Photo ID: 103-0775 Time: 1143	Photo ID: 103-0776 Time: 1231
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Sediment in grab	Description: Homogenized Sample
Photo ID: 103-0777 Time: 1233	Photo ID: Time:
Photographer: Sugelski	Photographer:
Photo Orientation: Right bank	Photo Orientation:
Description: filling Sample Jar	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: ON Date: 10/10/13

Sample Lead Initials: JS Date: 10/8/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3-C4

Date: 10/8/13

Vessel: Tieton

Sampling Crew: Bielman, Cabanillas, Sugalski

Vessel Crew: ~~Tieton~~ Saugen, Jenkins, Schut

EPA Observer: Laura Buelow

C.R. Observer: Eric Gosatti WEE-VOSS

Arrival Time: 1331

Departure Time: 1445

River Stage:

Water Surface Elev. (ft): 1285.6

Water Surface Elevation Source: 800-824-4916

Weather Conditions Upon Arrival

Temp (°F): 63

Wind (mph): Calm

Clouds/Precipitation: Overcast

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 721

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

rock out crop on right bank

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

PW collected w/ white stone for filtered dissolved analysis vial. Blue stone used for other parameters & remaining two containers

C.R. - cultural resources

Field Supervisor Initials: DH Date: 10/10/13

Sample Lead Initials: [illegible] Date: 10/8/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-C4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 91

Drop # (1) 2 3 Cast Time 1332 Sampler Penetration (inches): 0.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 428615.83 NORTHING: 5407622.19

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:		Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:		Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):			# Containers:	Volume:	%
Pore Water (PW) Sample ID:		Time:	# Containers:	Volume:	%

Sample Lead Initials: [illegible] Date: 10/8/13 Field Supervisor Initials: DH Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-C4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 16.1

Drop # 1 (2) 3 Cast Time 1347 Sampler Penetration (inches): 4.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429079.45 NORTHING: 5407611.32

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

white/Blue = color of Sleeve

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 9.00 su Description: White = Filtered Blue = Non preserved

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand 30 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: 70

Color: Munsell Color Chart #: 10 YR 7/1
Description: Brick medium fine Sand

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: None Tubes: Macrophytes:
Debris(twigs/leaves): Observed Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0758 Time: 1351
Homogenized Sample: 103-0758 Time: 1414
Other: Time:

Sediment (SE) Sample ID: SE-3-C4	Time: 1422	# Containers: 10/8/13 CC 5	Volume: 100 %	~32 oz + 4gal
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %	
Split SE Samples (EPA/NPS/CCT): SE-3-C4 1422		# Containers: 1	Volume: 100 %	~4gal
Pore Water (PW) Sample ID: PW-3-C4	Time: 1405	# Containers: 3	Volume: 100 %	~150mL

Sample Lead Initials: [illegible] Date: 10/5/13 Field Supervisor Initials: DA Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-C4

Date: 10/8/13 **Vessel:** Tiotun

Camera Serial #: #1

Photo ID: 103-0778 Time: 1331	Photo ID: 103-0779 Time: 1331
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation: right Bank
Description: Stelcon ID	Description: rock outcrop on right bank
Photo ID: 103-0780 Time: 1331	Photo ID: 103-0781 Time: 1344
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation: upstream	Photo Orientation:
Description: Deployment of 1st grab.	Description: Retrevial of 2nd Grab.
Photo ID: 103-0782 Time: 1347	Photo ID: 103-0783 Time: 1349
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Bringing the 2nd grab on board	Description: Sample in Grab
Photo ID: 103-0784 Time: 1349	Photo ID: 103-0785 Time: 1351
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Sediment in Grab	Description: Sediment in Grab.

Field Supervisor Initials DA Date: 10/10/13

Sample Lead Initials [illegible] Date: 10/8/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-C4

Date: 10/8/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0786	Time: 1355	Photo ID: 1030787	Time: 1405
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Removing Sample from grab and into Coron tub		Description: collecting Porewater	
Photo ID: 103-0788	Time: 1419	Photo ID: 103-0789	Time: 1421
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Homogenized Sample		Description: Placing Sample into 5-gal buckets.	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials: DH Date: 10/10/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3-R1

Date: 10/17/13

Vessel: Tieton

Sampling Crew: Thatcher, Stegner, Sugalski

Vessel Crew: Saugen, Schut, Tuschhoff

EPA Observer: Monica Torul

C.R. Observer: Eric-Oosahwee

Arrival Time: 0917

Departure Time: 1227

River Stage:

Water Surface Elev. (ft): 1286.4

Water Surface Elevation Source: Cowed @ 1200

800-824-4916

Weather Conditions Upon Arrival

Temp (°F): 44

Wind (mph): Calm

Clouds/Precipitation: Fog

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 726

Boat Traffic: observers / NPS

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Sample collected from Grabs 3 and 5

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 10/17/13

Sample Lead Initials: [illegible] Date: 10/17/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 45

Drop # (1) 2 3 Cast Time 0923 Sampler Penetration (inches): 7

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432824.92 NORTHING: 5411170.17

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #:
Description: ___

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): ___

Odor: None Hydrogen sulfide
Other: ___

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0936 Time: 0924
Homogenized Sample: ___ Time: ___
Other: ___ Time: ___

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: DH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Stick in grab caused winnowing appears to be silty sand.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 45

Drop # 1 (2) 3 Cast Time 0927 Sampler Penetration (inches): ~4

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432844.82 NORTHING: 5411181.58

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

No water for pH

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ___
Ponar ___
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0937 Time: 0929
Homogenized Sample: ___ Time: ___
Other: ___ Time: ___

Sediment (SE) Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %
Duplicate SE Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:	___	Time:	___	# Containers:	___	Volume:	___ %

Sample Lead Initials: LS Date: 10/17/13 Field Supervisor Initials: DA Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Stick in grab washed out Sediments Silty Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 45

Drop # 1 2 (3) Cast Time 0938 Sampler Penetration (inches): 6

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432822.09 NORTHING: 5411177.44

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.58 su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

1 inch Brown Sand
2 inches Dark grey Sandy Silt
3 inches Silica Glass and Sandy Silt

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0940 Time: 0945
Homogenized Sample: Time:
Other: 103-0938 Time: 0942

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: AJH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

≈ 12 gallons

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 45

Drop # (1) 2 3 Cast Time 0957 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432826.14 NORTHING: 5411178.82

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: —% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: [illegible] Date: 10/17/13 Field Supervisor Initials: DA Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

D.I. wet
close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 45

Drop # 1 (2) 3 Cast Time 1000 Sampler Penetration (inches): 4.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1132839.24 NORTHING: 5411179.56

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.35 su Description: Wet

Sediment Characteristics

Type: % Silt Trace (<1/16 mm)
% Sand 85 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass: 15

Color: Munsell Color Chart #: 5Y 3/1
Description: Very dark gray medium fine sand with trace silt

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

See description for grab #3

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: small amounts of woody debris

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0943 Time: 1004
Homogenized Sample: 103-0948 Time: 1145
Other: 103-0944 Time: 1005

Sediment (SE) Sample ID: SE-3-R1 Time: 1139 # Containers: 7 Volume: 100 %

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): SE-3-R1 # Containers: 1 Volume: (1L) %

Pore Water (PW) Sample ID: PW-3-R1 Time: 1021 # Containers: 3 Volume: (1L) %

Sample Lead Initials: PS Date: 10/17/13 Field Supervisor Initials: DH Date: 10/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

~10 gallons

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-R1

Date: 10/17/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0935 Time: 0904	Photo ID: 103-0936 Time: 0924
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Material in 1st grab
Photo ID: 103-0937 Time: 0926	Photo ID: 103-0938 Time: 0947
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: material in 2nd grab	Description: material in 3rd grab
Photo ID: 103-0939 Time: 0944	Photo ID: 103-0940 Time: 0945
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in grab	Description: Sediment in grab
Photo ID: 103-0941 Time: 0948	Photo ID: 103-0942 Time: 1002
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Stratification in Sediment from 2nd grab	Description: Sediment from 5th grab

Field Supervisor Initials: DA Date: 10/17/13

Sample Lead Initials: [illegible] Date: 10/17/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-R1

Date: 10/17/13 **Vessel:** Tioten

Camera Serial #: #1

Photo ID: 103-0943 Time: 1004	Photo ID: 103-0944 Time: 1005
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in 5th grab	Description: Sediment in 5th grab
Photo ID: 103-0945 Time: 1006	Photo ID: 103-0946 Time: 1033
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Stratified Sediment in 5th grab	Description: collection of Porewater
Photo ID: 103-0947 Time: 1134	Photo ID: 103-0948 Time: 1145
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Homogenizing the Sediment	Description: Homogenized Sample
Photo ID: 103-0949 Time: 1149	Photo ID: Time:
Photographer: Sugalski	Photographer:
Photo Orientation:	Photo Orientation:
Description: Car to UBS	Description:

Field Supervisor Initials: [illegible] Date: 10/17/13

Sample Lead Initials: [illegible] Date: 10/17/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3-R2

Date: 10/14/13

Vessel: Tieton

Sampling Crew: Sugalski, Thatcher, Bielman

Vessel Crew: Schut, Saugen, Tusinhoff

EPA Observer: Monica Tonel

C.R. Observer: Eric Oosahuee - Voss

Arrival Time: 1106

Departure Time: 1324

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 59

Wind (mph): Calm

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

log boom to left.

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Sample was a combination of material from grabs 4, 5, 6 and 7

Observed by NPS & EPA

Sample collected between right bank & log boom.

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/15/13

Sample Lead Initials [illegible] Date: 10/14/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 39

Drop # (1) 2 3 Cast Time 1109 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 432023.79 NORTHING: 5409818.93

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles 100
% Silica Glass: —

Color: Munsell Color Chart #: Description: —

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0813 Time: 1109
Homogenized Sample: — Time:
Other: — Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials JC Date: 10/14/13 Field Supervisor Initials JH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Stick ! two cobbly

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R22

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 29

Drop # 1 (2) 3 Cast Time 1112 Sampler Penetration (inches): NA

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1132030.99 NORTHING: 5409807.22

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: AS Date: 10/14/13 Field Supervisor Initials: JOH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R22

Anchor Point (max 3) 1 2 3 Water Depth (feet): 20

Drop # 1 2 3 Cast Time 1115 Sampler Penetration (inches): —

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431995.14 NORTHING: 5409793.50

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: —% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103 0822 Time: 1116
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Grab had vegetation only

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 12

Drop # (1) 2 3 Cast Time 1120 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1131980.46 NORTHING: 540979 7.15

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES) 10/14/13	NO
7. Sample is:	(Accepted)	(Rejected) 10/14/13

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description: ____

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: ____

Amphipods: None Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials [illegible] Date: 10/14/13 Field Supervisor Initials [illegible] Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Small amount of Sediment, one Lexan Scoop

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 9

Drop # 1 (2) 3 Cast Time 1126 Sampler Penetration (inches): 7 inches

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431968.67 NORTHING: 5409808

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? (YES) NO
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? (YES) NO
5. Desired penetration depth (4 to 6 inches) achieved? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES (NO)
7. Sample is: (Accepted) Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.43 su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Scuds & water Flea Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0825 Time: 1131
Homogenized Sample: Time:
Other: 103-0826 Time: 1132

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials [illegible] Date: 10/14/13 Field Supervisor Initials [illegible] Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 9

Drop # 1 2 (3) Cast Time 1145 Sampler Penetration (inches): Average = 3.4ins

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431977.22 NORTHING: 5409798.92

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.15 su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Scuds ; water flea Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0827 Time: 1149
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials AL Date: 10/14/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 9

Drop # (1) 2 3 Cast Time 1157 Sampler Penetration (inches): 8

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431986.153 NORTHING: 540 9798.19

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.12 su Description: —

Sediment Characteristics

Type: % Silt 20 (<1/16 mm)
% Sand 80 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: 5Y 3/2
Description: Silty Sand Dark olive Grey

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: None (Hydrogen sulfide)
Other:

Amphipods:
Debris(twigs/leaves): Small
Tubes:
Other:
Macrophytes:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0525 Time: 1200
Homogenized Sample: 103-0532 Time: 1304
Other: 103-0529 Time: 1201

Sediment (SE) Sample ID: SE-3-R2 Time: 1258 # Containers: 7 Volume: 100 %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): SE-3-R2 # Containers: 1 Volume: 100 %
Pore Water (PW) Sample ID: PW-3-R2 Time: 1211 # Containers: 3 Volume: 100 %

Sample Lead Initials: JS Date: 10/14/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-R2

Date: 10/14/13 **Vessel:** Tiesten

Camera Serial #: 41

Photo ID: 103-0818 Time: 1109	Photo ID: 103-0819 Time: 1110
Photographer: Sugelski	Photographer: JD
Photo Orientation: Right bank	Photo Orientation:
Description: Piece of a stick in grab	Description: Stetson
Photo ID: 103-0820 Time: 1115	Photo ID: 103-0821 Time: 1116
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation: Right Bank	Photo Orientation: Right Bank/ downstream
Description: Shore condition	Description: retrieving sample
Photo ID: 103-0822 Time: 1116	Photo ID: 103-0823 Time: 1123
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Vegetation in Grab	Description: Sediment in 4th grab attempt
Photo ID: 103-0824 Time: 1126	Photo ID: 103-0825 Time: 1131
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation: down	Photo Orientation:
Description: Subsurface bedrock w/in sampling radius	Description: Sediment in Grab

Field Supervisor Initials: AM Date: 10/15/13

Sample Lead Initials: EJ Date: 10/14/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** S-R2

Date: 10/14/13 **Vessel:** Tristem

Camera Serial #: #1

Photo ID: 103-0826 Time: 1132	Photo ID: 103-0827 Time: 1149
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: removing water from sample	Description: Sediment in grab
Photo ID: 103-0828 Time: 1200	Photo ID: 103-0829 Time: 1201
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Sediment in grab	Description: Sediment in grab
Photo ID: 103-0830 Time: 1205	Photo ID: 103-0831 Time: 1206
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Snail in Sediment	Description: collection of porewater
Photo ID: 103-0832 Time: 1304	Photo ID: 103-0833 Time: 1307
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Homogenized Sample	Description: COC to NPS

Field Supervisor Initials: DH Date: 10/14/13

Sample Lead Initials: [illegible] Date: 10/14/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3-RS

Date: 10/14/13

Vessel: Treton

Sampling Crew: Sugalski, Bielmann, Thatcher

Vessel Crew: Tuschhoff, Schut, Sausen

EPA Observer: Monica Toml

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1456

Departure Time: 1600

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 70

Wind (mph): calm

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____

Boat Traffic: _____

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

C.R. - cultural resources

Field Supervisor Initials: DH Date: 10/15/13

Sample Lead Initials: [illegible] Date: 10/14/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-RS

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 55

Drop # (1) 2 3 Cast Time 1511 Sampler Penetration (inches): —

Angle (< 5°max) ~~Yes~~ No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1131583.20 NORTHING: 540764381

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	10/14/13 (Accepted)	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/14/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Just Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-RS

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 54

Drop # 1 (2) 3 Cast Time 1515 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431543.95 NORTHING: 5407622.28

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	(NO) 08 10/14/13
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen (✓)
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials ZB Date: 10/14/13 Field Supervisor Initials [illegible] Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R5

Anchor Point (max 3) 1 2 3 Water Depth (feet): 54

Drop # 1 2 3 Cast Time 1518 Sampler Penetration (inches): ~

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431573.01 NORTHING: 5407647.44

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: [illegible] Date: 10/14/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Two ~~one~~ cobbles
[illegible] 10/14/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R5

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 52

Drop # (1) 2 3 Cast Time 1523 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431550.93 NORTHING: 5407645.92

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: —
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials [illegible] Date: 10/14/13 Field Supervisor Initials [illegible] Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-RS

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 52

Drop # 1 (2) 3 Cast Time 1525 Sampler Penetration (inches): ~

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431529.56 NORTHING: 5407631.71

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ~ su Description: ~

Sediment Characteristics

Type: % Silt ~ (<1/16 mm)
% Sand ~ (1/16 - 2 mm)
% Gravel ~
% Cobbles ~ } 100
% Silica Glass: ~

Color: Munsell Color Chart #:
Description: ~

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): ~

Odor: None ~ Hydrogen sulfide ~
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0845 Time: 1527
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: ~ Time: ~	# Containers: ~	Volume: ~ %
Duplicate SE Sample ID: ~ Time: ~	# Containers: ~	Volume: ~ %
Split SE Samples (EPA/NPS/CCT): ~	# Containers:	Volume: ~ %
Pore Water (PW) Sample ID: ~ Time: ~	# Containers: ~	Volume: ~ %

Sample Lead Initials: [illegible] Date: 10/14/13 Field Supervisor Initials: KOA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel & cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-R5

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 58

Drop # 1 2 (3) Cast Time 1530 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431576.20 NORTHING: 5407601.65

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted (Rejected)

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles — } 100
% Silica Glass: —

Color: Munsell Color Chart #: —
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: [illegible] Date: 10/14/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-RS

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 56

Drop # (1) 2 3 Cast Time 1533 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431558.22 NORTHING: 5407595.56

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? — Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: — Macrophytes:
Debris(twigs/leaves): — Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0846 Time: 1535
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials: [illegible] Date: 10/14/13 Field Supervisor Initials: DF Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R5

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 56

Drop # 1 (2) 3 Cast Time 1539 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431612.63 NORTHING: 5407613.07

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: ES Date: 10/14/13 Field Supervisor Initials: AOA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Only Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R5

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 59

Drop # 1 2 (3) Cast Time 1543 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 431573.41 NORTHING: 5407591.13

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: % Accepted Rejected

pH of Sediment in Sampler: su Description:

Sediment Characteristics

Type: % Silt (<1/16 mm)
% Sand (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: Time: # Containers: Volume: %

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials: Date: 10/14/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

All water

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-RS

Date: 10/14/13 **Vessel:** Tiedam

Camera Serial #: #1

Photo ID: 103-0844 Time: 1458	Photo ID: 103-0845 Time: 1527
Photographer: Sugelak	Photographer: Sugelak
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: cobbles & gravel in grab
Photo ID: 103-0846 Time: 1535	Photo ID: Time:
Photographer: Sugelak	Photographer:
Photo Orientation:	Photo Orientation:
Description: cobbles in grab	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: AM Date: 10/15/13

Sample Lead Initials: [illegible] Date: 10/14/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3-R6

Date: 10/15/13

Vessel: Tieton

Sampling Crew: Sugalski, Reelmann, Thatcher

Vessel Crew: Saugen, Tuschhoff, Schut

EPA Observer: Monica Tonel

C.R. Observer: Eric Ooschwee-Voss

Arrival Time: 1105

Departure Time: 1155

River Stage:

Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): 62

Wind (mph): Calm

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile:

Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Rejected location only retrieved a small amount of sand, but mostly gravel & cobbles. One 8oz jar filled about 1/2 the way was collected from the rejected 2nd grab

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 10/15/13

Sample Lead Initials: [illegible] Date: 10/15/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 69

Drop # (1) 2 3 Cast Time 1106 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430830.15 NORTHING: 5407411.25

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: / % Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel 100
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description: _____

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): _____

Odor: None Hydrogen sulfide
Other: _____

Amphipods: _____ Tubes: _____ Macrophytes: _____
Debris(twigs/leaves): _____ Other: _____

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0855 Time: 1109
Homogenized Sample: _____ Time: _____
Other: _____ Time: _____

Sediment (SE) Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %
Duplicate SE Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	_____ %
Pore Water (PW) Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %

Sample Lead Initials CB Date: 10/15/13 Field Supervisor Initials KOH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R6

Anchor Point (max 3) 1 2 3 Water Depth (feet): 65

Drop # 1 2 3 Cast Time 1112 Sampler Penetration (inches): —

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430835.95 NORTHING: 5407397.87

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 95 (1/16 - 2 mm)
% Gravel 0
% Cobbles 0
% Silica Glass: Trace

Color: Munsell Color Chart #: 10YR 3/1
Description: very dark gray fine Sand w/ trace Silt

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: SE-3-R6	Time: 1155	# Containers: 1	Volume: ¼	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: KA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Small amount of Sed. material collected as rejected material

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 69

Drop # 1 2 (3) Cast Time 1116 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430802.22 NORTHING: 5407383.60

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand 5 (1/16 - 2 mm)
% Gravel 95
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0361 Time: 1118
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials JS Date: 10/15/13 Field Supervisor Initials DA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Small amount of sand & gravel

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 64

Drop # (1) 2 3 Cast Time 1122 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 4130859.23 NORTHING: 5407378.81

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: ____

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide
Other: ____

Amphipods: ____ Tubes: ____ Macrophytes: ____
Debris(twigs/leaves): ____ Other: ____

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: AM Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

few Rocks

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 66

Drop # 1 (2) 3 Cast Time 1126 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430822.52 NORTHING: 5407363.26

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel 95
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0362 Time: 1128
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

One rock
a little bit
of sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R4

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 63

Drop # 1 2 (3) Cast Time 1133 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430870.00 NORTHING: 5407408.57

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: —% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel 100
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: —
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0863 Time: 1134
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %
Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials [illegible] Date: 10/15/13 Field Supervisor Initials KH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R6

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 64

Drop # (1) 2 3 Cast Time 1137 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430836.37 NORTHING: 5407398.94

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel 100
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials [illegible] Date: 10/15/13 Field Supervisor Initials KOA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

One rock in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R66

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 66

Drop # 1 (2) 3 Cast Time 1141 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1308112.19 NORTHING: 5407369.55

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials JS Date: 10/15/13 Field Supervisor Initials FOH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

One cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R6

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 67

Drop # 1 2 (3) Cast Time 1145 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430821.18 NORTHING: ~~540273.6~~ 540736.74

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description:

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel 100
% Cobbles ___
% Silica Glass: ___

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: ___ Time:
Homogenized Sample: ___ Time:
Other: Time:

Sediment (SE) Sample ID: ~~SE-3-R6~~ S	Time: 10/15/13	# Containers: 4 on 10/15/13	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: AOA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

3 gallons

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-RG

Date: 10/15/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0856 Time: 1059	Photo ID: 103-0857 Time: 1059
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: mazama crew sampling 3-R3 as Tiefen heads to 3-RG	Description: Station ID
Photo ID: 103-0858 Time: 1105	Photo ID: 103-0859 Time: 1109
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation: upstream	Photo Orientation:
Description: right bank during deployment at 1st grab	Description: 1st grab
Photo ID: 103-0860 Time: 1116	Photo ID: 103-0861 Time: 1118
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: recovered material from 2nd grab	Description: recovered material in 3rd grab
Photo ID: 103-0862 Time: 1128	Photo ID: 103-0863 Time: 1134
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: material in 5th grab	Description: gravel in 6th grab

Field Supervisor Initials: [illegible] Date: 10/15/13

Sample Lead Initials: [illegible] Date: 10/15/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-R6

Date: 10/15/13 **Vessel:** Tiffon

Camera Serial #: #1

Photo ID: 103-0864 Time: 1150	Photo ID: 103-0865 Time: 1214
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation: Right bank shore
Description: Homogenized Sample	Description: 10/15/13 ~~Shore~~ Subsurface conditions at RT bank near 3-R6. Subsurface conditions may have been similar at location.
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials JA Date: 10/15/13

Sample Lead Initials [illegible] Date: 10/15/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3-R7

Date: 10/15/13

Vessel: Tieton

Sampling Crew: Stegner, Thatcher, Sogalski

Vessel Crew: Saugen, Schut, Tuschhoff

EPA Observer: Monica Tonel

C.R. Observer: Eric Oosattree

Arrival Time: 1510

Departure Time: 1733

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 63°F

Wind (mph): calm

Clouds/Precipitation: partly cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____

Boat Traffic: _____

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Sample was composite of Grabs 4, 6, 7, 9 and 11.

C.R. - cultural resources

Field Supervisor Initials: DA Date: 10/15/13

Sample Lead Initials: [illegible] Date: 10/15/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R7

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 71

Drop # (1) 2 3 Cast Time 1511 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430256.70 NORTHING: 5407147.63

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics

Type: % Silt ___ (<1/16 mm)
% Sand ___ (1/16 - 2 mm)
% Gravel ___
% Cobbles 100
% Silica Glass: ___

Color: Munsell Color Chart #: Description: ___

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ___

Odor: None Hydrogen sulfide Other: ___

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0811 Time: 1513
Homogenized Sample: ___ Time: ___
Other: Time: ___

Sediment (SE) Sample ID: ___	Time: ___	# Containers: ___	Volume: ___ %
Duplicate SE Sample ID: ___	Time: ___	# Containers: ___	Volume: ___ %
Split SE Samples (EPA/NPS/CCT):		# Containers: ___	Volume: ___ %
Pore Water (PW) Sample ID: ___	Time: ___	# Containers: ___	Volume: ___ %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: RDA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

cobbles

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R7

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 73

Drop # 1 (2) 3 Cast Time 1516 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430290.33 NORTHING: 5407139.51

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: Description: —

Redox Boundary: Present? Yes No — If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: — Tubes: Macrophytes: —
Debris(twigs/leaves): — Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time:
Homogenized Sample: — Time:
Other: — Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: DA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R7

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 73

Drop # 1 2 (3) Cast Time 1520 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430254.32 NORTHING: 5407138.73

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None ~~Hydrogen sulfide~~
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials: JS Date: 10/15/13 Field Supervisor Initials: DM Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R7

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 77

Drop # (1) 2 3 Cast Time 1524 Sampler Penetration (inches): 8

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430283.74 NORTHING: 5407148.68

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.02 su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0882 Time: 1508
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials [illegible] Date: 10/15/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

medium grab of Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-127

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 74

Drop # 1 (2) 3 Cast Time 1538 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: 10/15/13 {NAD_83_UTM_Zone_11_North}
EASTING: ~~430357.59~~ 430302.59 NORTHING: 5407153.75

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None — Hydrogen sulfide
Other: ____

Amphipods: — Tubes: Macrophytes: —
Debris(twigs/leaves): — Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 1030383 Time: 1539
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: OH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Stick in grab caused sample washout

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R7

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 71

Drop # 1 2 (3) Cast Time 1542 Sampler Penetration (inches): 5

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430307.04 NORTHING: 5407148.77

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.00 su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: —
Description: —

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0585 Time: 1548
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: — Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: — Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —	# Containers: —	Volume: — %
Pore Water (PW) Sample ID: — Time: —	# Containers: —	Volume: — %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: [illegible] Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

large grab of Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R7

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 71

Drop # (1) 2 3 Cast Time 1556 Sampler Penetration (inches): 3

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430302.79 NORTHING: 5407151.46

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 7.98 su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description: —

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: Small Shell

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0336 Time: 1602
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: — %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: JB Date: 10/15/13 Field Supervisor Initials: JA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Small grab of Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R7

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 70

Drop # 1 (2) 3 Cast Time 1608 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430313.55 NORTHING: 5407156.36

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 100
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: ____

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0857 Time: 1609
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Split SE Samples (EPA/NPS/CCT): # Containers: ____ Volume: ____ %
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials DB Date: 10/15/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

large cobble in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R7

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 71

Drop # 1 2 (3) Cast Time 1612 Sampler Penetration (inches): 3

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1183309.61 NORTHING: 5407153.27

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 7.98 su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0888 Time: 1616
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials AG Date: 10/15/13 Field Supervisor Initials KOA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R7

Anchor Point (max 3) 1 2 3 (4) Water Depth (feet): 70

Drop # (1) 2 3 Cast Time 1624 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430303.04 NORTHING: 5407156.10

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles 100
% Silica Glass: —

Color: Munsell Color Chart #: Description: —

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): —

Odor: None — Hydrogen sulfide Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0889 Time: 1625
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: [illegible] Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Rock in Grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-RT

Anchor Point (max 3) 1 2 3 (4) Water Depth (feet): 71

Drop # 1 (2) 3 Cast Time 1628 Sampler Penetration (inches): 2

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430303.47 NORTHING: 5407158.77

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 7.94 su Description:

Sediment Characteristics

Type: % Silt Trace (<1/16 mm)
% Sand 70 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass: 30

Color: Munsell Color Chart #: 10YR 2/1
Description: Black Sand w/ trace silt

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0890 Time: 1633
Homogenized Sample: 103-0891 Time: 1702
Other: Time:

Sediment (SE) Sample ID: SE-3-RT Time: 1705 # Containers: 7 Volume: %
Duplicate SE Sample ID: Time: # Containers: Volume: %
Split SE Samples (EPA/NPS/CCT): (Yes) SE-3-RT # Containers: 1 Volume: %
Pore Water (PW) Sample ID: PW-3-RT Time: 1700 # Containers: 3 Volume: 100 %

Sample Lead Initials: JD Date: 10/15/13 Field Supervisor Initials: DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Medium grab of Sand

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-R7

Date: 10/15/13 **Vessel:** Tieten

Camera Serial #: #1

Photo ID: ~~103-0879~~ 2	Time: 10/15/13	Photo ID: 103-0880	Time: 1513
Photographer:		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description:		Description: Station ID	
Photo ID: 103-0881	Time: 1513	Photo ID: 103-0882	Time: 1528
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: rocks in Grab		Description: Sediment in 4th grab	
Photo ID: 103-0883	Time: 1539	Photo ID: 103-0884	Time: 1548
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Sediment in rejected 5th grab		Description: Sediment in 6th grab	
Photo ID: 103-0885	Time: 1548	Photo ID: 103-0886	Time: 1602
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Sediment in 6th grab		Description: Sediment from 7th grab	

Field Supervisor Initials: DH Date: 10/15/13

Sample Lead Initials: [illegible] Date: 10/15/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-R7

Date: 10/15/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0887 Time: 1609	Photo ID: 103-0888 Time: 1616
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: cobble in 8th grab	Description: Sediment in 9th grab
Photo ID: 103-0889 Time: 1625	Photo ID: 103-0890 Time: 1633
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: cobble in grab #10	Description: Sediment in grab
Photo ID: 103-0891 Time: 1702	Photo ID: 103-0892 Time: 1713
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Homogenized Sample.	Description: UPS split CCC
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 10/15/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3 - R8

Date: 10/24/13

Vessel: Tie ten

Sampling Crew: Sugalski, Thatcher, Stegner

Vessel Crew: Saugen, Schut, Tuschhoff

EPA Observer: Marylin Gauthier

C.R. Observer: Eric Oschner-Voss

Arrival Time: 0957

Departure Time: 1137

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 53

Wind (mph): light Breeze

Clouds/Precipitation: mostly Cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 722

Boat Traffic: _____

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Sample is composite of grabs 3, 5 and 7
Sample was rejected and an acceptable grab was not collected. Approximately 13 gallons was recovered; about 4 split off with no overlying water for the UPS

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/24/13

Sample Lead Initials [illegible] Date: 10/24/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R8

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 135

Drop # (1) 2 3 Cast Time 1001 Sampler Penetration (inches): 7in

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429466.19 NORTHING: 5407280.05

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials JS Date: 10/24/13 Field Supervisor Initials DM Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

clid not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R8

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 134

Drop # 1 (2) 3 Cast Time 1007 Sampler Penetration (inches): mid

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429457.07 NORTHING: 5407274.69

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: ____ Tubes: ____ Macrophytes: ____
Debris(twigs/leaves): ____ Other: ____

Stratified sediment: Yes No	Sample Collected Using	Photo Numbers 's (see Photo Log for descriptions)	
Sheen Present: Yes No	Van Veen X	Sediment in Grab: 104-0244	Time: 1010
	Eckman ____	Homogenized Sample: ____	Time: ____
	Ponar ____	Other: ____	Time: ____
	Shovel ____		

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____	%
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials LS Date: 10/24/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one rock

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-RB

Anchor Point (max 3) 1 2 3 Water Depth (feet): 130

Drop # 1 2 3 Cast Time 1012 Sampler Penetration (inches): Trd

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 429447.95 NORTHING: 5407280.18

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ___% Accepted Rejected

pH of Sediment in Sampler: ___ su Description: ___

Sediment Characteristics Before Sieve / After Sieve

Type: % Silt ___ (<1/16 mm)
% Sand 5 (1/16 - 2 mm)
% Gravel 90
% Cobbles ___
% Silica Glass: 5

Color: Munsell Color Chart #: Description: ___

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: ___

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ___
Ponar ___
Shovel ___

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 104-0245 Time: 10:15
Homogenized Sample: ___ Time: ___
Other: ___ Time: ___

Sediment (SE) Sample ID: ___ Time: ___	# Containers: ___	Volume: ___ %
Duplicate SE Sample ID: ___ Time: ___	# Containers: ___	Volume: ___ %
Split SE Samples (EPA/NPS/CCT):	# Containers: ___	Volume: ___ %
Pore Water (PW) Sample ID: ___ Time: ___	# Containers: ___	Volume: ___ %

Sample Lead Initials: [illegible] Date: 10/24/13 Field Supervisor Initials: AM Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel with
Some
1/2 gallon

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-RE

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 135

Drop # (1) 2 3 Cast Time 1023 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429434.32 NORTHING: 5407274.27

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: ____

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____	%
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials [illegible] Date: 10/24/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one rock

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-B8

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 133

Drop # 1 (2) 3 Cast Time 1028 Sampler Penetration (inches): 23 + tnt 10/24/13 4

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429441.08 NORTHING: 5107278.23

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics Before Sieve After Sieve

Type: % Silt ____ (<1/16 mm)
% Sand 5 (1/16 - 2 mm)
% Gravel 70
% Cobbles ____
% Silica Glass: 25

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0247 Time: 1031
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials [illegible] Date: 10/24/13 Field Supervisor Initials DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sandy gravel

Grab did not close completely 2 of 3

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R8

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 130

Drop # 1 2 (3) Cast Time 1053 Sampler Penetration (inches): Inv

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429420.40 NORTHING: 5407278.93

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None ~~Hydrogen sulfide~~
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0249 Time: 1057
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials JR Date: 10/24/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R8

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 131

Drop # (1) 2 3 Cast Time 1059 Sampler Penetration (inches): 4

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429436.57 NORTHING: 5407272.30

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? YES (NO)
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES (NO)
5. Desired penetration depth (4 to 6 inches) achieved? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? (YES) NO
7. Sample is: Accepted (Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted (Rejected)

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics Before Sieve After

Type: % Silt — (<1/16 mm)
% Sand 5 (1/16 - 2 mm) 20
% Gravel ~~40~~ 35
10/24/13
% Cobbles
% Silica Glass: 60. 80

Color: Munsell Color Chart #: 10YR 2/1
Description: Black Sand

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: none

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0250 Time: 1104
Homogenized Sample: 104-0254 Time: 1211
Other: Time:

Sediment (SE) Sample ID: SE-3-R8 Time: 1206 # Containers: 6 Volume: ____ %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/(NPS)/CCT): SE-3-R8 1206 # Containers: 1 Volume: 4gal %
Pore Water (PW) Sample ID: PW-3-R8 Time: 1202 # Containers: 3 Volume: 100 %

3202 - +9gal

Sample Lead Initials AB Date: 10/24/13 Field Supervisor Initials DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Black gravelly Sand

URS

8 gallons

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-RS

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 126

Drop # 1 (2) 3 Cast Time 1125 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429441.52 NORTHING: 5407273.24

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen Y
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 104-0251 Time: 1128
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials: [illegible] Date: 10/24/13 Field Supervisor Initials: DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

1 rock

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R9

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 126

Drop # 1 2 (3) Cast Time 1131 Sampler Penetration (inches): Incl

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 429430.21 NORTHING: 5407270.24

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted (Rejected)

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel 100
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 104-0252 Time: 1134
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/24/13 Field Supervisor Initials: DA Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-R8

Date: 10/24/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0240 Time: 9:39	Photo ID: 104-0241 Time: 9:58
Photographer: MS	Photographer:
Photo Orientation: -	Photo Orientation: South
Description: Station ID	Description: Overview downstream
Photo ID: 104-0242 Time: 9:58	Photo ID: 104-0243 Time: 9:58
Photographer: MS	Photographer: MS
Photo Orientation: West	Photo Orientation: East
Description: right bank of river	Description: left bank of river
Photo ID: 104-0244 Time: 10:10	Photo ID: 104-0245 Time: 10:15
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Grab #2 (AP1D2) one cobble caught in grab	Description: Grab #3 (AP1D3) Cobbles/gravels/trace sediment in grab
Photo ID: 104-0246 Time: 10:20	Photo ID: 104-0247 Time: 10:31
Photographer: MS	Photographer: MS
Photo Orientation: -	Photo Orientation: -
Description: Grab #3 in tub	Description: Grab #5 (AP2D2) gravel & sediment in grab

Field Supervisor Initials: DH Date: 10/24/13

Sample Lead Initials: JA Date: 10/24/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-R8

Date: 10/24/2013 **Vessel:** Tietan

Camera Serial #: #1 Lumix

Photo ID: 104-0248 Time: 10:35	Photo ID: 104-0249 Time: 10:57
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab #5 Sediment in scoop	Description: Grab #6 (AP2D3) two gravels stuck in grab
Photo ID: 104-0250 Time: 11:04	Photo ID: 104-0251 Time: 11:28
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab #7 (AP3D1) Sediment & gravels in grab	Description: Grab #8 (AP3D2) Cobble stuck in grab
Photo ID: 104-0252 Time: 11:34	Photo ID: 104-0253 Time: 11:43
Photographer:	Photographer: MS
Photo Orientation:	Photo Orientation:
Description: Grab #9 (AP3D3) Cobble stuck in grab	Description: porewater sampling
Photo ID: 104-0254 Time: 12:11	Photo ID: Time:
Photographer: MS	Photographer:
Photo Orientation: —	Photo Orientation:
Description: homogenized sediment in scoop	Description:

Field Supervisor Initials: OH Date: 10/24/13

Sample Lead Initials: JG Date: 10/24/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R9

Date: 10/24/13 **Vessel:** Tiaton

Sampling Crew: Sugalski, Thatcher, Stegner **Vessel Crew:** Seegar, Schut, Teschhaff

EPA Observer: Marylin Gauthier **C.R. Observer:** Eric Oschwer-Voss

Arrival Time: 1249 **Departure Time:** 1413

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): 60
Wind (mph): light breeze
Clouds/Precipitation: clear

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 721 Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes (No)

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Sample is composite of grabs 4 & 5

C.R. - cultural resources

Field Supervisor Initials: OA Date: 10/24/13

Sample Lead Initials: _____ Date: 10/24/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R9

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 79

Drop # (1) 2 3 Cast Time 1250 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 428420.57 NORTHING: 5407795.09

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

10/24/13

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles 150
% Silica Glass: ____

Color: Munsell Color Chart #: Description: ____

Redox Boundary: Present? Yes (—) No
If present -- Depth Below Sediment Surface (inches): ____

Odor: None (—) Hydrogen sulfide
Other: ____

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0254 Time: 1253
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials: [illegible] Date: 10/24/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one cobble

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R9

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 74

Drop # 1 (2) 3 Cast Time 1254 Sampler Penetration (inches): Tnil

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 428429.38 NORTHING: 5407806.66

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: ____ Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____ Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT): ____	# Containers: ____	Volume: ____	%
Pore Water (PW) Sample ID: ____ Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials: [illegible] Date: 10/24/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R9

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 63

Drop # 1 2 (3) Cast Time 1257 Sampler Penetration (inches): Ind

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 423501.95 NORTHING: 5407776.48

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen (✓)
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:		Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):			# Containers:	Volume:	%
Pore Water (PW) Sample ID:		Time:	# Containers:	Volume:	%

Sample Lead Initials: [illegible] Date: 10/24/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R9

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 44

Drop # (1) 2 3 Cast Time 1301 Sampler Penetration (inches): 2.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 428506.64 NORTHING: 5407821.67

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.08 su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other: worm

Stratified sediment: (Yes) No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 104-0261 Time: 1309
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 10/24/13 Field Supervisor Initials: DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

1" medium fine gravel
1" - Brown Sandy Silt
1" fine-grained Silty Sand
gray Silty Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R9

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 41

Drop # 1 (2) 3 Cast Time 1315 Sampler Penetration (inches): 5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 428470.83 NORTHING: 5407835.83

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? (YES) NO
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? (YES) NO
5. Desired penetration depth (4 to 6 inches) achieved? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES (NO)
7. Sample is: (Accepted) Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.07 su Description: 3 white stones, 1 blue
3 stones at once

Sediment Characteristics

Type: % Silt 80 (<1/16 mm)
% Sand 15 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass: 5

Color: Munsell Color Chart #: 2.5Y 3/1
Description: very dark gray sandy silt

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other: —

Amphipods: Tubes: Macrophytes: empty mussel shell
Debris(twigs/leaves): Other: Fishing line

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 104-0263 Time: 1320
Homogenized Sample: 104-0269 Time: 1355
Other: Time:

Sediment (SE) Sample ID: SE-3-R9 Time: 1354 # Containers: 7 Volume: 100 % 32oz + 12gal

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): SE-3-R9 1354 # Containers: 1 Volume: 100 %

Pore Water (PW) Sample ID: PW-3-R9 Time: 1351 # Containers: 3 Volume: 100 % -4

1" Brown silty sand
4" gray silty sand with 2 1/4" bands of silica glass

Sample Lead Initials [illegible] Date: 10/24/13 Field Supervisor Initials DH Date: 10/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-RM9

Date: 10/24/2013 **Vessel:** Tiekon

Camera Serial #: #1

Photo ID: 104-0255 Time: 12:52	Photo ID: 104-0256 Time: 12:52
Photographer: Michelle Steginer (MS)	Photographer: MS
Photo Orientation: —	Photo Orientation: north
Description: Station ID	Description: Sample location overview Upstream
Photo ID: 104-0257 Time: 12:52	Photo ID: 104-0258 Time: 12:52
Photographer: MS	Photographer: MS
Photo Orientation: west	Photo Orientation: east
Description: right river bank	Description: left river bank
Photo ID: 104-0259 Time: 12:53	Photo ID: 104-0260 Time: 13:09
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab #1 (AP1D1) one cobble in grab	Description: Grab #4 (AP2D1) Sediment
Photo ID: 104-0261 Time: 13:09	Photo ID: 104-0262 Time: 13:10
Photographer: MS	Photographer: MS
Photo Orientation: — (MS)	Photo Orientation: —
Description: Grab #~~4~~ (~~AP2D2~~) Sediment in grab	Description: Grab #4 Sediment in scoop

Field Supervisor Initials: DK Date: 10/24/13

Sample Lead Initials: MS Date: 10/24/2013

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3.R9

Date: 10/24/2013 **Vessel:** Tieton

Camera Serial #: #1 Lumix

Photo ID: 104-0263 Time: 13:20	Photo ID: 104-0264 Time: 13:21
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: Grab #5 (AP2D2) sediment in grab	Description: Grab #5 sediment in scoop
Photo ID: 104-0265 Time: 13:21	Photo ID: 104-0266 Time: 13:23
Photographer:	Photographer: MS
Photo Orientation:	Photo Orientation: —
Description: Grab #5 sediment in scoop	Description: mussel shell in Grab #5
Photo ID: 104-0267 Time: 13:23	Photo ID: 104-0268 Time: 13:33
Photographer: MS	Photographer: MS
Photo Orientation: —	Photo Orientation: —
Description: mussel shell in Grab #5	Description: porewater sampling
Photo ID: 104-0269 Time: 13:55	Photo ID: 104-0270 Time:
Photographer: MS	Photographer:
Photo Orientation: —	Photo Orientation:
Description: homogenized sample	Description:

Field Supervisor Initials: DH Date: 10/24/13

Sample Lead Initials: [signature] Date: 10/24/2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 3-R10

Date: 10/15/13

Vessel: Tieton

Sampling Crew: Bielmann, Sugalski, Thatcher

Vessel Crew: Saugen, Schut, Tuschhoff

EPA Observer: Monica Tonel

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1253

Departure Time: 1354

River Stage:

Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival

Temp (°F): 67

Wind (mph): calm

Clouds/Precipitation: partly cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile:

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Rock outcrops up & down stem.

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Sample is combination of grabs 5, 7.

rejected, 2 8oz jars filled

C.R. - cultural resources

Field Supervisor Initials: DH Date: 10/15/13

Sample Lead Initials: JS Date: 10/15/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R10

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 42

Drop # (1) 2 3 Cast Time 1254 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 427592.32 NORTHING: 5407795.12

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: / Description:

Redox Boundary: Present? Yes (No) / If present -- Depth Below Sediment Surface (inches):

Odor: None (Hydrogen sulfide) Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials CB Date: 10/15/13 Field Supervisor Initials JH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water only

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R10

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 62

Drop # 1 (2) 3 Cast Time 1734 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1127593.54 NORTHING: 540771.77

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials MM Date: 10/15/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R10

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 21

Drop # 1 2 (3) Cast Time 1303 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 427574.87 NORTHING: 5407815.82

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel 100
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0567 Time: 1304
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials: JJ Date: 10/15/13 Field Supervisor Initials: DA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

one rock in grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R10

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 21

Drop # (1) 2 3 Cast Time 1306 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 427577.26 NORTHING: 5407821.38

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: —% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): — Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: — Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials CS Date: 10/15/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R10

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 61

Drop # 1 (2) 3 Cast Time 1312 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 427590.55 NORTHING: ~~540777.68~~ 540 7777.68 10/15/13

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand 10 (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: 90

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None (Hydrogen sulfide)
Other: ____

Amphipods: — Tubes: Macrophytes:
Debris(twigs/leaves): — Other: —

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0868 Time: 1313
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: ~~SE-R10~~ ~~SE-3-R10~~ 10/15/13 Time: — # Containers: — Volume: — %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: %

Sample Lead Initials: [illegible] Date: 10/15/13 Field Supervisor Initials: JOH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

gravel & small amnt of sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R10

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 70

Drop # 1 2 (3) Cast Time 1316 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 427581.29 NORTHING: 5407761.23

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: —

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None (Hydrogen sulfide)
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials [illegible] Date: 10/15/13 Field Supervisor Initials DA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

only Water

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R10

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 67

Drop # (1) 2 3 Cast Time 1325 Sampler Penetration (inches): minimal

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 427608.26 NORTHING: 5407777.59

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____ % Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt 5 10/15/13 (<1/16 mm)
% Sand 90 10 (1/16 - 2 mm)
% Gravel 10
% Cobbles ____
% Silica Glass: 80

Color: Munsell Color Chart #: 5Y 2.5/1
Description: Black medium Sand

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID:	SE-3-R10	Time:	1345	# Containers:	2	Volume:	3/7 %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: AB Date: 10/15/13 Field Supervisor Initials: DA Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Some gravel!
Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R10

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 70

Drop # 1 (2) 3 Cast Time 1334 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1275907.1 NORTHING: 5407767.12

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: Time: # Containers: Volume: %
Duplicate SE Sample ID: Time: # Containers: Volume: %
Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %
Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials [illegible] Date: 10/15/13 Field Supervisor Initials DH Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Water only

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 3-R10

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 69

Drop # 1 2 (3) Cast Time 1338 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1277553.62 NORTHING: 5407757.58

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: — su Description: —

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): —

Odor: None Hydrogen sulfide
Other: —

Amphipods: — Tubes: Macrophytes: —
Debris(twigs/leaves): — Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: — Time: —
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume: —	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT):		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: —	%

Sample Lead Initials KS Date: 10/15/13 Field Supervisor Initials KM Date: 10/15/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

water

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 3-R10

Date: 10/15/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0866 Time: 1244	Photo ID: 103-0867 Time: 1304
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Steten ID	Description: rock in Grab
Photo ID: 103-0868 Time: 1313	Photo ID: 103-0869 Time: 1315
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: material in 5th grab	Description: rock from 5th grab
Photo ID: 103-0870 Time: 1323	Photo ID: 103-0871 Time: 1323
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation: upstream / Rt bank	Photo Orientation: downstream / Rt bank
Description: Bedrock at crop above Sampling locatn	Description: Bed rock down ~~Steam of~~ 10/15/13 Stream of Sample location
Photo ID: 103-0873 Time: 1347	Photo ID: 103-0872 Time: 1329
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Homogenized Sample from Grabs 5-7	Description: Sediment in grab #7.

Sample Lead
~~Field Supervisor~~ Initials: LS Date: 10/15/13

~~Sample Lead~~ Initials: DM Date: 10/15/13
Field Supervisor

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 4-B1

Date: 10/7/13

Vessel: Tietern

Sampling Crew: Sugalski, Beelmann, Cabanillas

Vessel Crew: Schut, Tuschhoff, Sausen

EPA Observer: Laura Buelow

C.R. Observer: Eric OOSAHWEE-VOSS

Arrival Time: 1315

Departure Time: 1500

River Stage:

Water Surface Elev. (ft): 1285.5

Water Surface Elevation Source: 800-824-4916

Weather Conditions Upon Arrival

Temp (°F): 64°F

Wind (mph): light Breeze

Clouds/Precipitation: mostly Cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 710

Boat Traffic: observers & Sampler boats

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: — Time: — Photo ID: — Time: —

Photo ID: — Time: — Photo ID: — Time: —

General Notes:

Observed by EPA & NPS

C.R. - cultural resources

Field Supervisor Initials DA Date: 10/8/13

Sample Lead Initials [illegible] Date: 10/7/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-B1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 83.7

Drop # (1) 2 3 Cast Time 1318 Sampler Penetration (inches): 7

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 424499.39 NORTHING: 5393516.74

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 95 % (Accepted) Rejected

pH of Sediment in Sampler: 7.23 su Description: Collected from tub

Sediment Characteristics

Type: % Silt True (<1/16 mm)
% Sand ~30 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: ~70%

Color: Munsell Color Chart #: 10YR 2/1
Description: Black Sand w/ trace silt

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): small twigs Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen +
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0761 Time: 1321
Homogenized Sample: 103-0764 Time: 1437
Other: 103-0762 Time: 1325

Sediment (SE) Sample ID: SE-4-B1 Time: 1440 # Containers: 7 Volume: 100 %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): SE-4-B1 # Containers: 1 Volume: 100 %

Pore Water (PW) Sample ID: PW-4-B1 Time: 1435 # Containers: 3 Volume: 95 %

Sample Lead Initials: JS Date: 10/7/13 Field Supervisor Initials: KPH Date: 10/8/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** U-B1

Date: 10/7/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0760 Time: 1307	Photo ID: 103-0761 Time: 1321
Photographer: Sogelski	Photographer: Sogelski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Sediment in grab
Photo ID: 103-0762 Time: 1325	Photo ID: 103-0763 Time: 1417
Photographer: Sogelski	Photographer: Sogelski
Photo Orientation:	Photo Orientation:
Description: Sediment in grab	Description: Penwacker collection attempt
Photo ID: 103-0764 Time: 1437	Photo ID: 103-0765 Time: 1443
Photographer: Sogelski	Photographer: Sogelski
Photo Orientation:	Photo Orientation:
Description: Homogenized Sample	Description: COC to Pace Seattle
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 10/8/13

Sample Lead Initials: [illegible] Date: 10/7/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-B2

Date: 10 05 13 **Vessel:** TIRTON

Sampling Crew: GP, DC, OB **Vessel Crew:** STEVE, JEFF, MIKE

EPA Observer: MONICA **C.R. Observer:** ERIC

Arrival Time: 0953 **Departure Time:** 1315

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): 56°
Wind (mph): LIGHT
Clouds/Precipitation: OC

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 708 Boat Traffic: NONE

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes (No)

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: Lumix FH1

Photo ID: 103-0739	Time: 0942	Photo ID: 103-0740	Time: 1010
Photo ID: 103-0741	Time: 1040	Photo ID: 103-0742	Time: 1057
103-0743	1109	103-0744	1228

General Notes:

3-GRABS WERE COMPOSITED TO MAKE SAMPLE.

PORE WATER SAMPLING WAS ATTEMPTED BUT SAND IS CLEAN AND NO PW WAS AVAILABLE FOR COLLECTION - NO PW SAMPLE SAMPLE WAS ALLOWED TO SET DURING LUNCH AND WATER WAS OBSERVED IN TUB, PORE WATER SAMPLING WAS RESUMED, AND SUCCESSFUL.

SEE PHOTO LOG FOR PHOTO DETAILS.

C.R. - cultural resources

Field Supervisor Initials OH Date: 10/6/13

Sample Lead Initials GP Date: 100513

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-B2

Anchor Point (max 3) 1 2 3 Water Depth (feet): 85 —

Drop # 1 2 3 Cast Time _____ Sampler Penetration (inches): —

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: EASTING: 422267.61 {NAD_83_UTM_Zone_11_North} NORTHING: 5391562.17

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES NO
2. Overlying water present? YES NO
3. Overlying water excessively turbid? YES NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES NO
5. Desired penetration depth (4 to 6 inches) achieved? YES NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES NO
7. Sample is: DID NOT CLOSE Accepted Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)

% Sand _____ (1/16 - 2 mm)

% Gravel _____

% Cobbles _____

% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No

Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials [illegible] Date: 100513 Field Supervisor Initials [illegible] Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

DB 10-5-13

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-B2

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 87

Drop # 1 (2) 3 Cast Time 1006 Sampler Penetration (inches): 5"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: EASTING: 422297.62 {NAD_83_UTM_Zone_11_North} NORTHING: 5391550.16

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is: Acceptable portion of sample was saved for incorporation into NEXT Grab(s)	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 7.76 su Description: ____

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)

% Sand 95 (1/16 - 2 mm)

% Gravel —

% Cobbles —

% Silica Glass: —

Color: Munsell Color Chart #: Description: 10YR 3/3

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches): ____

Odor: (None) Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:

Debris(twigs/leaves): NO Other: Small Shell

Stratified sediment: (Yes) No Sheen Present: Yes No

Sample Collected Using

Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: 103-0740 Time: 1010
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____%

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Sample Lead Initials: [illegible] Date: 10/5/13 Field Supervisor Initials: DM Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

OB 10-5-13

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 87

Drop # 1 2 (3) Cast Time 1031 Sampler Penetration (inches): —

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 422302.77 NORTHING: 5391536.94

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is: DID NOT CLOSE	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time:

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials GP Date: 100513 Field Supervisor Initials DA Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 88

Drop # (1) 2 3 Cast Time 1036 Sampler Penetration (inches): ~~6~~ 5"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 422310.00 NORTHING: 5391552.76

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is: Insufficient Volume for complete Sample - will Be Composited	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.20 su Description:

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 95 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass: ~5%

Color: Munsell Color Chart #:
Description: 10YR 3/2

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): TRACE PINE NEEDLES Other: —

Stratified sediment: ~~Yes~~ No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0741 Time: 1040
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: Time: # Containers: Volume: %
Duplicate SE Sample ID: Time: # Containers: Volume: %
Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %
Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials CR Date: 100513 Field Supervisor Initials KM Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-B2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 87

Drop # 1 (2) 3 Cast Time 1052 Sampler Penetration (inches): 5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 422268.61 NORTHING: 5391545.46

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of Sediment in Sampler: 8.30 su Description: NONE AVAILABLE FOR COLLECTION. See location form.

Sediment Characteristics

Type: % Silt <5 (<1/16 mm)
% Sand 95 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: 5-15

Color: Munsell Color Chart #:
Description: 10YR 3/2

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: — Tubes: — Macrophytes: —
Debris(twigs/leaves): PINE NEEDLES Other:

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0742 Time: 1057
Homogenized Sample: — Time: —
Other: — Time: —

Sediment (SE) Sample ID:	SE-4-B2	Time: 1225	# Containers:	4 3 DUP	Volume: 100 %
Duplicate SE Sample ID:	—	Time: —	# Containers:	—	Volume: — %
Split SE Samples (EPA/NPS/CCT):	SE-4-B2		# Containers:	1	Volume: 100 %
Pore Water (PW) Sample ID:	PW-4-B2	Time: 1220	# Containers:	3	Volume: 100 %

we were able to collect PW See Location NOTES.

Sample Lead Initials: [illegible] Date: 100513 Field Supervisor Initials: AJK Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 4-BZ

Date: 10-5-13 **Vessel:** RV Tiglon

Camera Serial #: Lumix #1

Photo ID: 103-0739 Time: 0942	Photo ID: 103-0740 Time: 1010
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: 4-BZ photo board.	Description: Grab 2- sediment in grab.
Photo ID: 103-0741 Time: 1040	Photo ID: 103-0742 Time: 1057
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Grab 4- Sediment in grab.	Description: Grab 5- Sediment in grab.
Photo ID: 103-0743 Time: 1109	Photo ID: 103-0744 Time: 1228
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Porewater sampling.	Description: NPS C.O.C. for 4-BZ
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials AM Date: 10/6/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-B4

Date: 10/5/13 **Vessel:** T. CLTON

Sampling Crew: GP, DC, OB **Vessel Crew:** MIKE, JEFF, STEVE

EPA Observer: MONICA T. **C.R. Observer:** ERIC O.V.

Arrival Time: 1335 **Departure Time:** 1508

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): 65
Wind (mph): 0-5
Clouds/Precipitation: LIGHT

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 706 Boat Traffic: NONE

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): M.D Channel.

Sample Location Photo IDs: (see Photo Log for descriptions)

Camera ID: W

Photo ID: 103-0745	Time: 1255	Photo ID: 103-0746	Time: 1343
Photo ID: 103-0747	Time: 1417	Photo ID: 103-0748	Time: 1351
		103-0749	1501

General Notes:

~ 1.5" Silt, 1" Black Sand, Brown Sand Below in Grab.

0745 - Photo Board
0746 - SED in Grab
0747 - Pore Water Sampling
0748 - Homogenized Sample
0749 - Signed NPS COC

PW Sample for metals is a composite of Blue + White Stone water.

C.R. - cultural resources

Field Supervisor Initials: DA Date: 10/6/13

Sample Lead Initials: CB Date: 100513

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** B-4B

Anchor Point (max 3) 1 2 3 Water Depth (feet): 81

Drop # 1 2 3 Cast Time 1338 Sampler Penetration (inches): 8

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 418964.49 NORTHING: 5390736.08

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % Accepted Rejected

pH of Sediment in Sampler: 7.92 su Description:

Sediment Characteristics

Type: % Silt 10 (<1/16 mm)
% Sand 80-90 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: 5-15

Color: Munsell Color Chart #:
Description: 10YR 7/1

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods:
Debris(twigs/leaves): D.W.G.
Tubes:
Other: open mussel shell
Macrophytes:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0746 Time: 1343
Homogenized Sample: 103-0748 Time: 1451
Other: NPS core 103-0749 Time: 1501

Sediment (SE) Sample ID: ~~SE-B-4B~~ SE-4-B4 Time: 1451 # Containers: 4 Volume: 100 %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): NPS # Containers: 1 Volume: 5-ml %

Pore Water (PW) Sample ID: ~~PW-B-4B~~ PW-4-B4 Time: 1420 # Containers: 3 Volume: 100 %

Sample Lead Initials: [illegible] Date: 10/5/13 Field Supervisor Initials: JOA Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 4-B4

Date: 10-5-13 **Vessel:** RV Tiaton

Camera Serial #: Lumix #1

Photo ID: 103-0745 Time: 1255	Photo ID: 103-0746 Time: 1343
Photographer: O. Bilhuan	Photographer: O. Bilhuan
Photo Orientation: N/A	Photo Orientation: N/A
Description: 4-B4 photo board.	Description: Sediment in grab
Photo ID: 103-0747 Time: 1417	Photo ID: 103-0748 Time: 1451
Photographer: O. Bilhuan	Photographer: O. Bilhuan
Photo Orientation: N/A	Photo Orientation: N/A
Description: Porewater sampling.	Description: Homogenized sample.
Photo ID: 103-0749 Time: 1501	Photo ID: Time:
Photographer: O. Bilhuan	Photographer:
Photo Orientation: N/A	Photo Orientation:
Description: Signed NBS COC for 4-B4	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: AA Date: 10/6/13

Sample Lead Initials: [illegible] Date: 10/05/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-BS

Date: 10-05-13 **Vessel:** TILTON

Sampling Crew: GD, DC, OB **Vessel Crew:** STEVE, JEFF, MIKE

EPA Observer: MONICA **C.R. Observer:** ERIC

Arrival Time: 0820 **Departure Time:** 0930

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): 45
Wind (mph): LIGHT
Clouds/Precipitation: PARTLY OC

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: ? NOT LISTED Boat Traffic: NPS

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): RIGHT BANK NEAR NANCY CREEK ~1/4 MILE

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: LUMIX #1

Photo ID: 103-0734	Time: 0808	Photo ID: 103-0735	Time: 841
Photo ID: 103-0736	Time: 0856	Photo ID: 103-0737	Time: 0918
		103-0738	0923

General Notes:

0734 - White Board
0735 - Sed. in Grab
0736 - PW Sampling
0737 - Homogenized Sample
0738 - NPS COC

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 10/6/13

Sample Lead Initials: [illegible] Date: 100513

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-BS

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 89

Drop # (1) 2 3 Cast Time 0835 Sampler Penetration (inches): 8.0

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: EASTING: 418622.79 {NAD_83_UTM_Zone_11_North} NORTHING: 5389013.18

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of Sediment in Sampler: 8.59 su Description: None Available - Drained out of material.

Sediment Characteristics

Type: % Silt 1.0 (<1/16 mm)

% Sand 99 (1/16 - 2 mm)

% Gravel —

% Cobbles —

% Silica Glass: ± 5

Color: Munsell Color Chart #: Description: 10YR-2/3

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide Other:

Amphipods: YES Tubes: — Macrophytes: —

Debris(twigs/leaves): — Other: —

Stratified sediment: (Yes) No Sheen Present: Yes (No)

Sample Collected Using

Van Veen X
Eckman —
Ponar —
Shovel —

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: 103-0735 Time: 841

Homogenized Sample: 103-0737 Time: 0918

Other: NPS COC Time: 0923

Sediment (SE) Sample ID: SE-4-BS	Time: 0915	# Containers: 3 5-GAL 4-JARS	Volume: 10 %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): NPS		# Containers: 1	Volume: 5-GAL %
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %

Sample Lead Initials: [illegible] Date: 100513 Field Supervisor Initials: DAL Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 4B-5

Date: 10-5-13 **Vessel:** R/V Tiptop

Camera Serial #: Lumix #1

Photo ID: 103-0734	Time: 0808	Photo ID: 103-0735	Time: 0841
Photographer: O. Bilhmann		Photographer: O. Bilhmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: 4B-5 photo board		Description: Sediment in grab.	
Photo ID: 103-0736	Time: 0856	Photo ID: 103-0737	Time: 0918
Photographer: O. Bilhmann		Photographer: O. Bilhmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: Porewater sampling		Description: Homogenized sample.	
Photo ID: 103-0738	Time: 0923	Photo ID:	Time:
Photographer: O. Bilhmann		Photographer:	
Photo Orientation: N/A		Photo Orientation:	
Description: Signed NPS C.O.C. for 4-BS.		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials: DH Date: 10/6/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 4-B6

Date: 10/8/13

Vessel: Tieton

Sampling Crew: Sugalski, Cabanillas, Bielmann

Vessel Crew: Schut, Tuschhoff, Saugen

EPA Observer:

C.R. Observer: Eric Oosatwee-Voss

Arrival Time: 0830

Departure Time: ~~10~~ 25 10/8/13 1110

River Stage:

Water Surface Elev. (ft): 1285.6

1285.4

Water Surface Elevation Source: 800-824-4916

Weather Conditions Upon Arrival

Temp (°F): 52°F

Wind (mph): light Breeze

Clouds/Precipitation: overcast

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 709

Boat Traffic: UPS & observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

large slough bank on left bank.

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/10/13

Sample Lead Initials [illegible] Date: 10/8/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** C1-B6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 103

Drop # (1) 2 3 Cast Time 0837 Sampler Penetration (inches): —

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 43 423050.51 NORTHING: 5391771.71

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: — % Accepted Rejected —

pH of Sediment in Sampler: — su Description:

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: —

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen —
Eckman
Ponar —
Shovel

Photo Numbers 's
(see Photo Log for descriptions) —
Sediment in Grab: Time:
Homogenized Sample: — Time: —
Other: Time:

Sediment (SE) Sample ID: —	Time: —	# Containers: —	Volume:	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume:	%

Sample Lead Initials JS Date: 10/8/13 Field Supervisor Initials DA Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sampler did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-B6

Anchor Point (max 3) 1 2 3 Water Depth (feet): 99

Drop # 1 2 3 Cast Time 0905 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 423049.44 NORTHING: 5391762.78

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time:

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials JH Date: 10/8/13 Field Supervisor Initials AH Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not collect

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-B6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 102

Drop # 1 2 (3) Cast Time 0923 0919 Sampler Penetration (inches):

Angle (< 5°max) Yes No 12/8/13 Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1423069.09 NORTHING: 539754.23

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time:
Homogenized Sample: ____ Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials: JS Date: 10/5/13 Field Supervisor Initials: JM Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-B6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 89

Drop # (1) 2 3 Cast Time 0933 Sampler Penetration (inches): 7

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 423102.47 NORTHING: 5391739.07

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? (YES) NO
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? (YES) NO
5. Desired penetration depth (4 to 6 inches) achieved? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES (NO)
7. Sample is: (Accepted) Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.21 su Description:

Sediment Characteristics

Type: % Silt 10/8/13 (<1/16 mm)
% Sand ~~≈100~~ 20 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: ≈80

Color: Munsell Color Chart #: 10YR 2/1
Description: Black medium fine Sand

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0769 Time: 0940
Homogenized Sample: 103-0771 Time: 1026
Other: Time:

Sediment (SE) Sample ID: SE-4-B6	Time: 1026	# Containers: 7	Volume: 100 %	32oz + 12gal
Duplicate SE Sample ID: MUD-0010	Time: 1026	# Containers: 4	Volume: 100 %	-32oz
Split SE Samples (EPA/NPS/CCT): SE-4-B6		# Containers: 1	Volume: 100 %	-4gal
Pore Water (PW) Sample ID: PW-4-B6	Time: 1015	# Containers: 3	Volume: 100 %	-150mL

Sample Lead Initials [initials] Date: 10/8/13 Field Supervisor Initials [initials] Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** U-B6

Date: 10/8/13 **Vessel:** Tirsten

Camera Serial #: #1

Photo ID: 103-0766 Time: 0821	Photo ID: 103-0767 Time: 0835
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation: Left Bank
Description: Station ID	Description: Left Bank near Sample location during first grab attempt.
Photo ID: 103-0768 Time: 0937	Photo ID: 103-0769 Time: 0940
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in grab.	Description: Sediment in grab
Photo ID: 103-0770 Time: 1007	Photo ID: 103-0771 Time: 1026
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Pore water collection	Description: Homogenized Sample
Photo ID: 103-0772 Time: 1034	Photo ID: Time:
Photographer: Sugalski	Photographer:
Photo Orientation:	Photo Orientation:
Description: COC to UPS boat	Description:

Field Supervisor Initials: AH Date: 10/10/13

Sample Lead Initials: JS Date: 10/5/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** HB-C1

Date: 10-04-13 **Vessel:** TIETON

Sampling Crew: GP, OB, DC **Vessel Crew:** STEVE, JEFF, MIKE

EPA Observer: MONICA **C.R. Observer:** ERIC

Arrival Time: 1330 **Departure Time:** 1518

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): 60
Wind (mph): LIGHT
Clouds/Precipitation: NONE

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 701 Boat Traffic: NONE

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes (No)

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)
NONE

Sample Location Photo IDs:
(see Photo Log for descriptions)
Camera ID: LUMIX #1

Photo ID: 103-0731	Time: 1345	Photo ID: 103-0732	Time: 1413
Photo ID: 103-0733	Time: 1506	Photo ID:	Time:

General Notes:

0731 Grab in Sampler
0732 Porewater Sampling
0733 Homogenized Sample

1 - Buckley R Archive.

C.R. - cultural resources

Field Supervisor Initials KH Date: 10/6/13

Sample Lead Initials GP Date: 100413

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4B-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 11.3

Drop # (1) 2 3 Cast Time 1334 Sampler Penetration (inches): 5.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 416961.07 NORTHING: 5384343.21

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: 8.34 su Description: _____

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 90 (1/16 - 2 mm)
% Gravel <5
% Cobbles –
% Silica Glass: –

Color: Munsell Color Chart #: very dark gray
Description: 2.5Y 3/1

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 0.25

Odor: (None) Hydrogen sulfide
Other: _____

Amphipods: yes Tubes: Macrophytes:
Debris(twigs/leaves): PINE NEEDLES Other: CLAM - LIVE (mussel)

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0731 Time: 1345
Homogenized Sample: 103-0733 Time: 1506
Other: PORE WATER 103-0732 Time: 1413

Sediment (SE) Sample ID: SE-4B-C1 Time: 1507 # Containers: 4 Volume: 100 %

Duplicate SE Sample ID: MUD0009 Time: – # Containers: 4 Volume: 100 %

Split SE Samples ~~(EPA/NPS/CCT)~~: – ARCHIVE # Containers: 1-5 Gallon Volume: %

Pore Water (PW) Sample ID: PW-4B-C1 Time: 1430 # Containers: 3 Volume: 100 %

Sample Lead Initials: [illegible] Date: 10/4/13 Field Supervisor Initials: [illegible] Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 4B-C1

Date: 10-4-13 Vessel: RV Tieton

Camera Serial #: Lumix #1

Photo ID: 103-0730 Time: 1345	Photo ID: 103-0731 Time: 1345
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: SE-4B-C1 photo board -	Description: Sediment in grab.
Photo ID: 103-0732 Time: 1413	Photo ID: 103-0733 Time: 1506
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Porewater sample.	Description: Homogenized sample.
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 10/6/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 4-B-C3

Date: 10-4-13 **Vessel:** TIGTON

Sampling Crew: GP, DC, OB **Vessel Crew:** STEVE, JEFF, MIKE

EPA Observer: MONICA TONEL **C.R. Observer:** ERIC OOSTHWEE-VOSS

Arrival Time: ~~0844~~ 0845 **Departure Time:** ~~0823~~ 1020

River Stage:
Water Surface Elev. (ft):

Water Surface Elevation Source:

Weather Conditions Upon Arrival
Temp (°F): 35
Wind (mph): 0-5
Clouds/Precipitation: PARTLY CLOUDY

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 692 Boat Traffic: NPS

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): TOO DISTANT— TREES + SAND, GRAVEL-COBBLES

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: LUMIX #1

Photo ID: 103-0717	Time: 845	Photo ID: 103-0718	Time: 0903
Photo ID: 103-0719	Time: 0929	Photo ID: 103-0720	Time: 0957

General Notes:

103-0717 4-B-C3 PHOTOBOARD
103-0718 SED IN GRAB
103-0719 POREWATER SAMPLING
103-0719 HOMOGEN. 200 SAMPLE

C.R. - cultural resources

Field Supervisor Initials AVT Date: 10/6/13

Sample Lead Initials GP Date: 10 04 13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: 4B-C3

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 118

Drop # (1) 2 3 Cast Time 0846 Sampler Penetration (inches): 11.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 413004.16 NORTHING: 5373263.99

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.04 su Description:

Sediment Characteristics

Type: % Silt 99 (<1/16 mm)
% Sand 01 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: GLEY 1
Description: 3N - VERY DK GRAY

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 0.25

Odor: None (Hydrogen sulfide)
Other:

Amphipods: ~~No~~ Yes Tubes: Macrophytes:
Debris(twigs/leaves): Yes, BARK - PINECONES Other: YES WORMS ON G.

Stratified sediment: Yes No
Sheen Present: Yes (No)

Sample Collected Using: Van Veen X, Eckman, Ponar, Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0718 Time: 0903
~~Homogenized Sample~~: 103-0719 Time: 0929 Pore water Homogenizing
Other: 103-0720 Time: 0957

Sediment (SE) Sample ID:	SE-4B-C3	Time: 1000	# Containers:	4 + 1 BULK	Volume: 100 %
Duplicate SE Sample ID:	—	Time: —	# Containers:	—	Volume: — %
Split SE Samples (EPA/NPS/CCT):	—		# Containers:	—	Volume: — %
Pore Water (PW) Sample ID:	PW-4B-C3	Time: 0940	# Containers:	3	Volume: 100 %

Sample Lead Initials: [illegible] Date: 10/4/13 Field Supervisor Initials: [illegible] Date: 10/4/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 4B-C3

Date: 10-4-13 **Vessel:** RV Tieton

Camera Serial #: Lumix #1

Photo ID: 103-0717	Time: 0845	Photo ID: 103-0718	Time: 0903
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: 4B-C3 photo board		Description: Sediment in grab.	
Photo ID: 103-0719	Time: 0929	Photo ID: 103-0720	Time: 0957
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: Porewater sampling.		Description: Homogenized sample.	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials JH Date: 10/6/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-62

Date: 28 SEPT. 2013 **Vessel:** RV TIETON

Sampling Crew: FLANDERS / PASTNER / BIELMAN **Vessel Crew:** SAULEN, SCHMIT, TUSCHHOFF

EPA Observer: N BADON (CH2, MILL) **C.R. Observer:** BILL WHITE NPS

Arrival Time: 1020 **Departure Time:** 1210

River Stage:
Water Surface Elev. (ft): 1284.23

Water Surface Elevation Source: BUREAU OF RECLAMATION

Weather Conditions Upon Arrival
Temp (°F): 57

Wind (mph): 0-2

Clouds/Precipitation: OVERCAST / RAIN

Site Information:

Boat Position: (Powered) (Anchored)

River Mile: 678

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes No

River Current: (Swift) (Eddie) (Calm) (Ripple)

Boat Traffic:

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID:

Photo ID: 419	Time: 0957	Photo ID: 420	Time: 1032
Photo ID: 421	Time: 1045	Photo ID: 422	Time: 1121

General Notes:

423: 1131

C.R. - cultural resources

Field Supervisor Initials: DH Date: 9/28/13

Sample Lead Initials: HRL Date: 9/28/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 — Station Identifier: SE-B2

Anchor Point (max 3): (1) 2 3 — Water Depth (feet): 83

Drop # (1) 2 3 — Cast Time 1026 — Sampler Penetration (inches): 12 TO 12

Angle (< 5° max): (Yes) No — Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 413351.40 — NORTHING: 5354542.05

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % — (Accepted) Rejected

pH of Sediment in Sampler: 8.16 su — Description:

Sediment Characteristics

Type: % Silt 100 (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: ✓

Color: Munsell Color Chart #: 5Y-3/1
Description: VERY DARK GREY

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 20.5"

Odor: (None) Hydrogen sulfide
Other:

Amphipods: ✓ — Tubes: ✓ — Macrophytes: N
Debris(twigs/leaves): N — Other:

Stratified sediment: Yes No — Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 420 Time: 1032
Homogenized Sample: 422 Time: 1121
Other: Time:

Sediment (SE) Sample ID: SE-5-B2	Time: 1125	# Containers: 7	Volume: 100 %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): SE-5-B2		# Containers: 2	Volume: %
Pore Water (PW) Sample ID: PW-5-B2	Time: 1115	# Containers: 3	Volume: 100 %

Sample Lead Initials: [illegible] Date: 28SEPT2013 — Field Supervisor Initials: DH Date: 9/28/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** S-B2

Date: 9-28-13 **Vessel:** Tietan

Camera Serial #: Olympus Tough (TG620)

Photo ID: 419	Time: 0957	Photo ID: 420	Time: 1032
Photographer: O. Biehmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: S-B2 photo board		Description: Sediment in grab.	
Photo ID: 421	Time: 1045	Photo ID: 422	Time: 1121
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: Porewater sampling		Description: Homogenized sample.	
Photo ID: 423	Time: 1131	Photo ID:	Time:
Photographer: O. Bielmann		Photographer:	
Photo Orientation: N/A		Photo Orientation:	
Description: Signed C.O.C. form for S-B2; NPS split.		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials: KH Date: 9/29/13

Sample Lead Initials: DH Date: 9/29/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 5-B3

Date: 30 SEPT 2013

Vessel: TIETON

Sampling Crew: FLANDERS, CABANILLAS, BIELMAN

Vessel Crew: SAUCEU, SCHUT, JUSCHOFF

EPA Observer: N BADON CH2MHILL

C.R. Observer: B. WHITE NPS

Arrival Time: 1220

Departure Time: 1430

River Stage:

Water Surface Elev. (ft): 1285.00

Water Surface Elevation Source: BUREAU RECL.

Weather Conditions Upon Arrival

Temp (°F): 61

Wind (mph): 5-10

Clouds/Precipitation: OVERCAST / LIGHT RAIN

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 678

Boat Traffic: NONE

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: LUMIX #1

Photo ID: 103-0691 Time: 1223

Photo ID: 103-0692 Time: 1243

Photo ID: 103-0694 Time: 1310

Photo ID: 103-0695 Time: 1349

General Notes:

Photo # 103-0693 was deleted ~~inad~~ ON due to blurriness.

103-0696 1356 (COC for NPS)

103-0697 1431 (signed COC)

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/01/13

Sample Lead Initials BRF Date: 9/30/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-B3

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 17.1

Drop #: (1) 2 3 Cast Time: 1236 Sampler Penetration (inches): 12"

Angle (< 5° max): (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 412691.33 NORTHING: 5354422.00

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 8 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 7.47 su Description:

Sediment Characteristics

Type: % Silt 100 (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: 5Y 3/1
Description: VERY DARK GREY

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): <0.5"

Odor: (None) Hydrogen sulfide
Other:

Amphipods: N Tubes: N Macrophytes: N
Debris(twigs/leaves): N Other: TRACES

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0692 Time: 1243
Homogenized Sample: 103-0695 Time: 1349
Other: Time:

Sediment (SE) Sample ID:	SE-S-B3	Time:	1350	# Containers:	7	Volume:	100 %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	SE-S-B3			# Containers:	1	Volume:	%
Pore Water (PW) Sample ID:	PW-S-B3	Time:	1340	# Containers:	3	Volume:	100 %

Sample Lead Initials: MC Date: 9/20/13 Field Supervisor Initials: ZM Date: 10/01/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** SE-S-B3

Date: 9-30-13 **Vessel:** Tipton

Camera Serial #: Lumix #1

Photo ID: 103-0691 Time: 1223	Photo ID: 103-0692 Time: 1243
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: S-B3 photo board	Description: Sediment in grab.
Photo ID: 103-0694 Time: 1310	Photo ID: 103-0695 Time: 1349
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Porewater sampling	Description: Homogenized sample.
Photo ID: 103-0696 Time: 1356	Photo ID: 103-0697 Time: 1431
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: S-B3 C.O.C. form for NPS split	Description: Signed NPS C.O.C. for S-B3
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 10/01/13

Sample Lead Initials: JHF Date: 9/30/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

5-B4 grid 9/28/13

Project Number: 36310189 **Station Identifier:** ~~5B-4~~

Date: 9/27/13 **Vessel:** RV-TIETON

Sampling Crew: JR, GDP, OB **Vessel Crew:** SS/JS/CT

EPA Observer: N BADON CH2MHill **C.R. Observer:** L MCCULLOUGH NPS

Arrival Time: 1315 **Departure Time:** 1520

River Stage:
Water Surface Elev. (ft): 1284.3

Water Surface Elevation Source: BUMAN REEL

Weather Conditions Upon Arrival
Temp (°F): 61

Wind (mph): 10+

Clouds/Precipitation: OVERCAST / SPRINKLING

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 677

Boat Traffic: MINIMAL

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: WMIX #1

Photo ID: 103-0678	Time: 1251	Photo ID: 103-0679	Time: 1329
Photo ID: 103-0680	Time: 1341	Photo ID: 103-0681	Time: 1350

General Notes:

PHOTO #	TIME
103-0682	1433
103-0683	1444

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 9/28/13

Sample Lead Initials: JRC Date: 27/SEP/2013

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: ~~SB-4~~ SE-5-B4 grab 9/25/13

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 113

Drop # (1) 2 3 Cast Time 1324 Sampler Penetration (inches): 12

Angle (< 5° max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 413420.50 NORTHING: 5352206.64

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 90 % (Accepted) Rejected

pH of Sediment in Sampler: 8.2 su Description:

Sediment Characteristics

Type: % Silt 100 (<1/16 mm) Color: Munsell Color Chart #: 5Y 3/1 Description: VERY DARK GREY
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Redox Boundary: Present? (Yes) No If present -- Depth Below Sediment Surface (inches): 0.5"

Odor: (None) Hydrogen sulfide Other:

Amphipods: N Tubes: N Macrophytes: N
Debris(twigs/leaves): N Other:

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using: Van Veen (V) Ekman Ponar Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0679 Time: 1329
Homogenized Sample: 103-0682 Time: 1341
Other: Time:

Sediment (SE) Sample ID: ~~SE-SB-4~~ SE-5-B4 grab 9/25/13 Time: 1436 # Containers: 7 Volume: %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): ~~PW-SB-4~~ PW-5-B4 grab 9/25/13 # Containers: 2 Volume: %
Pore Water (PW) Sample ID: ~~PW-SB-4~~ Time: 1410 # Containers: 3 Volume: 90 %

Sample Lead Initials: DF Date: 9/27/13 Field Supervisor Initials: DA Date: 9/28/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** SE-5-B4

Date: 9-27-13 **Vessel:** Tipton

Camera Serial #: Lumix #1

Photo ID: 103-0678 Time: 1251	Photo ID: 103-0679 Time: 1329
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: SE-5-B4 photo board	Description: Sediment in grab.
Photo ID: 103-0680 Time: 1341	Photo ID: 103-0681 Time: 1350
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Amphipod/polychaet in sediment in grab.	Description: Porewater sampling.
Photo ID: 103-0682 Time: 1433	Photo ID: 103-0683 Time: 1444
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Homogenized sample.	Description: SE-5-B4 COC form for NPS split.
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials DM Date: 9/28/13

Sample Lead Initials JRF Date: 27 SEPT. 2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 5-B5

Date: 27 SEPT. 2013 **Vessel:** RV TIETON

Sampling Crew: JRF | GDP | OB **Vessel Crew:** SS | JS | CT

EPA Observer: N PATEN **C.R. Observer:** L MCCULLOUGH

Arrival Time: 0978 **Departure Time:** 1120

River Stage:
Water Surface Elev. (ft): 1284.3

Water Surface Elevation Source: BUREAU OF RECL.

Weather Conditions Upon Arrival
Temp (°F): 61

Wind (mph): 0-2

Clouds/Precipitation: OVERCAST

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 676 Boat Traffic: MINIMAL

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: LUMIX #1

Photo ID: 103-0666 Time: 0909 Photo ID: 103-0667 Time: 0945

Photo ID: 103-0668 Time: 0956 Photo ID: 103-0669 Time: 0958

General Notes:

PHOTO #	TIME
103-0670	1040
103-0671	1051

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 9/25/13

Sample Lead Initials: SR4 Date: 09/27/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 5-B5

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 106

Drop # (1) 2 3 Cast Time 0933 Sampler Penetration (inches): —

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 413936.15 NORTHING: 5351704.02

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: _____% Accepted (Rejected)

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT): EPA + NPS/CCT #2		# Containers: 2 SRF	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials SRF Date: 27 SEP. 13 Field Supervisor Initials [illegible] Date: 9/29/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 5-B5

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 106

Drop # 1 (2) 3 Cast Time 0939 Sampler Penetration (inches): 12"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 413957.79 NORTHING: 5351697.92

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 7.70* su Description:

Sediment Characteristics

Type: % Silt 100 (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: 5Y 3/1
Description: very dark grey

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): <0.5"

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Y Tubes: N Macrophytes: N
Debris(twigs/leaves): N Other:

Stratified sediment: (Yes) No Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0667 Time: 0945
Homogenized Sample: 103-0670 Time: 1040
Other: Time:

Sediment (SE) Sample ID: SE-5-B5 Time: 1045 # Containers: 4 OR 3 Volume: 100 %
Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %
Split SE Samples (EPA/NPS/CCT): EPA; NPS/CCT # Containers: 2 Volume: 100 %
Pore Water (PW) Sample ID: PW-5-B5 Time: 1011 # Containers: 3 Volume: 100 %

Sample Lead Initials: [illegible] Date: 27SEPT.2013 Field Supervisor Initials: DH Date: 9/28/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

* OVERLYING WATER

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** SE-5-BS

Date: 9-27-13 **Vessel:** Tatom

Camera Serial #: Lumix #1

Photo ID: 103-0666	Time: 0909	Photo ID: 103-0667	Time: 0945
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: SE-5-BS photo board.		Description: Sediment in grab.	
Photo ID: 103-0668	Time: 0956	Photo ID: 103-0669	Time: 0958
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: Porewater sampling with peristaltic pump		Description: Blue Stone / manual porewater sampling.	
Photo ID: 103-0670	Time: 1040	Photo ID: 103-0671	Time: 1051
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: Homogenized sample		Description: SE-5-BS C.O.C form for NPS	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials: AA Date: 9/29/13

Sample Lead Initials: JNF Date: 27 SEPT. 13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-B6

Date: 27 SEPT 2013 **Vessel:** RV TIETON

Sampling Crew: JRF / GDP / OB **Vessel Crew:** SS / JS / CT

EPA Observer: N BADON, CH, UH, II **C.R. Observer:** L MCCULLOUGH, NPS

Arrival Time: 1130 **Departure Time:** 1320

River Stage:
Water Surface Elev. (ft): 1284.3
Water Surface Elevation Source: BUREAU RECL.

Weather Conditions Upon Arrival
Temp (°F): 62
Wind (mph): 10
Clouds/Precipitation: OVERCAST

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 676 Boat Traffic: MOD. MTZ

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: LUMIX #1

Photo ID	Time	Photo ID	Time
103-0672	1134	103-0673	1138
103-0674	1201	103-0675	1229

General Notes:

PHOTO #	TIME
103-0676	1238
103-0677	1241

C.R. - cultural resources

Field Supervisor Initials JDK Date: 9/28/13

Sample Lead Initials JRF Date: 9/27/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 | Station Identifier: SE-5-B6

Anchor Point (max 3): (1) 2 3 | Water Depth (ft): 10.6

Drop #: (1) 2 3 | Cast Time: 1134 | Sampler Penetration (inches): 12"

Angle (< 5°max): (Yes) No | Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1144616.73 | NORTHING: 535155 9.3

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % | (Accepted) Rejected

pH of Sediment in Sampler: 8.14 * su | Description:

Sediment Characteristics

Type: % Silt 100 (<1/16 mm) | % Sand — (1/16 - 2 mm) | % Gravel — | % Cobbles — | % Silica Glass: —

Color: Munsell Color Chart #: 5Y 3/1 | Description: VERY DARK GRAY

Redox Boundary: Present? (Yes) No | If present -- Depth Below Sediment Surface (inches): <0.5"

Odor: (None) | Hydrogen sulfide | Other:

Amphipods: N | Tubes: Y | Macrophytes: N
Debris(twigs/leaves): N | Other: ALGAE MATS

Stratified sediment: (Yes) No | Sheen Present: Yes (No)

Sample Collected Using: Van Veen ✓ | Eckman | Ponar | Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0673 Time: 1138
Homogenized Sample: 103-0675 Time: 1229
Other: Time:

Sediment (SE) Sample ID: SE-5-B6	Time: 1233	# Containers: 7	Volume: 100 %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): SE-5-B6		# Containers: 2	Volume: 100 %
Pore Water (PW) Sample ID: PW-5-B6	Time: 1220	# Containers: 3	Volume: 100 %

Sample Lead Initials: JRF | Date: 9/27/13 | Field Supervisor Initials: DH | Date: 9/28/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

* OVERLYING WATER

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** SE-5-B6

Date: 9-22-13 **Vessel:** Tiefon

Camera Serial #: Lumix #1

Photo ID: 103-0672	Time: 1134	Photo ID: 103-0673	Time: 1138
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: 5-B6 photo board.		Description: Sediment in grab	
Photo ID: 103-0674	Time: 1201	Photo ID: 103-0675	Time: 1229
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: Dredger Sampling		Description: Homogenized sample.	
Photo ID: 103-0676	Time: 1238	Photo ID: 103-0677	Time: 1241
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: 5-B6 COC form for NPS split.		Description: Signed 5-B6 COC form NPS split	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials: DA Date: 9/28/13

Sample Lead Initials: APF Date: 9/27/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SB-C1

Date: 27 SEPT 2013 **Vessel:** TIETON

Sampling Crew: JRF/GDP/OB **Vessel Crew:** SAUCEN, SCHUT, TUSCHHOFF

EPA Observer: N BADON **C.R. Observer:** L MCCLUNCH

Arrival Time: 0755 **Departure Time:** ~~0858~~ JRF 0923

River Stage:
Water Surface Elev. (ft): 1284.3 (NAD)
Water Surface Elevation Source: Bureau of Reclamation

Weather Conditions Upon Arrival
Temp (°F): 51
Wind (mph): ~3
Clouds/Precipitation: MOSTLY CLOUDY

Site Information:

Boat Position: (Powered) (Anchored)
River Mile: 674
Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes No
Was Vegetation Removed: Yes No

River Current: (Swift) (Eddie) (Calm) (Ripple)
Boat Traffic: ~~FERRY~~ VIOLATION IS IN THE PATH OF THE FERRY

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: CANON #1

Photo ID	Time	Photo ID	Time
103-0660	0812	103-0661	0813
103-0662	0816	103-0663	0817

General Notes:

FIRST GDAS WITH NOTICEABLE H_2S ODOR.

SEDIMENT STRATIGRAPHY

0.5" — TAN / GREY

REDUCED SILT (DARK GREY)

6" —

PHOTO #	TIME
103-0664	0839
103-0665	0842

C.R. - cultural resources

Field Supervisor Initials KOH Date: 9/28/13

Sample Lead Initials JRF Date: 9/27/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: SB-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 222

Drop # (1) 2 3 Cast Time 0805 Sampler Penetration (inches): 10.5"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: ~~418~~ 4114804.09 NORTHING: 5347922.58

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	~~(NO)~~ SW
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ~~100~~ % (Accepted) Rejected

pH of Sediment in Sampler: 8.26* su Description:

Sediment Characteristics

Type: % Silt 95 (<1/16 mm)
% Sand 5 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass —

Color: Munsell Color Chart #: 5Y-3/1 Description: VERY DARK GRAY

Redox Boundary: Present? (Yes) No; If present -- Depth Below Sediment Surface (inches): 0.5"

Odor: ~~None~~ SLIGHT (Hydrogen sulfide) Other:

Amphipods: Y Tubes: Y Macrophytes: N
Debris(twigs/leaves): N Other: N

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using: Van Veen ✓ Eckman ___ Ponar ___ Shovel ___

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0661 Time: 0813
Homogenized Sample: 103-0665 Time: 0842
Other: Time:

Sediment (SE) Sample ID: ~~SE-SB-C1~~ SE-SB-C1 split 9/28/13 Time: 0846 # Containers: 5 Volume: 100 %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: ~~PW-SB-C1~~ PW-SB-C1 split 9/28/13 Time: 0840 # Containers: 3 Volume: 100 %

Sample Lead Initials: JBT Date: 9/27/13 Field Supervisor Initials: DA Date: 9/28/13

* OVERLYING WATER

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** SB-C1

Date: 9-27-13 **Vessel:** Tipton

Camera Serial #: Lumix #1

Photo ID: 103-0660 Time: 0812	Photo ID: 103-0661 Time: 0813
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: SB-C1 photo board	Description: Sediment in grab
Photo ID: 103 0662 Time: 0816	Photo ID: 103-0663 Time: 0817
Photographer: O. Bielmann	Photographer: O-Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Sediment stratigraphy in grab.	Description: Amphipods in grab
Photo ID: 103-0664 Time: 0839	Photo ID: 103 0665 Time: 0842
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: foreman sampling.	Description: Homogenized sample.
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: [illegible] Date: 9/28/13

Sample Lead Initials: [illegible] Date: 9/28/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SB-CB2 JR

Date: 9-26-13 **Vessel:** Ticton

Sampling Crew: Rupp/Vetter/Kelly **Vessel Crew:** Swigen/Schut/Tuschhoff

EPA Observer: Bardan **C.R. Observer:** Hubert

Arrival Time: 1324 **Departure Time:** 1504

River Stage:

Water Surface Elev. (ft): 1284.12

Water Surface Elevation Source: Coulee Dam

Weather Conditions Upon Arrival

Temp (°F): 65

Wind (mph): 5-10

Clouds/Precipitation: partly cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 671

Boat Traffic: support boat

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

house on west shore
Hwy 25 visible east shore

Sample Location Photo IDs: (see Photo Log for descriptions)

Camera ID: Lumix #1

Photo ID: 103-0641	Time: 1325	Photo ID: 103-0642	Time: 1325
Photo ID: 103-0643	Time: 1325	Photo ID:	Time:

General Notes: lower 2" of Van Veen sample black sand encountered.

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/28/13

Sample Lead Initials JR Date: 9-26-13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SB-C2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 178'

Drop # (1) 2 3 Cast Time 1327 Sampler Penetration (inches): 8"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 414102.12 NORTHING: 5343193.65

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.78 su Description:

Sediment Characteristics

Type: % Silt 75 (<1/16 mm)
% Sand 25 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: GLEY1 3/10Y
Description: very dark greenish gray

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0645 Time: 1336
Homogenized Sample: 103-0649 Time: 1440
Other: SE Scoop 103-0648 Time: 1346

Sediment (SE) Sample ID: SE-SB-C2 Time: 1445 # Containers: 4/1 Volume: 100/80 %

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: PW-SB-C2 Time: 1416 # Containers: 3 Volume: 100 %

Sample Lead Initials: JM Date: 9-26-13 Field Supervisor Initials: KH Date: 9/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** SB-C2

Date: 9-26-13 **Vessel:** Tieton

Camera Serial #: Lumix #1

Photo ID: 103-0641	Time: 1325	Photo ID: 103-0642	Time: 1325
Photographer: MV		Photographer: MV	
Photo Orientation:		Photo Orientation:	
Description: East Shore (hwy 25)		Description: West Shore (house)	
Photo ID: 103-0643	Time: 1325	Photo ID: 103-0644	Time: 1325
Photographer: MV		Photographer: MV	
Photo Orientation:		Photo Orientation:	
Description: North		Description: Site ID	
Photo ID: 103-0645	Time: 1336	Photo ID: 103-0646	Time: 1346
Photographer: MV		Photographer: MK	
Photo Orientation:		Photo Orientation:	
Description: SE in Van Veen		Description: SE Scoop	
Photo ID: 103-0647	Time: 1353	Photo ID: 103-0648	Time: 1353
Photographer: JR		Photographer: JR	
Photo Orientation:		Photo Orientation:	
Description: ~~Stag~~ black granular material		Description: ~~Stag~~ in Scoop black granular	

Field Supervisor Initials: DH Date: 9/28/13

Sample Lead Initials: JR Date: 9-26-17

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 5B-C2

Date: 9-26-13 Vessel: Tieton

Camera Serial #:

Photo ID: 103-0649 Time: 1440	Photo ID: Time:
Photographer: JR	Photographer:
Photo Orientation:	Photo Orientation:
Description: SE in mixing tub.	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 9/28/13

Sample Lead Initials: JR Date: 9-26-13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SB-C3

Date: 9-26-13 **Vessel:** Ticton

Sampling Crew: Rupp/Ivetter/Kelly **Vessel Crew:** Saugen/Schut/TuschhoffA

EPA Observer: Badan **C.R. Observer:** Hubert

Arrival Time: 1518 **Departure Time:**

River Stage:
Water Surface Elev. (ft): 1284.12

Water Surface Elevation Source: Coulee Dam

Weather Conditions Upon Arrival
Temp (°F): 68°F

Wind (mph): ~5

Clouds/Precipitation: partly cloudy to clear

Site Information:

Boat Position: (Powered) (Anchored)

River Mile: 671

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

River Current: (Swift) (Eddie) (Calm) (Ripple)

Boat Traffic: support boat

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

House ~~on~~ west bank just south of location

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: Lumix #1

Photo ID: 103-0657	Time: 1706	Photo ID: 103-0658	Time: 1706
Photo ID: 103-0659	Time: 1706	Photo ID:	Time:

General Notes:

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/28/13

Sample Lead Initials [signature] Date: 9-26-13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SB-C3

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 19.4

Drop # (1) 2 3 Cast Time 1521 Sampler Penetration (inches): 6"

Angle (< 5°max): (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: 413655.93 (NAD_83_UTM_Zone_11_North)
EASTING ~~534312.~~ NORTHING: 5343212.01

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.38 su Description:

Sediment Characteristics

Type: % Silt 50 (<1/16 mm)
% Sand 50 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 2.5Y 3/3
Description: Dark Olive Brown

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: ✓ Tubes: Macrophytes: ✓
Debris(twigs/leaves): Other: Snails

Stratified sediment: Yes No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0652 Time: 1522
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	SE-SB-C3	Time: 1643	# Containers: 4/1	Volume: 100/80	%
Duplicate SE Sample ID:		Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):	SE-SB-C3		# Containers: 1	Volume: 80	%
Pore Water (PW) Sample ID:	PW-SB-C3	Time: 1558	# Containers: 3	Volume: 106	%

Sample Lead Initials: JH Date: 9-26-13 Field Supervisor Initials: DH Date: 9/28/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189
Station Identifier: 5B-C3
Date: 9-26-13
Vessel: Ticton
Camera Serial #:

Photo ID: 103-0650 Time: 1520	Photo ID: 103-0651 Time: 1521
Photographer: MV	Photographer: MV
Photo Orientation:	Photo Orientation:
Description: vegetation in Van Veen	Description: Site ID 5B-C3
Photo ID: 103-0652 Time: 1522	Photo ID: 103-0653 Time: 1525
Photographer: MV	Photographer: MV
Photo Orientation:	Photo Orientation:
Description: SE Van Veen	Description: SE Van Veen vegetation
Photo ID: 103-0654 Time: 1530	Photo ID: 103-0655 Time: 1531
Photographer: MV	Photographer: MV
Photo Orientation:	Photo Orientation:
Description: Snail	Description: SE Scoop
Photo ID: 103-0656 Time: 1643	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description: SE tub	Description:

Field Supervisor Initials: [initials] Date: 9/28/13
Sample Lead Initials: [initials] Date: 9-26-13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 5B-C3

Date: 9-26-13 Vessel: Tieton

Camera Serial #: Lumix #1

Photo ID: 103-0657 Time: 1706	Photo ID: 103-0658 Time: 1706
Photographer: MV	Photographer: MV
Photo Orientation: West	Photo Orientation: East
Description: west shore	Description: east shore
Photo ID: 103-0659 Time: 1706	Photo ID: Time:
Photographer: MV	Photographer:
Photo Orientation: North	Photo Orientation:
Description: North direction	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: JOA Date: 9/28/13

Sample Lead Initials: JA Date: 9-26-13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SB-C4

Date: 9-26-13 **Vessel:** Tiefton

Sampling Crew: Rapp/Vetter/Kelly **Vessel Crew:** Sawyer/Schut/Tuschhoff

EPA Observer: Barton **C.R. Observer:** Hubert

Arrival Time: 1127 **Departure Time:** 1256

River Stage:
Water Surface Elev. (ft): 1284.12

Water Surface Elevation Source: Coulee Dam

Weather Conditions Upon Arrival
Temp (°F): 64

Wind (mph): 5-10

Clouds/Precipitation: partly cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Mile: 668

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

River Current: (Swift) (Eddie) (Calm) (Ripple)

Boat Traffic:

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: Lumix #1

Photo ID: 103-0635	Time: 1126	Photo ID: 103-0636	Time: 1126
Photo ID: 103-0637	Time: 1127	Photo ID:	Time:

General Notes:

C.R. - cultural resources

Field Supervisor Initials: DH Date: 9/28/13

Sample Lead Initials: JM Date: 9-26-13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SB-C4

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 142'

Drop #: (1) 2 3 Cast Time: 1127 Sampler Penetration (inches): 11.5"

Angle (< 5°max): (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: EASTING: 410881.55 {NAD_83_UTM_Zone_11_North} NORTHING: 5339275.80

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.24 su Description:

Sediment Characteristics

Type: % Silt 100 (<1/16 mm)

% Sand ____ (1/16 - 2 mm)

% Gravel ____

% Cobbles ____

% Silica Glass: ____

Color: Munsell Color Chart #: 5Y 2.5/1 Description: Dark Gray

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: slightly organic

Amphipods: ✓ Tubes: Macrophytes:

Debris(twigs/leaves): Other: Clams

Stratified sediment: Yes (No) Sheen Present: Yes (No)

Sample Collected Using: Van Veen ✓ Eckman ____ Ponar ____ Shovel ____

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: 106-0638 Time: 1135

Homogenized Sample: 106-0640 Time: 1241

Other: Scoop 106-0639 Time: 1143

Sediment (SE) Sample ID: SE-SB-C4	Time: 1240	# Containers: 4/1	Volume: 100/80	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: PW-SB-C4	Time: 1234	# Containers: 3	Volume: 100	%

Sample Lead Initials: JA Date: 9-26-13 Field Supervisor Initials: RAL Date: 9/28/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: SB-C4

Date: 9-26-13 Vessel: Triton

Camera Serial #: Lumix #1

Photo ID: 103-0634 Time: 1125	Photo ID: 103-0635 Time: 1126
Photographer: MV	Photographer: MV
Photo Orientation:	Photo Orientation:
Description: Station ID SB-C4	Description: East
Photo ID: 103-0636 Time: 1126	Photo ID: 3 106-0637 Time: 1127
Photographer: MV	Photographer: MV
Photo Orientation:	Photo Orientation:
Description: West	Description: North
Photo ID: 3 106-0638 Time: 1135	Photo ID: 3 106-0639 Time: 1143
Photographer: JR	Photographer: JR
Photo Orientation:	Photo Orientation:
Description: Sample VanVeen	Description: Sample in Scoop
Photo ID: 3 106-0640 Time: 1241	Photo ID: Time:
Photographer: JR	Photographer:
Photo Orientation:	Photo Orientation:
Description: mixing tub for SE	Description:

Field Supervisor Initials: KM Date: 9/28/13

Sample Lead Initials: JR Date: 9-26-13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: ~~S-C2~~ S-C1

Date: 30 SEPT 2013

Vessel: ~~SS/JS/CT~~ TRETON

Sampling Crew: JRC/DC/OB

Vessel Crew: SS/JS/CT

EPA Observer:

C.R. Observer: B. WHITE NPS

Arrival Time: 1027

Departure Time: 1213

River Stage:

Water Surface Elev. (ft): 1285

Water Surface Elevation Source: BUREN RECL

Weather Conditions Upon Arrival

Temp (°F): 55

Wind (mph): 15-20

Clouds/Precipitation: Overcast

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 680

Boat Traffic:

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: WMIX #1

Photo ID: 103 – 0687 Time: 1050

Photo ID: 103 – 0688 Time: 1051

Photo ID: 103 – 0689 Time: 1113

Photo ID: 103 – 0690 Time: 1145

General Notes:

C.R. - cultural resources

Field Supervisor Initials LDH Date: 10/01/13

Sample Lead Initials JRF Date: 30 SEPT. 2013

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SE-C2 SE-C1

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 145

Drop # (1) 2 3 Cast Time 1035 Sampler Penetration (inches): 12

Angle (< 5° max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}

EASTING: 412642.82 NORTHING: 5357585.94

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 8 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 66 % (Accepted) Rejected

pH of Sediment in Sampler: 7.41 su Description:

Sediment Characteristics

Type: % Silt 100 (<1/16 mm)

% Sand – (1/16 - 2 mm)

% Gravel –

% Cobbles –

% Silica Glass: –

Color: Munsell Color Chart #: 5Y 3/1 Description: VERY DARK GREY

Redox Boundary: Present? (Yes) No If present -- Depth Below Sediment Surface (inches): CO.25"

Odor: None Hydrogen sulfide Other: ORGANIC ACIDS

Amphipods: N Tubes: N Macrophytes: N

Debris(twigs/leaves): N Other: TWIGS + INSECTS

Stratified sediment: (Yes) No

Sheen Present: Yes No

Sample Collected Using: Van Veen ✓ Eckman ___ Ponar ___ Shovel ___

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: 103-0688 Time: 1051

Homogenized Sample: 103-0690 Time: 1145

Other: Time:

Sediment (SE) Sample ID: SE-5-C1 Time: 1150 # Containers: 5 Volume: ~~66~~ 100 %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): — # Containers: — Volume: — %

Pore Water (PW) Sample ID: PW-5-C1 Time: 1140 # Containers: 2 Volume: 66 ** %

Sample Lead Initials: JDP Date: 30 SEPT 2013 Field Supervisor Initials: KDH Date: 10/01/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

** filled 2/3 containers

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** S-C1

Date: 9-30-13 **Vessel:** Tieton

Camera Serial #: Lumix 41

Photo ID: 103-0687	Time: 1050	Photo ID: 103-0688	Time: 1051
Photographer: O. Bifulmann		Photographer: O. Bifulmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: S-C1 photo board		Description: Sediment in grab.	
Photo ID: 103-0689	Time: 1113	Photo ID: 103-0690	Time: 1145
Photographer: O. Bifulmann		Photographer: O. Bifulmann	
Photo Orientation: ~~N/A~~ NE		Photo Orientation: N/A	
Description: Porewater sampling. C SE-S-C1		Description: Homogenized sample.	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials: AOH Date: 10/01/13

Sample Lead Initials: JNF Date: 1/30/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 5-C3

Date: 28 SEPT

Vessel: RV TIETON

Sampling Crew: FLANDERS, PANTHER, BIELMAN

Vessel Crew: SPOGEN, SCHUT, TUSCHOFF

EPA Observer: N BADON CH2MHILL

C.R. Observer: BILL WHITE NPS

Arrival Time: 0756

Departure Time: 1020

River Stage:

Water Surface Elev. (ft): 1284.23 (PRED)

Water Surface Elevation Source: BUREN RECL.

Weather Conditions Upon Arrival

Temp (°F): 54

Wind (mph): 0-2

Clouds/Precipitation: OVERCAST, LIGHT/RAIN

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 677

Boat Traffic: NONE

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: OLYMPUS TG-620

Photo ID: 415 Time: 0749 Photo ID: 416 Time: 0826

Photo ID: 417 Time: 0845 Photo ID: 418 Time: 0938

General Notes:

EPA SPLIT.

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/28/13

Sample Lead Initials DRF Date: 28 SEPT.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: SE-C3

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 16

Drop # (1) 2 3 Cast Time 0819 Sampler Penetration (inches): 12

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 412739.47 NORTHING: 5357655.47

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 7.87 su Description:

Sediment Characteristics

Type: % Silt 100 (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: 5Y-5/1
Description: VERY DARK GREY

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): <0.5"

Odor: (None) Hydrogen sulfide
Other:

Amphipods: ✓ Tubes: N Macrophytes: N
Debris(twigs/leaves): N Other: Algal

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using: Van Veen ✓, Eckman, Ponar, Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 416 Time: 0826
Homogenized Sample: 418 Time: 0930
Other: Time:

Sediment (SE) Sample ID: SE-5-C3	Time: 0940	# Containers: 6	Volume: 100 %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): SE-C-63		# Containers: 1	Volume: 100 %
Pore Water (PW) Sample ID: PW-5-C3	Time: 0930	# Containers: 5	Volume: 100 %

Sample Lead Initials: DLC Date: 28 SEPT 13 Field Supervisor Initials: DM Date: 9/28/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 5-C3

Date: 9-28-13 **Vessel:** Tipton

Camera Serial #: Olympus Tough TG-620 (UBS camera)

Photo ID: 415	Time: 0749	Photo ID: 416	Time: 0826
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: 5-C3 photo board		Description: Sediment w grab.	
Photo ID: 417	Time: 0845	Photo ID: 418	Time: 0938
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: Porewater Sampling		Description: Homogenized sample.	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials AH Date: 9/28/13

Sample Lead Initials [illegible] Date: 9/28/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-B2

Date: 25 SEPT 2013 **Vessel:** TIETON

Sampling Crew: FLANDERS, PANTHER, BIELMAN **Vessel Crew:** SAUGEN, SCHUT, NISCHOFF

EPA Observer: N BABON CH2MHill **C.R. Observer:** L MCCULLOUGH

Arrival Time: 0940 **Departure Time:** 1220

River Stage:
Water Surface Elev. (ft): 1283.8

Water Surface Elevation Source:
BUREAU OF RECLAMATION

Weather Conditions Upon Arrival
Temp (°F): 60

Wind (mph): 5-10

Clouds/Precipitation: mostly cloudy

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 665 Boat Traffic: MINIMAL

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)
cliffs to east

Sample Location Photo IDs:
(see Photo Log for descriptions)
Camera ID: CUNIV #1

Photo ID: 103-0609 Time: 0941 Photo ID: 103-0610 Time: 1045

Photo ID: 103-0611 Time: 1052 Photo ID: 103-0612 Time: 1052

General Notes:

Photo	TIME
103-0613	1139
103-0614	~~1136~~ DK 1146
103-0615	1147

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/27/13

Sample Lead Initials JDF Date: 25 SEPT 2013

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 | Station Identifier: B-B2

Anchor Point (max 3): ORF (1) 2 3 | Water Depth (feet): 196

Drop # (1) 2 3 Cast Time 1037 | Sampler Penetration (inches): 9

Angle (< 5°max)* Yes (No) ** | Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 411272.52 NORTHING: 5335725.11

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.03* su Description:

Sediment Characteristics

Type: % Silt 90 (<1/16 mm) | % Sand 10 (1/16 - 2 mm) | % Gravel — | % Cobbles — | % Silica Glass —

Color: Munsell Color Chart #: 5Y 4/1 Description: DARK GRAY

Redox Boundary: Present? (Yes) No; If present -- Depth Below Sediment Surface (inches): <0.5"

Odor: (None) Hydrogen sulfide Other:

Amphipods: 4 Tubes: N Macrophytes:
Debris(twigs/leaves): N Other:

Stratified sediment: (Yes) No | Sheen Present: Yes (No)

Sample Collected Using: Van Veen ✓ Eckman ___ Ponar ___ Shovel ___

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0610 Time: 1045
Homogenized Sample: 103-0613 Time: 1139
Other: Time:

Sediment (SE) Sample ID:	SE-6-B2	Time: 1140	# Containers:	8***	Volume: 100	%
Duplicate SE Sample ID:		Time:	# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):			# Containers:		Volume:	%
Pore Water (PW) Sample ID:	PW-6-B2	Time: 1125	# Containers:	3	Volume: 100	%

Sample Lead Initials: JRF Date: 25 Sept 13 Field Supervisor Initials: KM Date: 9/27/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

* overlying water

** angle is < 5°

*** # BUCKETS: 3 BIOASSAY, 1 NPS/CCT SPLIT

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 193

Drop # 1 2 (3) Cast Time 1015 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 411269.38 NORTHING: 5335728.91

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

	Sample Collected Using	Photo Numbers 's (see Photo Log for descriptions)
Stratified sediment: Yes No	Van Veen ✓	Sediment in Grab: _____ Time: _____
Sheen Present: Yes No	Eckman _____	Homogenized Sample: _____ Time: _____
	Ponar _____	Other: Time:
	Shovel	

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials: JRC Date: 25 Sept 13 Field Supervisor Initials: DH Date: 9/27/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: G-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 189

Drop # 1 (2) 3 Cast Time 1000 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 411270.11 NORTHING: 5335720.56

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using: Van Veen ✓, Eckman ____, Ponar ____, Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT)				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: JPF Date: 25 SEPT 2013 Field Supervisor Initials: DH Date: 9/27/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-B2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 18.9

Drop # (1) 2 3 Cast Time 0950 Sampler Penetration (inches): 0

Angle (< 5°max) Yes (No) Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 411251.08 NORTHING: 5335708.55

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No	Sample Collected Using	Photo Numbers 's (see Photo Log for descriptions)
Sheen Present: Yes No	Van Veen ✓	Sediment in Grab: Time:
	Eckman	Homogenized Sample: Time:
	Ponar	Other: Time:
	Shovel	

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Sample Lead Initials JDF Date: 25 Sept 2013 Field Supervisor Initials DJA Date: 9/27/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: SE-6-B2

Date: 9-25-13 Vessel: Tiefon

Camera Serial #: Lumix #1

Photo ID: 103-0609 Time: 0941	Photo ID: 103-0610 Time: 1045
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A.	Photo Orientation: N/A
Description: 6-B2 photo board.	Description: Sediment in grab.
Photo ID: 103-0611 Time: 1052	Photo ID: 103-0612 Time: 1052
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Amphipod in grab	Description: Amphipod in grab.
Photo ID: 103-0613 Time: 1139	Photo ID: 103-0614 Time: 1146
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Homogenized sample.	Description: NPS split going into bucket.
Photo ID: 103-0615 Time: 1147	Photo ID: Time:
Photographer: O. Bielmann	Photographer:
Photo Orientation: N/A.	Photo Orientation:
Description: 6-B2 C.O.C form for NPS.	Description:

Field Supervisor Initials: DH Date: 9/27/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-B4

Date: 9-26-13 **Vessel:** Ticton

Sampling Crew: Rapp/Vetter/Kelley **Vessel Crew:** Saugen/Schut/Tuschhoff

EPA Observer: Batdorf **C.R. Observer:** Hubert

Arrival Time: 0812 **Departure Time:** 1053

River Stage:
Water Surface Elev. (ft): 1284.12

Water Surface Elevation Source: Coulee Dam

Weather Conditions Upon Arrival
Temp (°F): 57°

Wind (mph): 5-10

Clouds/Precipitation: partly cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Mile: 665

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

River Current: (Swift) (Eddie) (Calm) (Ripple)

Boat Traffic: Support / NPS

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions) 26 0836

Camera ID: Lumix #1 0836

Photo ID: 103-0622 Time: ~~0817~~

Photo ID: 103-0623 Time: ~~0824~~

Photo ID: 103-0625 Time: 0836

Photo ID: 103-0625 Time: 0836

General Notes:
103-0627 Time: 0837

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/28/13

Sample Lead Initials JR Date: ~~9~~ 9-26-13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: 6-B4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 39'

Drop # (1) 2 3 Cast Time 0816 Sampler Penetration (inches): 3-7"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 4106494.79 NORTHING: 5334113.02

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: 8.74 su Description: _____

Sediment Characteristics

Type: % Silt 100 (<1/16 mm) – Hard Clay

% Sand _____ (1/16 - 2 mm)

% Gravel _____

% Cobbles _____

% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0623 Time: 0824
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials JM Date: 9-26-13 Field Supervisor Initials DH Date: 9/28/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: 6-B4

Anchor Point (max 3) 1 2 3 Water Depth (feet): 38'

Drop # 1 2 3 Cast Time: 0840 Sampler Penetration (inches): grab did not close

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 410686.03 NORTHING: 5334123.22

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt 100 (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: _____ Time: _____

Sediment (SE) Sample ID: ~~SE~~ 10	Time: _____	# Containers: _____	Volume: _____	%
Duplicate SE Sample ID: _____	Time: _____	# Containers: _____	Volume: _____	%
Split SE Samples (EPA/NPS/CCT): (m)		# Containers: _____	Volume: _____	%
Pore Water (PW) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____	%

See page 4

Sample Lead Initials: [illegible] Date: 9-26-13 Field Supervisor Initials: DH Date: 9/28/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: 6-B4

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 38'

Drop # 1 2 (3) Cast Time 0847 Sampler Penetration (inches): 8"

Angle (< 5° max): (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 410686.20 NORTHING: 5334127.73

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.47 su Description:

Sediment Characteristics

Type: % Silt 98 (<1/16 mm)
% Sand 2 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide Other:

Amphipods: yes Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using: Van Veen ✓ Eckman ____ Ponar ____ Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0628 Time: 0850
Homogenized Sample: Time:
Other: Scoop 103-0629 Time: 0856

Sediment (SE) Sample ID: SE-6-B4	Time: 1032	# Containers: 4/3	Volume: 100/80	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT)		# Containers: 1	Volume: 80	%
Pore Water (PW) Sample ID: PW-6-B4	Time: 1024	# Containers: 3	Volume: 100	%

See Pg 4

Sample Lead Initials: JR Date: 9-26-13 Field Supervisor Initials: JOA Date: 9/28/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-B4

Anchor Point (max 3): 1 (2) 3 Water Depth (feet): 38'

Drop #: (1) 2 3 Cast Time: 0919 Sampler Penetration (inches): 6"

Angle (< 5°max): (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 410686.51 NORTHING: 5334130.57

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.31 su Description:

Sediment Characteristics

Type: % Silt 99 (≤1/16 mm)
% Sand 1 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 5Y 3/2 Description: Dark olive Gray

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0630 Time: 0923
Homogenized Sample: Time:
Other: SE in Scoop 103-0631 Time: 0927

Sediment (SE) Sample ID: SE-6-B4	Time: 1032	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: PW-6-B4	Time: 1024	# Containers: 3	Volume: 100	%

Sample Lead Initials: [signature] Date: 9-26-13 Field Supervisor Initials: DA Date: 9/28/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 6-B4

Date: 9-26-13 Vessel: Tiefton

Camera Serial #: Lumix #1

Photo ID: 103-0621 Time: 0811	Photo ID: 103-0622 Time: 0817
Photographer: Rapp	Photographer: Rapp
Photo Orientation:	Photo Orientation: West
Description: Site ID	Description: Shore (blurry)
Photo ID: 103-0623 Time: 0824	Photo ID: 103-0624 Time: 0836
Photographer: JR	Photographer: JR
Photo Orientation:	Photo Orientation: West
Description: Rejected Sed. and grab	Description: West shore
Photo ID: 103-0625 Time: 0836	Photo ID: 103-0626 Time: 0836
Photographer: JR	Photographer: JR
Photo Orientation: North	Photo Orientation: East
Description: N. of Location	Description: E. Shore
Photo ID: 103-0627 Time: 0837	Photo ID: 103-0628 Time: 0850
Photographer: JR	Photographer: JR
Photo Orientation: South	Photo Orientation:
Description: S. of station	Description: Sediment in Grab API drop 3

Field Supervisor Initials: KH Date: 9/26/13

Sample Lead Initials: JR Date: 9-26-13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: G-B4

Date: 9-26-13 Vessel: Tieton

Camera Serial #: Lumix #1

Photo ID: 103-0629 Time: 0856	Photo ID: 103-0630 Time: 0923
Photographer: MV	Photographer: MV
Photo Orientation:	Photo Orientation:
Description: SE in scoop API Drop 3	Description: SEDIMENT IN GRAB APZ Drop 1
Photo ID: 103-0631 Time: 0927	Photo ID: 103-0632 Time: 1030
Photographer: JR	Photographer: JR
Photo Orientation:	Photo Orientation:
Description: SE in Scoop	Description: Homogenized SE TVB.
Photo ID: 103-0633 Time: 1042	Photo ID: Time:
Photographer: JR	Photographer:
Photo Orientation:	Photo Orientation:
Description: NPS-SE-G-B4 COC	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials DH Date: 9/26/13

Sample Lead Initials JR Date: 9-26-13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-B6

Date: 24 SEPT 2013 **Vessel:** RV TIFTON

Sampling Crew: FLANDERS, PANTHER, BIELMAN **Vessel Crew:** SAUCEN, SCHUT, TUSCHOFF

EPA Observer: NICOLE BADON **C.R. Observer:** LAURA MCCULLOUGH

Arrival Time: 1516 **Departure Time:** 1640

River Stage:
Water Surface Elev. (ft): 1283.7
Water Surface Elevation Source: BUREAU RECLAMATION

Weather Conditions Upon Arrival
Temp (°F): 78°
Wind (mph): 5-10
Clouds/Precipitation: MOSTLY SUNNY / RAIN

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 66.4 Boat Traffic: MINIMAL

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: LUMIX #1

Photo ID: 103-0598	Time: 1454	Photo ID: 103-0599	Time: 1528
Photo ID: 103-0600	Time: 1540	Photo ID: 103-0601	Time: 1555

General Notes:

Minimal oiling on PROXIMAL SEAM (CLOSEST TO CABIN)

NPS COC IS PHOTO 103-0603 @ 1627

103-0602 @ 1618

1

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 9/25/13

Sample Lead Initials: [illegible] Date: 24SEPT2013

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 0-B6

Anchor Point (max 3) (1) 2 3 **Water Depth (feet):** 154

Drop # (1) 2 3 **Cast Time** 1357 **Sampler Penetration (inches):** N/A

Angle (< 5°max) Yes No **Cultural Resources Observed?** No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 411304.49 NORTHING: 5333339.49

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____ % Accepted Rejected

pH of Sediment in Sampler: ~~7.58~~ 7.02 su **Description:**

Sediment Characteristics

Type: % Silt ~~45~~ 45 DM (<1/16 mm)
% Sand ~~5~~ 5 DM (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris (twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0599 Time: 1529
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
✓ Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials JRS Date: 24 SEPT 2013 Field Supervisor Initials CJA Date: 9/25/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-B6

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 157

Drop # 1 (2) 3 Cast Time 1535 Sampler Penetration (inches): 7"

Angle (< 5° max) Yes (No) Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 411292.89 NORTHING: 5333335.66

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 80 % (Accepted) Rejected

pH of Sediment in Sampler: 7.58* su Description: TAN, [illegible], COLLOIDAL

Sediment Characteristics

Type: % Silt 95 (<1/16 mm)
% Sand 5 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass —

Color: Munsell Color Chart #: 5Y 4/1 Description: DARK GREY

Redox Boundary: Present? (Yes) No If present -- Depth Below Sediment Surface (inches): 1"

Odor: (None) Hydrogen sulfide Other:

Amphipods: N Tubes: N Macrophytes: A
Debris(twigs/leaves): N Other: ALGAL

Stratified sediment: (Yes) No Sheen Present: Yes (No)

Sample Collected Using: Van Veen ✓ Eckman ___ Ponar ___ Shovel ___

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0600 Time: 1540
Homogenized Sample: 103-0602 Time: 1618
Other: PW 103-0601 Time: 1555

Sediment (SE) Sample ID: SE-B6-B6	Time: 1620	# Containers: 4	Volume: 100	%	
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%	
✓ Split SE Samples (EPA/NPS/CCT):		# Containers: 1	Volume: —?	%	DRH 9/28/13
Pore Water (PW) Sample ID: PW-6-B6	Time: 1610	# Containers: 3	Volume: 80	%	DRH 11/26/13

Sample Lead Initials: DRF Date: 24 SEP 13 Field Supervisor Initials: DH Date: 9/25/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

* OVERLYING WATER

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: SE-6-B6

Date: 9-24-13 Vessel: Tietan

Camera Serial #: Lumix #1

Photo ID: 103-0598 Time: 1454	Photo ID: 103-0599 Time: 1528
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: SE-6-B6 photo board	Description: Rejected grab w/ sediment in grab.
Photo ID: 103-0600 Time: 1540	Photo ID: 103-0601 Time: 1555
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Sediment in grab.	Description: Porewater sampling
Photo ID: 103-0602 Time: 1618	Photo ID: 103-0603 Time: 1627
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Homogenised sample	Description: Photo of C.O.C Form for NPS split.
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: JOA Date: 9/25/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 68-C1

Date: 24 SEPT 2013 **Vessel:** RV TIETON

Sampling Crew: FLANDERS, PANTHER, BIELMAN **Vessel Crew:** SANDEN, SCOTT, TUSCHHOFF

EPA Observer: ~~ANDREA~~ NICOLE BADON **C.R. Observer:** LAURA MCCULLOUGH

Arrival Time: 0850 **Departure Time:** 1130

River Stage:
Water Surface Elev. (ft): 1283.7 ~~1283.45~~ NAVD

Water Surface Elevation Source: BUREAU of RECLAMATION

Weather Conditions Upon Arrival
Temp (°F): ~~0~~ 55 °F

Wind (mph): CALM

Clouds/Precipitation: OVERCAST / NONE

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 663

Boat Traffic: LOW

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)
CLIFFS ON EAST SHORE

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1 (LUMIX)

Photo ID: 1030588 Time: 0809 Photo ID: 1030589 Time: 0925

Photo ID: 1030590 Time: 0946 Photo ID: 1030591 Time: 1057

General Notes:

Amphipods are at high densities in grab.

ADD'L PHOTOS:
1030592 @ 1103

C.R. - cultural resources

Field Supervisor Initials LOH Date: 9/25/13

Sample Lead Initials JRP Date: 24SEPT 13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 68-C1

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 18.1

Drop #: (1) 2 3 Cast Time: 0915 Sampler Penetration (inches): 9"

Angle (< 5°max): Yes (No) Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 409906.96 NORTHING: 5332427.52

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: ____% (Accepted) Rejected

pH of Sediment in Sampler: 8.48* su Description: ____

Sediment Characteristics

Type: % Silt 60 (<1/16 mm)
% Sand 40 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: 5Y 3/2
Description: ~~olive green/gray~~ VERY DARK GRAYISH GREEN

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 0.5 to 1"

Odor: (None) Hydrogen sulfide Other: ____

Amphipods: yes Tubes: no Macrophytes: no
Debris(twigs/leaves): no Other: invertebrates

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman: ____
Ponar: ____
Shovel: ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 1030592 Time: 0925
Homogenized Sample: 1030592 Time: 1103
Other: PW 1030590 Time: 0946

Sediment (SE) Sample ID: SE-68-C1	Time: 1102	# Containers: 4	Volume: 100 %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: PW-68-C1	Time: 1051	# Containers: 2	Volume: JEF ~~85~~ 75 %

Sample Lead Initials: JEF Date: 24 SEP 13 Field Supervisor Initials: DH Date: 9/25/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

* overlying water

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 6B-C1

Date: 9-24-13 Vessel: Tieton

Camera Serial #: #1

Photo ID: 103-0588 Time: 0808 AM	Photo ID: 103-0589 Time: 0925 AM
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Sample location photo board	Description: Sediment/water interface
Photo ID: 103-0590 Time: 0946	Photo ID: 103-0591 Time: 1057 AM
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Porewater sampling	Description: Homogenized sample.
Photo ID: 103-0592 Time: 1103 AM	Photo ID: Time:
Photographer: O. Bielmann	Photographer:
Photo Orientation: N/A	Photo Orientation:
Description: Homogenized sample	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials KM Date: 9/25/13

Sample Lead Initials OB Date: 24 Sept 2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 6B-C2

Date: 9/14/13

Vessel: Tieton

Sampling Crew: Pantler, Sugalski, Stegner

Vessel Crew: Tuschhoff, Saugen, Schot, Treadeau

EPA Observer: Burt Shepard

C.R. Observer: Eric Oosahuee

Arrival Time: 0900

Departure Time: 0958

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 85°F

Wind (mph): heavy

Clouds/Precipitation: Partly Cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 659

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Observed by NPS & EPA

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/16/13

Sample Lead Initials ZS Date: 9/13/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6B-C2 0912

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 143

Drop # (1) 2 3 Cast Time 0912 Sampler Penetration (inches): 9

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 407027.24 NORTHING: 5328227.84

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted (Rejected)

pH of Sediment in Sampler: 7.47 su Description: Air Stone clogged

Sediment Characteristics

Type: % Silt ≈100 (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: 5Y 3/1
Description: very dark grey Silt

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other: _____

Amphipods: SCUDS Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No) Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0435-3 Time: 0927
Homogenized Sample: 103-0436 Time: 0932
Other: 103-0434 Time: 0937

Sediment (SE) Sample ID: SE-6B-C2	Time: 0940	# Containers: 8	Volume: 100 %	7 8oz -1 16oz
Duplicate SE Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %	
Split SE Samples (EPA/NPS/CCT): SE-6B-C2		# Containers: 1	Volume: 100 %	-1 5-gal
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %	

Sample Lead Initials: [illegible] Date: 9/13/13 Field Supervisor Initials: JM Date: 9/16/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 60B-C2

Date: 9/14/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0448 Time: 0857	Photo ID: 103-0449 Time: 0858
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: crabs, incidental photo of work table	Description: station ID
Photo ID: 103-0450 Time: 900	Photo ID: 103-0451 Time: 0900
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: left bank	Photo Orientation: upstream
Description: UPS observer boat, surface conditions	Description: Surface water sample cond. test
Photo ID: 103-0452 Time: 0917	Photo ID: 103-0453 Time: 0927
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in Grab, 1st one	Description: Sediment in Grab
Photo ID: 103-0454 Time: 0927	Photo ID: 103-0455 Time: 0932
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in grab	Description: Sediment in Grab

Field Supervisor Initials: AH Date: 9/16/13

Sample Lead Initials: JS Date: 9/13/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 6B-17

Date: 9/14/13 **Vessel:** Tradewind

Camera Serial #: #1

Photo ID: 103-0456	Time: 0935	Photo ID:	Time:
Photographer: Sugalski		Photographer:	
Photo Orientation:		Photo Orientation:	
Description: Homogenized Sample.		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials DH Date: 9/16/13

Sample Lead Initials JS Date: 9/13/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 6B-C3

Date: 9/16/13

Vessel: Tieton

Sampling Crew: Sugalski, Porter, Bielmann

Vessel Crew: Tuschoff, Schut, Saugen

EPA Observer: Burt Shepard

C.R. Observer: Laura McCullough

Arrival Time: 0935

Departure Time: 1039

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 68°F

Wind (mph): _____

Clouds/Precipitation: Overcast

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 657

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

C.R. - cultural resources

Field Supervisor Initials LDH Date: 9/17/13

Sample Lead Initials ZS Date: 9/16/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6B-C3

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 144

Drop # (1) 2 3 Cast Time 0743 Sampler Penetration (inches): 9.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 407582.50 NORTHING: 5324283.34

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected
pH of Sediment in Sampler: 7.115 su Description: Airstone clogged

Sediment Characteristics
Type: % Silt ≈100 (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: 5Y 3/1
Description: very dark gray silt

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/4

Odor: None (Hydrogen sulfide) slight
Other: ____

Amphipods: scuds Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: (Yes) No slight

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0475 Time: 0955
Homogenized Sample: 103-0480 Time: 1006
Other: 103-0476 Time: 0955

Sediment (SE) Sample ID: SE-6B-C3	Time: 1010	# Containers: 4	Volume: 100 %	~32oz
Duplicate SE Sample ID: SE-6B-C3-R	Time: 1010	# Containers: 5	Volume: 100 %	~2.5gal
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: %	
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %	

Sample Lead Initials: JS Date: 9/16/13 Field Supervisor Initials: KM Date: 9/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

SE-6B-C3-RW

#cnt=1 volume=100 ~1.5gal

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 6PD-C3

Date: 9/16/13 Vessel: Tiefen

Camera Serial #: #1

Photo ID: 103-0474 Time: 0918	Photo ID: 103-0475 Time: 0955
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: 1st grab Sediment
9/16/13	
Photo ID: 103-0476 Time: 0955	Photo ID: 103-0477 Time: 1000
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: 1st grab of Sediment	Description: Placing Sediment into Lexan tub in preparation for homogenization CR inspection
Photo ID: 103-0478 Time: 1003	Photo ID: 103-0479 Time: 1005
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: homogenizing 1st grab	Description: Placing homogenized Sample in Sample jar
Photo ID: 103-0480 Time: 1006	Photo ID: Time:
Photographer: Sugelski	Photographer:
Photo Orientation:	Photo Orientation:
Description: homogenized Sample in Jar	Description:

Field Supervisor Initials: DH Date: 9/17/13

Sample Lead Initials: ZS Date: 9/16/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 6B-C4

Date: 9/16/13

Vessel: Tieton

Sampling Crew: Bielmann, Sugalski, Panter

Vessel Crew: Schut, Tuschhoff, Sauger, Posey

EPA Observer: Burt Shepard

C.R. Observer: Laura McCullough - NPS

Arrival Time: 1055

Departure Time: 1233

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 72°F

Wind (mph): light

Clouds/Precipitation: overcast

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 652

Boat Traffic: observers

light disturbance

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

C.R. - cultural resources

Field Supervisor Initials: DA Date: 9/17/13

Sample Lead Initials: JS Date: 9/16/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6B-C4

Anchor Point (max 3) 1 2 3 Water Depth (feet): 195

Drop # 1 2 3 Cast Time 1103 Sampler Penetration (inches): 11

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 400538.85 NORTHING: 5322330.34

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES NO
2. Overlying water present? YES NO
3. Overlying water excessively turbid? YES NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES NO
5. Desired penetration depth (4 to 6 inches) achieved? YES NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES NO
7. Sample is: Accepted Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of Sediment in Sampler: 7.27 su Description: Airstone clogged

Sediment Characteristics

Type: % Silt ≈100 (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: 5Y 3/1
Description: Very dark gray silt

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): 1/8"

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Scuds Tubes: Macrophytes:
Debris(twigs/leaves): Other: Snail

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0483 Time: 1113
Homogenized Sample: 103-0485 Time: 1126
Other: 103-0484 Time: 1113

Sediment (SE) Sample ID: SE-6B-C4 Time: 1126 # Containers: 4 Volume: 100 %

Duplicate SE Sample ID: SE-6B-C4-R Time: 1126 # Containers: 65 Volume: 100 %

Split SE Samples (EPA/NPS/CCT): # Containers: 9/16/13 Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials: JS Date: 9/16/13 Field Supervisor Initials: DH Date: 9/17/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

SE-6B-C4-RW #containers = 1 100%

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 6B-C4

Date: 9/16/13 Vessel: Tiefen

Camera Serial #: #1

Photo ID: 103-0481 Time: 1050	Photo ID: 103-0482 Time: 1106
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: left bank near station
Photo ID: 103-0483 Time: 1113	Photo ID: 103-0484 Time: 1113
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in Sampler	Description: Sediment in Sampler
Photo ID: 103-0485 Time: 1126	Photo ID: 103-0486 Time: 1131
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: homogenized Sample	Description: homogenized Sample.
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials DH Date: 9/17/13

Sample Lead Initials JS Date: ~~9/17/13~~ 9/16/13 DH

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** ~~PV TIETON~~ 6-C1

Date: 25 SEPT 2013 **Vessel:** PV TIETON

Sampling Crew: FLANDERS / PANTHER / BIELMAN **Vessel Crew:** SANGEN / SCHUT / NISCHOFF

EPA Observer: N BARON (CH2MHILL) **C.R. Observer:** L MCCULLOUGH (NPS)

Arrival Time: 0806 **Departure Time:** 0920

River Stage:
Water Surface Elev. (ft): 12438

Water Surface Elevation Source: BUREAU REC

Weather Conditions Upon Arrival
Temp (°F): 51° F

Wind (mph): CS

Clouds/Precipitation: OVERCAST

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 666 Boat Traffic: MINIMAL

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): NONE.

Sample Location Photo IDs: (see Photo Log for descriptions)

Camera ID: LUMIX #1

Photo ID: 103 0604	Time: 0750	Photo ID: 103 0605	Time: 0821
Photo ID: 103 0606	Time: 0824	Photo ID: 103 0607	Time: 0833

General Notes:

PHOTO 103 0608 @ 0906

- PHOTO 0606 IS REDOX BOUNDARY
- PHOTO 0607 IS PW SAMPLING VIA MARINE AIRSTONE

C.R. - cultural resources

Field Supervisor Initials AK Date: 9/27/13

Sample Lead Initials JRF Date: 25 SEPT 2013

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: 6-C1

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 87

Drop # (1) 2 3 Cast Time 0815 Sampler Penetration (inches): 10.5

Angle (< 5°max) Yes (No) Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 411008.34 NORTHING: 5336019.64

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.04 * su Description: Clear

Sediment Characteristics

Type: % Silt 93 (<1/16 mm)
% Sand 7 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: 5Y 4/1
Description: DARK GREY

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1"

Odor: (None) Hydrogen sulfide
Other:

Amphipods: FEW Tubes: NO Macrophytes: NO
Debris(twigs/leaves): NO Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using: Van Veen ✓ Ekman ___ Ponar ___ Shovel ___

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0605 Time: 0821
Homogenized Sample: 103-0608 Time: 0906
Other: Time:

Sediment (SE) Sample ID:	SE-6-C1	Time:	0905	# Containers:	5 **	Volume:	100 %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	—			# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	PW-6-C1	Time:	0845	# Containers:	3	Volume:	100 %

Sample Lead Initials: JRF Date: 25 SEP 2013 Field Supervisor Initials: DH Date: 9/29/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

* OVERLYING WATER
** 4 JARS, 1 BUCKET

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: SE-6-C1

Date: 9-25-13 Vessel: Tleton

Camera Serial #: Lumix #1

Photo ID: 103-0604 Time: 750 AM	Photo ID: 103-0605 Time: 0821
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A.
Description: SE-6-C1 photo board	Description: Sediment in grab
Photo ID: 103-0606 Time 0824	Photo ID: 103-0607 Time: 0833
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Redox boundary.	Description: Porewater sampling
Photo ID: 103-0608 Time: 0906	Photo ID: Time:
Photographer: O. Bielmann	Photographer:
Photo Orientation: N/A	Photo Orientation:
Description: Homogenized Sample.	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials DH Date: 9/27/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-C2

Date: 25 SEPT. 2013 **Vessel:** RV TIETON

Sampling Crew: FLANDERS, PANTHER, BIELMAN **Vessel Crew:** SAUGEN, SCHUT, TUSCHOFF

EPA Observer: N CARON CAL MILL **C.R. Observer:** L MCCULLOUGH

Arrival Time: 1230 **Departure Time:** 1530

River Stage:
Water Surface Elev. (ft): 1283.80

Water Surface Elevation Source: BUREAU OF RECLAMATION

Weather Conditions Upon Arrival
Temp (°F): 69

Wind (mph): ~10 INITIALLY. >10 after 1353*

Clouds/Precipitation: OVERCAST

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile:

Boat Traffic: MINIMAL

Water Surface: (Calm) (Small Waves) (Choppy) *

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

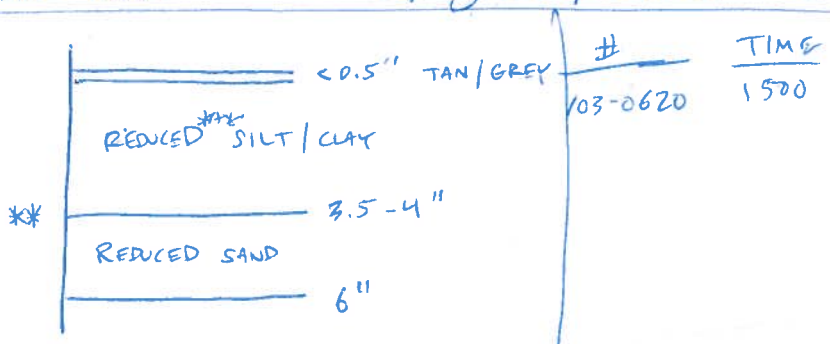
Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: CAMERA #1

Photo ID: 103-0616	Time: 1215	Photo ID: 103-0617	Time: 1420
Photo ID: 103-0618	Time: 1421	Photo ID: 103-0619	Time: 1431

General Notes:

*weather deteriorated as sampling attempts were made.



#	TIME
103-0620	1500

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 9/27/13

Sample Lead Initials: [illegible] Date: 25 SEPT 2013

URS

**STEEP TRANSITION.

***REDUCED = Black/grey appearance

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-C2

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 139

Drop # (1) 2 3 Cast Time 1233 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}

EASTING: 411221.54 NORTHING: 5336321.29

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)

% Sand ____ (1/16 - 2 mm)

% Gravel ____

% Cobbles ____

% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:

Debris(twigs/leaves): Other:

Stratified sediment: Yes No

Sheen Present: Yes No

Sample Collected Using

Van Veen ✓

Eckman ____

Ponar ____

Shovel ____

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: ____ Time: ____

Homogenized Sample: ____ Time: ____

Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Sample Lead Initials: [illegible] Date: 25 Sept 2013 Field Supervisor Initials: DH Date: 9/27/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-C2

Anchor Point (max 3) 1 2 3 Water Depth (feet): 190

Drop # 1 2 3 Cast Time 1244 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 411208.42 NORTHING: 5336331.22

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials JRL Date 25 SEPT 2013 Field Supervisor Initials JOD Date 9/27/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-C2

Anchor Point (max 3) 1 2 3 Water Depth (feet): 193

Drop # 1 2 3 Cast Time 1258 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 411224.12 NORTHING: 5336310.69

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)

% Sand _____ (1/16 - 2 mm)

% Gravel _____

% Cobbles _____

% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No	Sample Collected Using	Photo Numbers 's (see Photo Log for descriptions)	
	Van Veen ✓	Sediment in Grab:	Time:
	Eckman	Homogenized Sample:	Time:
Sheen Present: Yes No	Ponar	Other:	Time:
	Shovel		

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Sample Lead Initials JTG Date: 28 SEPT 2013 Field Supervisor Initials NH Date: 9/27/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 | Station Identifier: 6-C2

Anchor Point (max 3): ~~1~~ DR 2 3 | Water Depth (feet): DR UNKNOWN 192

Drop # 1 2 3 | Cast Time 1405 | Sampler Penetration (inches): 8.5"

Angle (< 5°max) Yes No | Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 411236.31 NORTHING: 5336306.01

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channelling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % | Accepted | Rejected

pH of Sediment in Sampler:* 8.00 su | Description:

Sediment Characteristics

Type: % Silt 95 (<1/16 mm) | % Sand 5 (1/16 - 2 mm) | % Gravel — | % Cobbles — | % Silica Glass:

Color: Munsell Color Chart #: 5Y 4/1 | Description: DARK GRAY

Redox Boundary: Present? Yes No | If present -- Depth Below Sediment Surface (inches): < 0.5"

Odor: None Hydrogen sulfide | Other:

Amphipods: YES | Tubes: YES | Macrophytes: NO
Debris(twigs/leaves): NO | Other: Shell (MUSSEL)

Stratified sediment: Yes No | Sheen Present: Yes No

Sample Collected Using: Van Veen ✓ | Eckman | Ponar | Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0617 Time: 1420
Homogenized Sample: 103-0620 Time: 1500
Other: Time:

Sediment (SE) Sample ID: SE-6-C2	Time: 1504	# Containers: 4	Volume: 100 %
Duplicate SE Sample ID: MUD006	Time:	# Containers: 4	Volume: 100 %
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: — %
Pore Water (PW) Sample ID: PW-6-C2	Time: 1444	# Containers: 3	Volume: 100 %

Sample Lead Initials: JRF Date: 25 SEP 13 | Field Supervisor Initials: KOA Date: 9/27/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

* OVERLYING WATER

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: SE-6-C2

Date: 9-25-13 Vessel: Tieton

Camera Serial #: Lumix #1

Photo ID: 103-0616 Time: 1215	Photo ID: 103-0617 Time: 1420
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: SE-6-C2 photo board.	Description: Sediment in grab.
Photo ID: 103-0618 Time: 1421	Photo ID: 103-0619 Time: 1431
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Amphipod in grab.	Description: Porewater sampling.
Photo ID: 103-0620 Time: 1500	Photo ID: Time:
Photographer: O Bielmann	Photographer:
Photo Orientation: N/A	Photo Orientation:
Description: Homogenized sample.	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 9/27/13

Sample Lead Initials: DH Date: 25 Sept 2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: ~~6B-C1~~ JMR 6-C4

Date: 24 SEPT 2013

Vessel: RV TIETON

Sampling Crew: FLANDERS, PANTHER, BIELMAN

Vessel Crew: SAUGEN, SCHUT, TUSCHOFF

EPA Observer: NICOLE BADON CH2M HILL

C.R. Observer: LAURA MCCULLOUGH (NPS)

Arrival Time: 1152

Departure Time: ~~1152~~ JMR 1436

River Stage:

Water Surface Elev. (ft): 1283.7

Water Surface Elevation Source: BUREAU RECLAMATION

Weather Conditions Upon Arrival

Temp (°F): 70

Wind (mph): 5-10

Clouds/Precipitation: OVERCAST

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 664

Boat Traffic: MINIMAL

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

CLIFFS TO THE NW

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: LUNIX #1

Photo ID: 1030594 Time: 1212

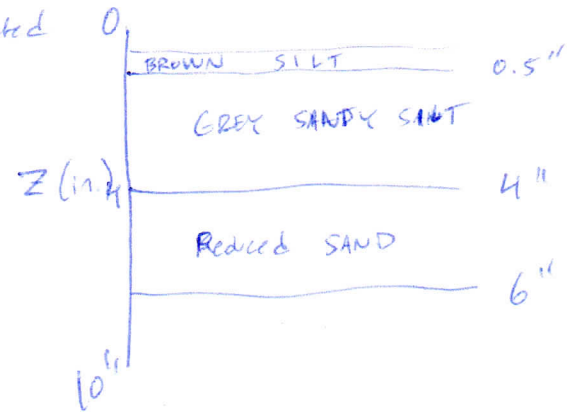
Photo ID: 1030995 Time: 1212

Photo ID: 10305 96 Time: 1223

Photo ID: 103-0997 Time: 1429

General Notes:

Sand layer depicted in figure.



C.R. - cultural resources

Field Supervisor Initials DH Date: 9/25/13

Sample Lead Initials JMF Date: 24 SEPT. 2013

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-CH

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 163

Drop # (1) 2 3 Cast Time 1154 Sampler Penetration (inches): 10"

Angle (< 5°max) Yes (No) Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 410959.35 NORTHING: 5333350.00

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 73 % (Accepted) Rejected

pH of Sediment in Sampler: 8.25 * su Description: SLIGHTLY CLOUDY. MS/MSD COLLECTED

Sediment Characteristics

Type: % Silt 80 (<1/16 mm)
% Sand 20 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: 5Y 4/1 Description: dark grey

Redox Boundary: Present? (Yes) No If present -- Depth Below Sediment Surface (inches): 0.5

Odor: (None) Hydrogen sulfide Other:

Amphipods: Y Tubes: YES Macrophytes: NO
Debris(twigs/leaves): NO Other:

Stratified sediment: (Yes) No
Sheen Present: ** (Yes) No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 1030595 Time: 1212
Homogenized Sample: 1030597 Time: 1429
Other: PW 1030596 Time: 1223

Sediment (SE) Sample ID:	SE-6-CH	Time: 1420	# Containers:	6	Volume: 100 %	***
Duplicate SE Sample ID:	—	Time: —	# Containers:	—	Volume: — %	
Split SE Samples (EPA/NPS/CCT):	—		# Containers:	—	Volume: — %	
Pore Water (PW) Sample ID:	PW-6-CH	Time: 1357	# Containers:	5	Volume: 60-80 %	***

Sample Lead Initials: JRC Date: 24 SEPT 13 Field Supervisor Initials: JM Date: 9/25/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

*** MS/MSD COLLECTED

* OVERLYING WATER
** MINOR Fe (IRON) staining (< 1"

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** SE-6-C4

Date: 9-24-13 **Vessel:** Tiaton

Camera Serial #: Lumix #1

Photo ID: 103-0594 Time: 1212	Photo ID: 103-0595 Time: 1212
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: 6-C4 photo board	Description: Sediment in grab
Photo ID: 103-0596 Time: 1223	Photo ID: 103-0597 Time: 1429
Photographer: O. Bielmann	Photographer: O. Bielmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Pore water sampling	Description: Homogenized Sample.
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DK Date: 9/25/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7-B1

Date: 9/13/13 **Vessel:** Triton

Sampling Crew: Sugalski, Potter, Stegen **Vessel Crew:** Eugen, Schut, Tuschhoff

EPA Observer: Burt Shepard **C.R. Observer:** Eric OOSahlee-UCS

Arrival Time: 1450 **Departure Time:** 1524

River Stage:
Water Surface Elev. (ft): 1,280.10

Water Surface Elevation Source: USBR

Weather Conditions Upon Arrival
Temp (°F): 95°F

Wind (mph): Calm

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 646 Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions) Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

observed by Burt w/ EPA & NPS

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/16/13

Sample Lead Initials [illegible] Date: 9/13/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7-B1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 130

Drop # (1) 2 3 Cast Time 1455 Sampler Penetration (inches): 9.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 397451.91 NORTHING: 5315603.05

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted (Rejected)

pH of Sediment in Sampler: 7.44 su Description: Stone clogged

Sediment Characteristics

Type: % Silt 99-100% (<1/16 mm)
% Sand trace (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 5Y 3/1
Description: very dark gray silt w/ trace Sand

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 4 cm

Odor: None (Hydrogen sulfide) — Slight
Other:

Amphipods: Cucl Tubes: Macrophytes:
Debris(twigs/leaves): Other: worm

Stratified sediment: Yes (No) Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0444 Time: 1458
Homogenized Sample: 103-0446 Time: 1514
Other: 103-0448 Time: 1459

Sediment (SE) Sample ID: SE-7-B1	Time: 1514	# Containers: 3	Volume: 100 %	14.5gal
Duplicate SE Sample ID:	Time:	# Containers:	Volume: %	
Split SE Samples (EPA/NPS/CCT): SE-7-B1		# Containers: 1	Volume: 100 %	~14.5gal
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %	

Sample Lead Initials: JS Date: 9/13/13 Field Supervisor Initials: DA Date: 9/16/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** T-B1

Date: 9/13/13 **Vessel:** Tolem

Camera Serial #: #1

Photo ID: 103-0443	Time: 1446	Photo ID: 103-0444	Time: 1458
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Station ID		Description: Sediment in Sampler	
Photo ID: 103-0445	Time: 1459	Photo ID: 103-0446	Time: 1514
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Sediment in Sampler		Description: homogenized ~~Sed~~ Sample	
Photo ID: 103-0447	Time: 1523	Photo ID:	Time:
Photographer: Sugalski		Photographer:	
Photo Orientation:		Photo Orientation:	
Description: COC for UPS		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials DH Date: 9/13/13

Sample Lead Initials JS Date: 9/13/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 7-B2

Date: 9/13/13

Vessel: Tieton

Sampling Crew: Pantler, Stegner, Sugalski

Vessel Crew: Tuschhoff, Saugen, Schut

EPA Observer: Bord Shepard

C.R. Observer: OOSahwee, Eric

Arrival Time: 0843

Departure Time: 1006

River Stage:

Water Surface Elev. (ft): 1,280.10

Water Surface Elevation Source: USBR

Weather Conditions Upon Arrival

Temp (°F): 72°F

Wind (mph): Slight wind

Clouds/Precipitation: clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 646

Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

changed by time of sample

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

campsite on left bank

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Air Stone clogged

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/18/13

Sample Lead Initials JS Date: 9/13/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7-B2 0916

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 22.3

Drop # (1) 2 3 Cast Time 0916 Sampler Penetration (inches): 10.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: ~~47 58.92~~ 5315204.09 NORTHING: 47° 58.921 N

Sample Acceptance Criteria: 118° 21.951 W 398078.45

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? – Small amount removed before sample was processed observed by NPS & CDA	(YES)	NO
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted (Rejected)

pH of Sediment in Sampler: 7.60 su Description: ar stone clogged

Sediment Characteristics

Type: % Silt ≈95 (<1/16 mm)
% Sand ≈5 (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: 0

Color: Munsell Color Chart #: 5Y 3/1
Description: very Dark gray

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): ½ inch

Odor: None (Hydrogen sulfide) Other: ____ slight

Amphipods: Scuds + Tubes: 2 chironomid Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No) Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0415 Time: 0934
Homogenized Sample: 103-0418 Time: 0954
Other: 103-0416 Time: 0934

Sediment (SE) Sample ID: SE-7-B2	Time: 0953	# Containers: 3 7 9/13/13	Volume: 100 %	≈13 gal
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %	
Split SE Samples (EPA/NPS/CCT): SE-7-B2		# Containers: 1	Volume: 100 %	~100Z ~Tgal Handed off
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %	

Sample Lead Initials: [illegible] Date: 9/13/13 Field Supervisor Initials: DH Date: 9/13/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** T-B2

Date: 9/13/13 **Vessel:** Tiffon

Camera Serial #: #1

Photo ID: 103-0413 **Time:** 0826	**Photo ID:** 103-0414 **Time:** 0928
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation:	**Photo Orientation:** upstream
Description: Station ID	**Description:** retrieval of 1st grab
Photo ID: 103-0415 **Time:** 0934	**Photo ID:** 103-0416 **Time:** 0934
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation:	**Photo Orientation:**
Description: Sediment in Sample Small amount lost over edge	**Description:** Sediment in Sample
Photo ID: 103-0417 **Time:** 0950	**Photo ID:** 103-0418 **Time:** 0954
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation: left bank	**Photo Orientation:**
Description: observers during Sediment Homogenization	**Description:** homogenized Sample ; Filling Sample jar
Photo ID: **Time:**	**Photo ID:** **Time:**
Photographer:	**Photographer:**
Photo Orientation:	**Photo Orientation:**
Description:	**Description:**

Field Supervisor Initials: DH Date: 9/18/13

Sample Lead Initials: JS Date: 9/13/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7-B4

Date: 9/13/13 **Vessel:** Tieton

Sampling Crew: Szydlski, Porter, Stegner **Vessel Crew:** Schut, Tuschhoff, Snyder

EPA Observer: Burt Shepard **C.R. Observer:** Eric Oosterwegel-Voss

Arrival Time: 1043 **Departure Time:** 1150

River Stage:
Water Surface Elev. (ft): 1,280.10

Water Surface Elevation Source: USBR

Weather Conditions Upon Arrival
Temp (°F): 85°F

Wind (mph): light

Clouds/Precipitation: clear

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 643 Boat Traffic: Observers (x2)

Water Surface: (Calm) (Small Waves) (Choppy) UPS: 1 PA

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No light traffic away from station

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions) Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

2 grabs composited for sample

C.R. - cultural resources

Field Supervisor Initials DA Date: 9/19/13

Sample Lead Initials JS Date: 9/13/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7-B4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 47.3

Drop # (1) 2 3 Cast Time 1044 Sampler Penetration (inches): 7.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 118° 21' 28.0359 NORTHING: 47° 57' 12.7679

Sample Acceptance Criteria: 398625.21 5312029.23

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted ~~Rejected~~

pH of Sediment in Sampler: 8.00 su Description: Arsenic plugged

Sediment Characteristics

Type: % Silt ~90% (<1/16 mm)
% Sand ≈10% (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 5Y 3/1 Description: very dark grey — Sandy Silt

Redox Boundary: Present? ~~Yes~~ No; If present -- Depth Below Sediment Surface (inches): ~~1/2~~ 1/4"

Odor: (None) Hydrogen sulfide Other:

Amphipods: amphipods Tubes: Macrophytes:
Debris(twigs/leaves): few sticks Other: shell - clam

Seal @ 1144

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0420 Time: 1051
Homogenized Sample: 103-0425 Time: 1139
Other: 103-0421 Time: 1100

Sediment (SE) Sample ID: SE-7-B4 Time: 1138 # Containers: 3 3 7 (9/13/13) Volume: 100 %

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): SE-7-B4 # Containers: 1 Volume: 100 %

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: [illegible] Date: 9/13/13 Field Supervisor Initials: DH Date: 9/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7-B4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 49.8

Drop # 1 (2) 3 Cast Time 1120 Sampler Penetration (inches): 10"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 398634.68 NORTHING: 5312056.09

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of Sediment in Sampler: 7.9 su Description: last attempted

Sediment Characteristics

Type: % Silt ≈99 (<1/16 mm)
% Sand Trace (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 5Y 3/1
Description: very dark gray Silty/trace Sand

Redox Boundary: Present? ~~Yes~~ No
If present -- Depth Below Sediment Surface (inches): 4"

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Yes, Scud
Debris(twigs/leaves): twigs
Tubes:
Other:
Macrophytes:

9/13/13 Sand increased

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel
9/13/13

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0422 Time: 11:28
Homogenized Sample: 103-0425 Time: 11:34
Other: 103-0423 Time: 11:29

Sediment (SE) Sample ID: SE-7-B4 Time: 1138 # Containers: 3 (2) 9/13/13 Volume: 100 % ≈35 gal

Duplicate SE Sample ID: — Time: — # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): SE-7-B4 # Containers: 1 Volume: 100 % ≈5 gal

Pore Water (PW) Sample ID: — Time: — # Containers: — Volume: — %

Sample Lead Initials: [illegible] Date: 9/13/13 Field Supervisor Initials: DH Date: 9/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189
Station Identifier: 7-B4
Date: 9/13/13
Vessel: Tieton
Camera Serial #: #1

Photo ID: 103-0419	Time: 1045	Photo ID: 103-0420	Time: 1051
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Station ID		Description: Sediment in sampler including clamshell	
Photo ID: 103-0421	Time: 1100	Photo ID: 103-0422	Time: 1128
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Sediment from 1st grab		Description: Sediment from 2nd grab	
Photo ID: 103-0423	Time: 1129	Photo ID: 103-0424	Time: 1139
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Sediment in grab 2nd sample		Description: Homogenized Sample	
Photo ID: 103-0425	Time: 1139	Photo ID: 103-0426 & 27	Time: 1232/1233
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Homogenized Sample.		Description: COC for 7-B4 & 7-B2 to NPS	

Field Supervisor Initials WA Date: 9/19/13

Sample Lead Initials ZB Date: 9/13/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 7-B5

Date: 9/13/13

Vessel: Tieton

Sampling Crew: Porter, JR Sosolski, ~~[illegible]~~ Stegner

Vessel Crew: Schut, Tuschhoff, Swagen

EPA Observer: Burt Shepard

C.R. Observer: Eric Ooschuum - VOS

Arrival Time: 1343

Departure Time: 1427

River Stage:

Water Surface Elev. (ft): 1,280.10

Water Surface Elevation Source: USBR

Weather Conditions Upon Arrival

Temp (°F): 91°F

Wind (mph): light to none

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 643

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

observed by NPS & EPA

pore stone plugged

C.R. - cultural resources

Field Supervisor Initials DA Date: 9/16/13

Sample Lead Initials [illegible] Date: 2/13/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7-BS

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 23.6

Drop # (1) 2 3 Cast Time 1348 Sampler Penetration (inches): 12

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 398830.11 NORTHING: 5310721.55

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted (Rejected)

pH of Sediment in Sampler: 7.46 su Description: pore stone plugged

Sediment Characteristics

Type: % Silt 90-100 (<1/16 mm)
% Sand Trace (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 5Y 3/1
Description: very dark gray silt w/ trace Snd

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/2" 1/4"

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Scuds Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0438 Time: 1356
Homogenized Sample: 103-0441 Time: 1410
Other: 103-0439 Time: 1356

Sediment (SE) Sample ID: SE-7-BS	Time: 1410	# Containers: 3	Volume: 100 %	— 12-13 gal
Duplicate SE Sample ID:	Time:	# Containers:	Volume: %	NPS = 5
Split SE Samples (EPA/NPS/CCT): SE-7-BS		# Containers: 2	Volume: 100 %	EPA = 3 gal
Pore Water (PW) Sample ID: —	Time: —	# Containers: —	Volume: — %	

Sample Lead Initials: JS Date: 9/13/13 Field Supervisor Initials: DH Date: 9/16/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 7-BS

Date: 9/13/13 **Vessel:** Tiaton

Camera Serial #: #1

Photo ID: 103-0435 Time: 1334	Photo ID: 103-0436 Time: 1342
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Arrive at 7-BS; prep for deployment
Photo ID: 103-0437 Time: 1349	Photo ID: 103-0438 Time: 1356
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: UP Stream	Photo Orientation: 1st
Description: Retrieval of Sample 7-BS	Description: 1st grab in Sampler
Photo ID: 103-0439 Time: 1356	Photo ID: 103-0440 Time: 1408
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: 1st grab in Sampler	Description: Observers at homogenization Sample on boats, but not in Picture
Photo ID: 103-0441 Time: 1410	Photo ID: 103-0442 Time: 1425
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: homogenized Sample	Description: COC to UPS

Field Supervisor Initials: DH Date: 9/16/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 7-B6

Date: 9/13/13

Vessel: Treton

Sampling Crew: Stegner, Sugdski, Porter

Vessel Crew: Saugen, Schut, ~~Fush~~ Tuschhoff

EPA Observer:

C.R. Observer: Eric Oosahuw

Arrival Time: 1248

Departure Time: 1330

River Stage:

Water Surface Elev. (ft): 1,280.15

Water Surface Elevation Source: USBR

Weather Conditions Upon Arrival

Temp (°F): 91° F

Wind (mph): light

Clouds/Precipitation: clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 643

Boat Traffic: observers

light ripples

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/16/13

Sample Lead Initials _____ Date: _____

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7-B6

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 125

Drop # (1) 2 3 Cast Time 1257 Sampler Penetration (inches): 10

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 398723.70 NORTHING: 5311549.73

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted (Rejected)

pH of Sediment in Sampler: 7.80 su Description: stone plugged

Sediment Characteristics

Type: % Silt ≈94-100 (<1/16 mm)
% Sand Trace (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: 5Y 3/1
Description: very dark gray silt w/ trace sand

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 0.1

Odor: (None) Hydrogen sulfide
Other: slight sulfide

Amphipods: scuds Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0429 Time: 1303
Homogenized Sample: 103-0432 Time: 1318
Other: 103-0430 Time: 1305

Sediment (SE) Sample ID: SE-7-B6 Time: 1316 # Containers: 7 Volume: 100 % ~13gal

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): SE-7-B6 # Containers: 1 Volume: 100 % ~5gal

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ~~100~~ %

Sample Lead Initials: [illegible] Date: 9/13/13 Field Supervisor Initials: DH Date: 9/16/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** T-36

Date: 9/13/13 **Vessel:** Tiekon

Camera Serial #: #1

Photo ID: 103-0428 **Time:** 1256	**Photo ID:** 103-0429 **Time:** 1303
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation:	**Photo Orientation:**
Description: Station ID	**Description:** 1st grab in Sampler
Photo ID: 103-0430 **Time:** 1303	**Photo ID:** 103-0431 **Time:** 1313
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation:	**Photo Orientation:**
Description: 1st grab in Sampler	**Description:** Homogenizing 1st grab
Photo ID: 103-0432 **Time:** 1318	**Photo ID:** 103-0433 **Time:** 1318
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation:	**Photo Orientation:**
Description: homogenized Sample	**Description:** Filling Sample jars
Photo ID: 103-0434 **Time:** 1321	**Photo ID:** **Time:**
Photographer: Sugalski	**Photographer:**
Photo Orientation:	**Photo Orientation:**
Description: Filling Biological Sample buckets	**Description:**

Field Supervisor Initials: DH Date: 9/16/13

Sample Lead Initials: JS Date: 9/13/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 7B-C1

Date: 9/16/13

Vessel: Tieton

Sampling Crew: Bielmann, Patts, Sugalski

Vessel Crew: Posey

EPA Observer: Burt Shepard

C.R. Observer: Laura McCullough - NPS

Arrival Time: 1436

Departure Time: 1610

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 74°F

Wind (mph): light wind

Clouds/Precipitation: Partly Cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 634

Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

multilpe slides on left Bank
7-bays marina on left Bank

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

C.R. - cultural resources

Field Supervisor Initials LH Date: 9/18/13

Sample Lead Initials [illegible] Date: 9/16/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7B-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 272

Drop # (1) 2 3 Cast Time 1446 Sampler Penetration (inches): 7

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 398664.07 NORTHING: 5301326.36

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials JS Date: 9/16/13 Field Supervisor Initials DH Date: 9/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

no Sediment in Sample. only water.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7B-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 27.1

Drop # 1 (2) 3 Cast Time _____ Sampler Penetration (inches): _____

Angle (< 5° max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 398667.21 NORTHING: 5301329.01

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials [illegible] Date: 9/16/13 Field Supervisor Initials LSH Date: 9/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

No Sediment only water in Sampler.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7B-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 26.9

Drop # 1 2 (3) Cast Time 1518 Sampler Penetration (inches): 10.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 398693.71 NORTHING: 5361339.09

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 7.37 su Description: air stone clogged

Sediment Characteristics

Type: % Silt >100 (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: 5Y 3/1
Description: very dark gray Silt

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): Y8

Odor: None (Hydrogen sulfide) — Slight
Other: ____

Amphipods: scuds Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen 1
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0497 Time: 1523
Homogenized Sample: 103-0499 Time: 1531
Other: 103-0498 Time: 1524

Sediment (SE) Sample ID: SE-7B-C1 Time: 1532 # Containers: 4 Volume: 100 % -3202

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): ~~SE-7B-C1-R 1532~~ # Containers: ~~5~~ Volume: ~~100~~ % 2323 EaT

DNH 9/18/13

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials: JS Date: 9/16/13 Field Supervisor Initials: DH Date: 9/18/13

DNH 9/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

~~SE-7B-C1-RW # Containers = 2 Volume 26~~ gal

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: TB-C1

Date: 9/16/13 Vessel: Tieton

Camera Serial #: #1

Photo ID: 103-0495	Time: 1430	Photo ID: 103-0496	Time: 1437
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Station ID		Description: Preparing for grab deployment	
Photo ID: 103-0497	Time: 1523	Photo ID: 103-0498	Time: 1524
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Sediment from 3rd attempt in grab		Description: Sediment from 3rd attempt in grab	
Photo ID: 03-0499	Time: 1531	Photo ID:	Time:
Photographer: Sugalski		Photographer:	
Photo Orientation:		Photo Orientation:	
Description: homogenized sediment		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials: DA Date: 9/18/13

Sample Lead Initials: CS Date: 9/16/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7B-C2

Date: 9/12/13 **Vessel:** Tiffon

Sampling Crew: Sugalski, Potter, Stegner **Vessel Crew:** Casey Tuschhoff, Sawyer, Schut

EPA Observer: _____ **C.R. Observer:** Eric Casaheer-Yes

Arrival Time: 0912 **Departure Time:** 1104

River Stage:
Water Surface Elev. (ft): 1,280.05

Water Surface Elevation Source: USBR

Weather Conditions Upon Arrival
Temp (°F): 79°F

Wind (mph): Calm

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 632 Boat Traffic: None

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes No
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Beach on CCT (RT side)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

A Both airstones clogged upon pore water retrieval

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 9/12/13

Sample Lead Initials: [illegible] Date: 9/13/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7B-C2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 720

Drop # (1) 2 3 Cast Time 0939 Sampler Penetration (inches): 17.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 392535.06 NORTHING: 5299892.81

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 5 % (Accepted) Rejected

pH of Sediment in Sampler: 7.81 su Description: clogged both slows

Sediment Characteristics

Type: % Silt 100 (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: 0

Color: Munsell Color Chart #: 5Y 3/1
Description: Very dark gray

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/2

Odor: None (Hydrogen sulfide) Slight
Other:

Amphipods: Snails Tubes: Macrophytes:
Debris(twigs/leaves): Other: worms

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0395 Time: 0946
Homogenized Sample: 103-0401 Time: 1025
Other: 103-0396 Time: 0946

Sediment (SE) Sample ID: SE-7B-C2	Time: 1025	# Containers: 4	Volume: 1500	%	
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: 100	%	
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%	
Pore Water (PW) Sample ID: PW-7B-C2	Time: 1004	# Containers: 1	Volume: 5	%	≈2-5mL

Sample Lead Initials: [illegible] Date: 9/12/13 Field Supervisor Initials: KJA Date: 11/11/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Approx 60 to 70 ft left is a steep drop

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 7B-C2

Date: 9/12/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0389 **Time:** 0836	**Photo ID:** 103-0390 **Time:** 0836
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation: NA	**Photo Orientation:** Down stream
Description: Station ID	**Description:** Tahoma on Spokane River
Photo ID: 103-0391 **Time:** 0841	**Photo ID:** 103-0392 **Time:** 0841
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation: Down Stream	**Photo Orientation:** Right Bank
Description: Tahoma & support boat moving to Am location on Spokane River	**Description:** Tahoma Sampling vessel
Photo ID: 103-0393 **Time:** 0936	**Photo ID:** 103-0394 **Time:** 0939
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation: Rt bank	**Photo Orientation:** Down Stream
Description: Beach on CCT Side at 7B-C2	**Description:** Dropping 1st grab Sample
Photo ID: 103-0395 **Time:** 0946	**Photo ID:** 103-0396 **Time:** 0946
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation: N/A	**Photo Orientation:** N/A
Description: Sediment in 1st grab	**Description:** Sediment in 1st grab

Sample lead

~~Field Supervisor~~ Initials JS Date: 9/12/13

~~Sample Lead~~ Initials DH Date: 9/13/13

Field Supervisor

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 7B-C2

Date: 9/12/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0397 Time: 0957	Photo ID: 103-0398 Time: 1019
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: N/A	Photo Orientation: N/A
Description: collection of porewater w/ blue stone attempt.	Description: Sediment from 1st grab placed into tub before homoginizing
Photo ID: 103-0399 Time: 1020	Photo ID: 103-0400 Time: 1023
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: N/A	Photo Orientation: N/A
Description: placing sediment into lexan tub	Description: homoginizing sample
Photo ID: 103-0401 Time: 1025	Photo ID: 103-0402 Time: 1107
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: N/A	Photo Orientation: N/A
Description: homogenized sample	Description: ~~changing~~ adjusting depth guides on sampler
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Sample Lead
~~Field Supervisor~~ Initials ZS Date: 9/12/13

~~Sample Lead~~ Initials DH Date: 9/13/13

Field Supervisor

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 7BC4

Date: 9/16/13

Vessel: Tieton

Sampling Crew: Bielmann, Porter, Sugalski

Vessel Crew: Posey, Sauger, Schut, Toschhoff

EPA Observer: Burt Shepard

C.R. Observer: Laura McCullough - NPS

Arrival Time: 1320

Departure Time: 1423

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 74°F

Wind (mph): light

Clouds/Precipitation: overcast

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: ~~635~~ 634

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

near mouth of Hawk Creek

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Air stone clogged

C.R. - cultural resources

Field Supervisor Initials _____ Date: _____

Sample Lead Initials: JS Date: ~~9/13/13~~ JS 9/16/13

9/16/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7B-C4

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 175

Drop # (1) 2 3 Cast Time 1323 Sampler Penetration (inches): 10.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 397072.96 NORTHING: 5298004.92

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of Sediment in Sampler: 7.49 su Description: Air stone clogged

Sediment Characteristics

Type: % Silt ≈100 (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____ lots

Color: Munsell Color Chart #: 5Y 3/1
Description: Very dark gray Silt

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/8"

Odor: None (Hydrogen sulfide) Faint
Other: ____

Amphipods: SCODS Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No) Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0188 Time: 1334
Homogenized Sample: 103-0193 Time: 1345
Other: 103-0184 Time: 1334

Sediment (SE) Sample ID: SE-7B-C4	Time: 1346	# Containers: 4	Volume: 100 %	-3202
Duplicate SE Sample ID: SE-7B-C4-R	Time: 1346	# Containers: 5	Volume: 100 %	-2391
Split SE Samples (EPA/NPS/CCT): ____		# Containers: ____	Volume: ____ %	
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %	

Sample Lead Initials: JB Date: 9/13/13 9/16/13 Field Supervisor Initials ____ Date: ____

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

SE-7B-C4-RW # containers

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 7B-C4

Date: 9/16/13 Vessel: Tieton

Camera Serial #: #1

Photo ID: 103-0487 Time: 1323	Photo ID: 103-0488 Time: 1334
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: 1st grab in Sampler
Photo ID: 103-0489 Time: 1334	Photo ID: 103-0490 Time: 1338
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in Grab	Description: Tieton landed on Beach to Process Sample.
Photo ID: 103-0491 Time: 1340	Photo ID: 103-0492 Time: 1344
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Processing Sample & observing for cultural resources	Description: Placing Homogenized Sample into Chemistry Sample Jar
Photo ID: 103-0493 Time: 1345	Photo ID: 103-0494 Time: 1348
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Homogenized Sample	Description: Attempt to photo amphipods in Sediment left in grab

Field Supervisor Initials____ Date:____

Sample Lead Initials JS Date: ~~9/13/13~~ 25 9/16/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7-C4

Date: 9/12/13 **Vessel:** Tilton

Sampling Crew: Sugalski, Stegner, Potter **Vessel Crew:** Tuschhoff, Schut, Sawyer

EPA Observer: Burt Shepard **C.R. Observer:** Eric Oosthuizen - YOSS

Arrival Time: 12:33 **Departure Time:** 13:48

River Stage:
Water Surface Elev. (ft): 1280.05

Water Surface Elevation Source: USBR

Weather Conditions Upon Arrival
Temp (°F): 53°F

Wind (mph): light breeze

Clouds/Precipitation: clear

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 611 Boat Traffic: Some fishing boats closer to shore

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions) Camera ID: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

The sampler did not close and trigger on the 1st drop.

C.R. - cultural resources

~~Field Supervisor~~ Sample Lead Initials: [illegible] Date: 9/12/13

~~Sample Lead~~ Field Supervisor Initials: DH Date: 9/13/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-C4 1235

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 24.6

Drop # (1) 2 3 Cast Time 1235 Sampler Penetration (inches): 0

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 399391.65 NORTHING: 5307240.39

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: / Description:

Redox Boundary: Present? Yes No / If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials: [illegible] Date: 9/12/13 Field Supervisor Initials: DH Date: 9/13/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sampler not closed. Did not trigger; core an inch

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 7-C4 1254

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 243

Drop # 1 (2) 3 Cast Time 1254 Sampler Penetration (inches): 9

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 399383.17 NORTHING: 5307268.96

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted (Rejected)

pH of Sediment in Sampler: 7.7 su Description: air stone clogged

Sediment Characteristics

Type: % Silt ≥100 (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: 0

Color: Munsell Color Chart #: 5Y 3/1
Description: very Dark Gray

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): ≈ ½"

Odor: (None) Hydrogen sulfide
Other: _____

Amphipods: Scuds Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: (Yes) No very little sheen

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0409 Time: 1310
Homogenized Sample: 103-0411 Time: 1321
Other: Time:

Sediment (SE) Sample ID: SE-7-C4 Time: 1320 # Containers: 4 Volume: 100 %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): _____ # Containers: _____ Volume: _____ %

Pore Water (PW) Sample ID: N/A Time: NA # Containers: 0 Volume: 0 %

Sample Lead Initials: [illegible] Date: 9/12/13 Field Supervisor Initials: [illegible] Date: 9/13/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

air stone clogged

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 7-C4

Date: 9/12/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0403	Time: 1215	Photo ID: 103-0404	Time: 1233
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation: N/A		Photo Orientation: Upstream	
Description: Station ID		Description: Preparing for 1st deployment	
Photo ID: 103-0405	Time: 1258	Photo ID: 103-0406	Time: 1258
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation: Rt Bank		Photo Orientation: Left Bank	
Description: Right Bank from 7-C4, 2nd grab also shown, observer/safety boat		Description: Left Bank at sample 7-C4, 2nd Grab	
Photo ID: 103-0407	Time: 1304	Photo ID: ~~13~~ 103-0408	Time: 1305
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: 2nd attempt, ~~Sample~~ Sediment in Sampler		Description: Sediment in Sampler	
Photo ID: 103-0409	Time: 1310	Photo ID: 103-0410	Time: 1315
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Sediment in Sampler		Description: placing sediment into tub	

Field Supervisor Initials: JH Date: 9/13/13

Sample Lead Initials: JS Date: 9/12/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 7-C4

Date: 9/12/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0411	**Time:** 1321	**Photo ID:** 103-0412	**Time:** 1327
Photographer: Sugalski		**Photographer:** Sugalski	
Photo Orientation:		**Photo Orientation:**	
Description: Homogenized Sample		**Description:** placing extra sample material in bucket	
Photo ID:	**Time:**	**Photo ID:**	**Time:**
Photographer:		**Photographer:**	
Photo Orientation:		**Photo Orientation:**	
Description:		**Description:**	
Photo ID:	**Time:**	**Photo ID:**	**Time:**
Photographer:		**Photographer:**	
Photo Orientation:		**Photo Orientation:**	
Description:		**Description:**	
Photo ID:	**Time:**	**Photo ID:**	**Time:**
Photographer:		**Photographer:**	
Photo Orientation:		**Photo Orientation:**	
Description:		**Description:**	

Field Supervisor Initials: DH Date: 9/13/13

Sample Lead Initials: JS Date: 9/12/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** C-B3

Date: 9/9/13 **Vessel:** Tieton

Sampling Crew: Scalsky, Bielmann, Palmieri **Vessel Crew:** Tuschhoff, Schut, Seugen

EPA Observer: _____ **C.R. Observer:** Eric Casaheer-YKST

Arrival Time: 1327 **Departure Time:** 1541

River Stage:
Water Surface Elev. (ft): 1281.70

Water Surface Elevation Source:
800-824-9916

Weather Conditions Upon Arrival
Temp (°F): 77°F

Wind (mph): Breezy

Clouds/Precipitation: mostly clear

Site Information:

Boat Position: (Powered) (Anchored)

River Mile: 605

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

River Current: (Swift) (Eddie) (Calm) (Ripple)

Boat Traffic: _____

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/20/13

Sample Lead Initials _____ Date: 9/19/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-B3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 198

Drop # (1) 2 3 Cast Time 1336 Sampler Penetration (inches): 12

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 362315.44 NORTHING: 5312466.90

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? — miner	(YES)	NO
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 7.03 su Description: turbid

Sediment Characteristics

Type: % Silt 95-99 (<1/16 mm)
% Sand 5-1 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 5Y 3/2
Description: Dark olive gray silt w/ trace sand

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/8"

Odor: None (Hydrogen sulfide) Slight
Other:

Amphipods: scuds sowbugs 23 9/13/13 P.11 bug or sowbugs Tubes: Macrophytes:
Debris(twigs/leaves): None observed Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0548 Time: 1343
Homogenized Sample: 103-0554 Time: 1518
Other: 103-0546 Time: 1343

Sediment (SE) Sample ID: SE-8-B3	Time: 1516	# Containers: 7	Volume: 100 %	32oz + 15gals
Duplicate SE Sample ID:	Time:	# Containers:	Volume: %	
Split SE Samples (EPA/NPS/CCT): SE-8-B3		# Containers: 1	Volume: 100 %	~5gals
Pore Water (PW) Sample ID: PW-8-B3	Time: 1511	# Containers: 3	Volume: 100 %	~150ml

Sample Lead Initials 9/19/13 Date: JS Field Supervisor Initials DH Date: 9/20/13

SE-8-B3-A 1450 4 containers 2 ~ 9gals

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

11 oz steves
2 5.1 jars

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189
Station Identifier: 8-B3
Date: 9/19/13
Vessel: Tieton
Camera Serial #: #1

Photo ID: 103-0547 Time: 1331	Photo ID: 103-0548 Time: 1343
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Sediment in Sampler
Photo ID: 103-0549 Time: 1343	Photo ID: 103-0550 Time: 1352
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in Sampler	Description: insect in sediment bellieved to be a pill bug or Sow bug
Photo ID: 103-0551 Time: 1353	Photo ID: 103-0552 Time: 1414
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Insect from Sediment - Thought to be pill bug or Sow bug	Description: Collecting Porewater Sample
Photo ID: 103-0553 Time: 1518	Photo ID: 103-0554 Time: 1518
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: homogenized Sample	Description: Homogenized Sample

Field Supervisor Initials KOA Date: 9/20/13
Sample Lead Initials JS Date: 9/19/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 8-B4

Date: 9/19/13

Vessel: Tieton

Sampling Crew: Sugalski, Bielmann, Palmieri

Vessel Crew: Duffield, Saugen, Schut, Tuschhoff

EPA Observer: Marylin Gauthier

C.R. Observer: Eric Gosahuee-Voss

Arrival Time: 1120

Departure Time: 1312

River Stage:

Water Surface Elev. (ft): 1281.70

Water Surface Elevation Source: 800-824-4916

Weather Conditions Upon Arrival

Temp (°F): 72°F

Wind (mph): Breeze

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 605

Boat Traffic: NPS, observer & safety boat

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Photo of sample in grab was taken just after material was starting to be placed in the lexan tub.

Observed by Ehzm rep, CCT & NPS

11 airstones & 5 filters used for pore water. Pore water collect w/ peristaltic pump from lexan tub.

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/20/13

Sample Lead Initials [illegible] Date: 9/19/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8-B4

Anchor Point (max 3) 1 2 3 Water Depth (feet): 198

Drop # 1 2 3 Cast Time 1128 Sampler Penetration (inches): 12

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 362434.53 NORTHING: 5313451.93

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES NO
2. Overlying water present? YES NO
3. Overlying water excessively turbid? YES NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES NO
5. Desired penetration depth (4 to 6 inches) achieved? YES NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES NO
7. Sample is: Accepted Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 95 % Accepted Rejected

pH of Sediment in Sampler: 7.24 su Description: turbid.

Sediment Characteristics

Type: % Silt ≈95-99 (<1/16 mm)
% Sand ≈1-5 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 5Y 3/2
Description: Pack Olive gray silt w/ trace fine sand

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): 1/8

Odor: None Hydrogen sulfide — slight
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): none Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0543 Time: 1139
Homogenized Sample: 103-0545 Time: 1249
Other: Time:

Sediment (SE) Sample ID: SE-8-B4 Time: 1249 # Containers: ~~4~~ 7 Volume: 100 % — 15 gal +32 oz

Duplicate SE Sample ID: Time: # Containers: 9/19/13 Volume: %

Split SE Samples (EPA/NPS/CCT): SE-8-B4 # Containers: Volume: 100 % — 5 gal

Pore Water (PW) Sample ID: PW-8-B4 Time: 1252 # Containers: ~~2~~ 3 Volume: 95 % — 50+45+45 mL

Sample Lead Initials: JB Date: 9/19/13 Field Supervisor Initials: KDA Date: 9/20/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Small black lens of organics.

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** S-B4

Date: 9/19/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0541 Time: 1124	Photo ID: 103-0542 Time: 1130
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Bringing the 1st grab on board
Photo ID: 103-0543 Time: 1139	Photo ID: 103-0544 Time: 1159
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in Sampler after some removal of Sediment for homogenizing	Description: collecting Porewater from the lexan tub.
Photo ID: 103-0545 Time: 1249	Photo ID: 103-0546 Time: 1259
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Homogenized Sediment	Description: COC to UPS boat for Sample.
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials KH Date: 9/20/13

Sample Lead Initials [illegible] Date: 9/19/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8-B5

Date: 9/20/13 **Vessel:** Tieton

Sampling Crew: McDaniel, Swydski, Palmier **Vessel Crew:** Sawyer, Sahut, Tuschhoff

EPA Observer: Marylin Gauthier **C.R. Observer:** Eric Oosahuee-Voss

Arrival Time: 1100 **Departure Time:** ~~608~~ 9/20/13 1440

River Stage:
Water Surface Elev. (ft): 1282.30
Water Surface Elevation Source: 800.824.4916

Weather Conditions Upon Arrival
Temp (°F): 77°F
Wind (mph): light Breezy
Clouds/Precipitation: mostly Clear

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 608 Boat Traffic:

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes No
Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)
Rock outcrop on left Shore

Sample Location Photo IDs:
(see Photo Log for descriptions)
Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:
Observed by NPS boat & CH2M observer. Sample was processed throug screen to remove gravel. Gravel was about 15-30% of sample. Bioata in sample was believed to be a crawfish larve. It had a well defined fannel tail and swam backwards using its tail. It was about 10 to 15mm long & had well defined eyes. It was long & slender.

C.R. - cultural resources

Pore water collected from Lexan tub.

Field Supervisor Initials DH Date: 9/24/13

Sample Lead Initials JS Date: 9/20/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8-BS

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 131

Drop # (1) 2 3 Cast Time 1106 Sampler Penetration (inches): 6

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 364252.85 NORTHING: 5309098.01

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials: [illegible] Date: 9/24/13 Field Supervisor Initials: [illegible] Date: 9/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2. Pore Water at Station 1-B2

water only

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** B-B5

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 44

Drop # 1 (2) 3 Cast Time 1120 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 364219.35 NORTHING: 5309073.80

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description:

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: _____ Time:
Homogenized Sample: _____ Time:
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials JB Date: 9/20/13 Field Supervisor Initials DH Date: 9/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Rock in Grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8-BS

Anchor Point (max 3) 1 2 3 Water Depth (feet): 28 ~~25~~ (28)

Drop # 1 2 3 Cast Time 1125 Sampler Penetration (inches): 9/24/13

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 364231.43 NORTHING: 5309669.53

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	~~NO~~
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	~~NO~~
5. Desired penetration depth (4 to 6 inches) achieved?	YES	~~NO~~
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: Time: # Containers: Volume: %

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials ZS Date: 9/20/13 Field Supervisor Initials KH Date: 9/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Rocks in Grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-B5

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 41

Drop # (1) 2 3 Cast Time 1130 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 364195.96 NORTHING: 5309079.73

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description:

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen (X)
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time:
Homogenized Sample: _____ Time:
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials [illegible] Date: 9/20/13 Field Supervisor Initials DH Date: 9/24/13

Rocks in Grab

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8-B5

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 298

Drop # 1 (2) 3 Cast Time 1200 Sampler Penetration (inches): 10.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 364227.68 NORTHING: 5309157.16

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? (YES) NO
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? (YES) NO
5. Desired penetration depth (4 to 6 inches) achieved? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? – Some minor loss (YES) NO
7. Sample is: (Accepted) Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.32 su Description:

Sediment Characteristics

Type: % Silt 60 (<1/16 mm)
% Sand 10-25 (1/16 - 2 mm)
% Gravel ~~50~~ 30-15
% Cobbles 9/20/13
% Silica Glass:

Color: Munsell Color Chart #: 5Y 3/2 very dark olive gray
Description: gravelly silt with sand

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/8"

Odor: None (Hydrogen sulfide)
Other:

Amphipods: scuds Tubes: Macrophytes:
Debris(twigs/leaves): small mass of organics Other: possible 7mm crayfish larve

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0568 Time: 1212
Homogenized Sample: 103-0571 Time: 1357
Other: Time:

Sediment (SE) Sample ID: SE-8-B5 Time: 1355 # Containers: 7 Volume: 100 % 3202 +14 gals

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): SE-8-B5 # Containers: 1 Volume: 100 % -4 gals

Pore Water (PW) Sample ID: PW-8-B5 Time: 1348 # Containers: ~~1348~~ 3 9/20/13 Volume: 100 %

Sample Lead Initials: [illegible] Date: 9/20/13 Field Supervisor Initials: NH Date: 9/24/13

after sieving ≈ 80% silt
20% sand

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 8-BS

Date: 9/20/13 Vessel: Tietan

Camera Serial #: #1

Photo ID: 103-0562 Time: 1025	Photo ID: 103-0563 Time: 1113
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation: left Bank.
Description: Station ID	Description: Rock out crop on left Bank.
Photo ID: 103-0564 Time: 1128	Photo ID: 103-0565 Time: 1133
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: material from 1st & 3rd Grab	Description: material from 4th grab.
Photo ID: 103-0566 Time: 1209	Photo ID: 103-0567 Time: 1209
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Sediment in 5th Grab	Description: Sediment in 5th grab
Photo ID: 103-0568 Time: 1212	Photo ID: 103-0569 Time: 1334
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Sediment in 5th grab	Description: collecting Porewater from the sediment in the Lexan tub

Field Supervisor Initials: [illegible] Date: 9/24/13

Sample Lead Initials: [illegible] Date: 9/24/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 8-BS

Date: 9/20/13 Vessel: Tieton

Camera Serial #: #1

Photo ID: 103-0570 Time: 1350	Photo ID: 103-0571 Time: 1357
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Sediment on Airstone after Porewater collection	Description: Homogenized Sediment
Photo ID: 103-0572 Time: 1401	Photo ID: Time:
Photographer: Sugelski	Photographer:
Photo Orientation:	Photo Orientation:
Description: COC for NPS boat split.	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 9/24/13

Sample Lead Initials: LS Date: 9/20/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-B6

Date: 9/20/13 **Vessel:** Tietan

Sampling Crew: McDaniel, Sugalski, Palmieri **Vessel Crew:** Saugen, Schut, Tuschhoff

EPA Observer: Marylin Gauthier **C.R. Observer:** Eric Oosahuee-Voss

Arrival Time: 0816 **Departure Time:** 1022

River Stage:
Water Surface Elev. (ft): 1282.30

Water Surface Elevation Source:
~~607~~ 800.824.4916
9/20/13

Weather Conditions Upon Arrival
Temp (°F): 63°F

Wind (mph): Breezy

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 607 Boat Traffic:

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes No
Was Vegetation Removed: Yes No

changed to choppy after 1st attempt

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: Time: Photo ID: Time:

Photo ID: Time: Photo ID: Time:

General Notes:

Rough waters added turbidity to the grab. Grab appeared intact. Observed by CH2M & NPS boat

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/24/13

Sample Lead Initials [illegible] Date: 9/20/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8-B6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 23.4

Drop # (1) 2 3 Cast Time 0830 Sampler Penetration (inches): _____

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 364214.27 NORTHING: 5309589.48

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Duplicate SE Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: %
Pore Water (PW) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %

Sample Lead Initials: JB Date: 9/20/13 Field Supervisor Initials: DH Date: 9/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sampler came up open w/o a sample.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8-B6

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 235

Drop # 1 (2) 3 Cast Time 0843 Sampler Penetration (inches): 8

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 364197.30 NORTHING: 5309594.91

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid? — turbidity caused by rough surface conditions	YES	(NO) — not turbid upon initial inspection.
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 7.32 su Description: Turbid

Sediment Characteristics

Type: % Silt 95-99 (<1/16 mm)
% Sand 1-5 (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: 5Y 3/2
Description: Dark olive gray silt w/ trace sand

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): 1/5"

Odor: None (Hydrogen sulfide) — slight Other: ____

Amphipods: none Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No) Sheen Present: Yes (No)

Sample Collected Using: Van Veen X, Eckman ____, Ponar ____, Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0558 Time: 0903
Homogenized Sample: 103-0561 Time: 1015
Other: 103-0559 Time: 0903

Sediment (SE) Sample ID: SE-8-B6	Time: 1003	# Containers: 7	Volume: 100 %	32oz + 13gal
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %	
Split SE Samples (EPA/NPS/CCT): SE-8-B6		# Containers: 1	Volume: 100 %	~4gal
Pore Water (PW) Sample ID: PW-8-B6	Time: 0959	# Containers: 3	Volume: 100 %	~150mL

Sample Lead Initials: [illegible] Date: 9/20/13 Field Supervisor Initials: DH Date: 9/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

SE-8-B6-A #container 1 volume ≈2gal time = 0945

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: S-B6

Date: 9/20/13 Vessel: Tiffen

Camera Serial #: #1

Photo ID: 103-0556 Time: 0834	Photo ID: 103-0557 Time: 0854
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Overlying water in grab. rough surface water sheen at the overlying water
Photo ID: 103-0558 Time: 0903	Photo ID: 103-0559 Time: 0903
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sample after overlying water is removed	Description: Sample in grab after overlying water was removed.
Photo ID: 103-0560 Time: 1014	Photo ID: 103-0561 Time: 1015
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: COC to UPS host for split sample	Description: to 9/20/13 Homogenized Sample.
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 9/24/13

Sample Lead Initials: [illegible] Date: 9/20/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SB-C1

Date: 9/18/13 **Vessel:** Tieton

Sampling Crew: Brelmann, Palmieri, Sugalski **Vessel Crew:** Sawyer, Tuschhoff, Schut

EPA Observer: Bud Shepard **C.R. Observer:** Eric Closahwee

Arrival Time: 0833 **Departure Time:** 1025

River Stage:
Water Surface Elev. (ft): 1281.90

Water Surface Elevation Source: USBR

Weather Conditions Upon Arrival
Temp (°F): 65°F

Wind (mph): light Breeze

Clouds/Precipitation: mostly cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 602

Boat Traffic: Observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

houses on left bank

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

10 blue air stones & one 6" air stone and 6 filters to collect 35 mL of water from the surface of the Lexan tub.

Observed by EPA & NPS boats

C.R. - cultural resources

Field Supervisor Initials: DH Date: 9/20/13

Sample Lead Initials: JS Date: 9/18/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8B-C1

Anchor Point (max 3) 1 2 3 Water Depth (feet): 298

Drop # 1 2 3 Cast Time 0846 Sampler Penetration (inches): 7 ~~6~~ 7 9/18/13

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location:
~~Latitude:~~ East 359196.83 ~~Longitude:~~ Northing 5317370.95

Sample Acceptance Criteria:

- Slightly, change request completed approved in field by Burt Shepard

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 25-30 % Accepted Rejected

pH of Sediment in Sampler: 7.91 su Description: turbid

Sediment Characteristics

Type: % Silt ~100 (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: 10Y 4/2
Description: olive gray silt

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): 1/8"

Odor: None Hydrogen sulfide — slight
Other: _____

Amphipods: none observed Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0503 Time: 0852
Homogenized Sample: 103-0506 Time: 0944
Other: Time:

Sediment (SE) Sample ID: SE-8B-C1 Time: 0950 # Containers: 0 5 Volume: 100 % 32 oz + 4 gal

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: PW-8B-C1 Time: 0948 # Containers: 1 Volume: 25-30 %

Sample Lead Initials JS Date: 9/18/13 Field Supervisor Initials DA Date: 9/20/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

SE-8B-C1-A # containers 1 volume 1 gal

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: SB-C1

Date: 9/18/13 Vessel: Teton

Camera Serial #: #1

Photo ID: 103-0500 Time: 0818	Photo ID: 103-0501 Time: 0835
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Slaton ID	Description: Prepping for deployment
Photo ID: 103-0502 Time: 0836	Photo ID: 103-0503 Time: 0852
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Shore line looking on left bank.	Description: Sample in grab
Photo ID: 103-0504 Time: 0917	Photo ID: 103-0505 Time: 0921
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Attempting porewater with 3rd system.	Description: Trying to hold a void open to collect porewater
Photo ID: 103-0506 Time: 0944	Photo ID: Time:
Photographer: Sugalski	Photographer:
Photo Orientation:	Photo Orientation:
Description: homogenized sample	Description:

Field Supervisor Initials: AH Date: 9/20/13

Sample Lead Initials: JS Date: 9/18/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 8B-C3

Date: 9/18/13

Vessel: Tieton

Sampling Crew: Sogolski, Biedmann, Palmieri

Vessel Crew: Saugen, Schut, Tuschhoff

EPA Observer: Burt Shepard

C.R. Observer: Eric Oosahwee

Arrival Time: 1037

Departure Time: 1144

River Stage:

Water Surface Elev. (ft): 1,281.90

Water Surface Elevation Source: USBR

Weather Conditions Upon Arrival

Temp (°F): 77° F

Wind (mph): light.

Clouds/Precipitation: partly cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 599

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Observed by EPA. Pore water collected from Lexan tub

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/20/13

Sample Lead Initials [illegible] Date: 9/18/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SB-C3

Anchor Point (max 3) 1 2 3 Water Depth (feet): 311

Drop # 1 2 3 Cast Time 1041 Sampler Penetration (inches): 7

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location:
Latitude: 353797.33 Longitude: 5311826.83

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? - slightly on one side YES NO
2. Overlying water present? YES NO
3. Overlying water excessively turbid? YES NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES NO
5. Minimum sampler penetration depth (6 inches) obtained? YES NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES NO
7. Sample is: Accepted Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 33 % Accepted Rejected

pH of Sediment in Sampler: 7.23 su Description: turbid collected from lexan tub w/ air stones

Sediment Characteristics

Type: % Silt ≈95 ≈99 (<1/16 mm)
% Sand Trace (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: ~~10Y~~ 5Y 3/1
Description: very dark grayish olive silt w/ trace sand

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): 1/8"

Odor: None Hydrogen sulfide — slight
Other:

Amphipods: none Tubes: Macrophytes:
Debris(twigs/leaves): visible Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0508 Time: 1049
Homogenized Sample: 103-0512 Time: 1126
Other: 103-0509 Time: 1049

Sediment (SE) Sample ID: SE-8B-C3 Time: 1133 # Containers: 5 Volume: 100 % - 32oz + 3.5gal

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: PW-8B-C3 Time: 1126 # Containers: 1 Volume: 33 % - 40mL

Sample Lead Initials [illegible] Date: 9/18/13 Field Supervisor Initials DH Date: 9/20/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: SB-C3

Date: 9/18/13 Vessel: Tieton

Camera Serial #: #1

Photo ID: 103-0507 Time: 1031	Photo ID: 103-0508 Time: 1049
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Sediment in Grab
Photo ID: 103-0509 Time: 1049	Photo ID: 103-0510 Time: 1105
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in Grab	Description: Porewater collection attempt
Photo ID: 103-0511 Time: 1114	Photo ID: 103-0512 Time: 1126
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Clogged Airstone, ~~5th~~ blue one. 9/18/13 6th	Description: Homogenized Sample.
Photo ID: 103-0513 Time: 1127	Photo ID: Time:
Photographer: Sugalski	Photographer:
Photo Orientation:	Photo Orientation:
Description: Field filtering Porewater	Description:

Field Supervisor Initials DA Date: 9/20/13

Sample Lead Initials ~~JS~~ Date: 9/18/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SB-CC1

Date: 9/18/13 **Vessel:** Tieton

Sampling Crew: Palmieri, Bielmeier, Segelstad **Vessel Crew:** Saugen, Schut, Tuschhoff

EPA Observer: Burt Shepard **C.R. Observer:** Eric Schweer-Voss

Arrival Time: 1324 **Departure Time:** 1440

River Stage:
Water Surface Elev. (ft): 1,281.90
Water Surface Elevation Source: USBR

Weather Conditions Upon Arrival
Temp (°F): 79°F
Wind (mph): light Breeze
Clouds/Precipitation: partly cloudy

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 598 Boat Traffic: observe ; support

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes No
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions) Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Observed by EPA & CCT. used peristaltic pump to get porewater. 10 stones = 50 ml.

C.R. - cultural resources

Field Supervisor Initials: KM Date: 9/20/13

Sample Lead Initials: JS Date: 9/18/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** SB-C4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 34'

Drop # (1) 2 3 Cast Time 1328 Sampler Penetration (inches): 7

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location:
Latitude: 352174.41 Longitude: 5312039.31

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	(YES)	NO
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

a bit of overlying water still present (intact. observed by ERA observer 9/18/13

Porewater

Cumulative Percent of Porewater Syringe filled: 33 % (Accepted) Rejected

pH of Sediment in Sampler: 7.28 su Description: turbid,

Sediment Characteristics

Type: % Silt ≈ 99 (<1/16 mm)
% Sand Trace (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 5Y 3/1
Description: very dark grey S.I.W/ trace sand

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/8"

Odor: None (Hydrogen sulfide)
Other:

Amphipods: none observed Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: (Yes) No — lenses of black decomposed organics approx 5-inches (≈ 1 inch thick)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen (✓)
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0516 Time: 1331
Homogenized Sample: 103-0520 Time: 1415
Other: 103-0517 Time: 1331

Sediment (SE) Sample ID: SE-SB-C4	Time: 1416	# Containers: 6	Volume: 40 %	32 oz + 5 gals
Duplicate SE Sample ID:	Time:	# Containers:	Volume: %	
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: %	
Pore Water (PW) Sample ID: PW-SB-C4	Time: 1416	# Containers: 1	Volume: 33 %	

Sample Lead Initials: [illegible] Date: 9/18/13 Field Supervisor Initials: KH Date: 9/20/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: SB-C4

Date: 9/18/13 Vessel: Tieton

Camera Serial #: #1

Photo ID: 103-0514 Time: 1149	Photo ID: 103-0515 Time: 1328
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation: left bank.
Description: Station ID	Description: Shore conditions near station.
Photo ID: 103-0516 Time: 1331	Photo ID: 103-0517 Time: 1331
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in Sampler	Description: Sediment in Sampler
Photo ID: 103-0518 Time: 1340	Photo ID: 103-0519 Time: 1359
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: removing top 6-inches of sample and observing for cultural resources	Description: Using Peristaltic pump to get porewater.
Photo ID: 103-0520 Time: 1415	Photo ID: Time:
Photographer: Sugalski	Photographer:
Photo Orientation:	Photo Orientation:
Description: Homogenized Sample	Description:

Field Supervisor Initials: JH Date: 9/20/13

Sample Lead Initials: [illegible] Date: 9/18/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8-C1

Date: 9/20/13 **Vessel:** Tiffon

Sampling Crew: Palmier, McDaniel, Swedish **Vessel Crew:** Seegen, Schut, Tuschhoff

EPA Observer: Marylin Gauthier **C.R. Observer:** Eric OOSchuur-VOS

Arrival Time: 1514 **Departure Time:** 1618

River Stage:
Water Surface Elev. (ft): 1282.30
Water Surface Elevation Source:
800.824.4916

Weather Conditions Upon Arrival
Temp (°F): ~90°F
Wind (mph): Breeze
Clouds/Precipitation: Mostly Cloudy

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 6.09 Boat Traffic: SUPPORT BOAT
WEATHERMAN BOAT

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes No
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions) Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

See NEW LOCATION FORM FOR 9/21/13.

C.R. - cultural resources

Field Supervisor Initials: DM Date: 9/24/13

Sample Lead Initials: [illegible] Date: 9/20/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-C1

Date: 9/21/13 **Vessel:** TIETON

Sampling Crew: VETTER/PALMIERI/McDANIEL **Vessel Crew:** TRUDEAU/SCHUTT/Tuschhoff

EPA Observer: Gauthier (CTH) **C.R. Observer:** Ooscahwee-Voss

Arrival Time: 0700 **Departure Time:** 0752

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): 64°
Wind (mph): _____
Clouds/Precipitation: CLOUDY

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 609 Boat Traffic: _____

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes No
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

RED BARN ON TERRACE DIRECTLY NORTH OF LOCATION.

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: 103-0576	Time: 0701	Photo ID: 103-0578	Time: 0701
Photo ID: 103-0577	Time: 0701	Photo ID: _____	Time: _____

General Notes:

CHEMISTRY DUP MUD0005
PORE WATER MS MSD

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/24/13

Sample Lead Initials MV Date: 9/21/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: 8-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 283

Drop # (1) 2 3 Cast Time 1523 Sampler Penetration (inches):

Angle (< 5° max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 360175.16 NORTHING: 5308820.31

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description:

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time:
Homogenized Sample: _____ Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials: [illegible] Date: 9/24/13 Field Supervisor Initials: DH Date: 9/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sampler did not close

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: S-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 286

Drop # 1 (2) 3 Cast Time 1544 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North) 9/20/13

EASTING: 366185.79 NORTHING: ~~5368880.33~~ 5308880.33

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)

% Sand ____ (1/16 - 2 mm)

% Gravel ____

% Cobbles ____

% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:

Debris(twigs/leaves): Other:

Stratified sediment: Yes No

Sheen Present: Yes No

Sample Collected Using

Van Veen ____

Eckman ____

Ponar ____

Shovel

Photo Numbers 's
(see Photo Log for descriptions)

Sediment in Grab: ____ Time: ____

Homogenized Sample: ____ Time: ____

Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials ____ Date: ____ Field Supervisor Initials BA Date 9/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Stick in grab. All sediment leached out before it was brought onboard

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-C1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): (m) ~~302'~~ 314'

Drop # 1 2 (3) Cast Time 0700 Sampler Penetration (inches): 6"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 366~~225.24~~ 18.29 Ap NORTHING: 530~~885.88~~ 48.18 Ap

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? (YES) NO
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? (YES) NO
5. Minimum sampler penetration depth (6 inches) obtained? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES (NO)
7. Sample is: (Accepted) Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of ~~Sediment in~~ Water Sampler: 7.92 su Description: ____

Sediment Characteristics

Type: % Silt 100 (<1/16 mm)
% Sand 0 (1/16 - 2 mm)
% Gravel 0
% Cobbles 0
% Silica Glass: 0

Color: Munsell Color Chart #: 10Y 3/2
Description: Very dark grayish olive

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 0.05"

Odor: None (Hydrogen sulfide) faint
Other: ____

Amphipods: ~~No~~ YES Tubes: No Macrophytes: No
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0580 Time: 0713
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: SE-8-C1 Time: 1031 # Containers: 5- 4gl 1-bucket Volume: 100% 60 %

Duplicate SE Sample ID: MUD0005 Time: 1031 # Containers: 4 Volume: 100 %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: PW-8-C1 Time: ~~1031~~ 1014 (m) # Containers: 9 Volume: 100 %

Additional volume collected for MS/MSD

Sample Lead Initials: MW Date: 9/21/13 Field Supervisor Initials: DH Date: 9/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-C1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): _____

Drop # (1) 2 3 Cast Time 0724 (PDT) 31 Sampler Penetration (inches): EMPTY - DID NOT DEPLOY

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 366218.29 NORTHING: 5305548.18

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials _____ Date: _____ Field Supervisor Initials AM Date: 9/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-C1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): _____

Drop # 1 (2) 3 Cast Time 0742 Sampler Penetration (inches): No sample Grab did not deploy

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 366218.29 NORTHING: 5308548.18

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials_____ Date:_____ Field Supervisor Initials OH Date: 9/24/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: S-C1

Date: 9/20/13 Vessel: Tiefen

Camera Serial #: #1

Photo ID: 103-0574 Time: 1454	Photo ID: 103-0575 Time: 1517
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation: Rt. bank, upstream
Description: Station ID	Description: Preparing for Sampler deployment
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

NEW PAGE FOR 9/21/13

Field Supervisor Initials: DH Date: 9/24/13

Sample Lead Initials: [illegible] Date: 9/20/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 8-C1

Date: 9/21/13 Vessel: TIETON

Camera Serial #: #1

Photo ID: 103-0576 Time: 0701	Photo ID: 103-0577 Time: 0701
Photographer: VETTER	Photographer: VETTER
Photo Orientation: EAST ~~8-C1~~	Photo Orientation: North
Description: UpRiver	Description: Shore to north
Photo ID: 103-0578 Time: 0701	Photo ID: 103-0579 Time: 0711
Photographer: VETTER	Photographer: VETTER
Photo Orientation: South	Photo Orientation:
Description: SHORE TO South	Description: Grab 3 (API Drup3)
Photo ID: 103-0580 Time: 0713	Photo ID: 103-0581 Time: 0718
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: Sediment in grab after water decanted	Description: Scoop of sediment
Photo ID: 103-0852 Time: 0822	Photo ID: 103-0853 Time: 0840
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: PORE WATER - SETTING UP EQUIPMENT	Description: PORE WATER SET UP CONTINUING

Field Supervisor Initials DH Date: 9/24/13

Sample Lead Initials MW Date: 9/21/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: S-C1

Date: 9/21/13 Vessel: TIETON

Camera Serial #: #1

Photo ID: 103-0584 Time: 0841	Photo ID: 103-0585 Time: 1009
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: COLLECTING PORE WATER.	Description: SEDIMENT NEAR END OF PORE WATER COLLECTION SHOWING CRACKS IN SEDIMENT.
Photo ID: 103-0586 Time: 1020	Photo ID: 103-0587 Time: 1026
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: COLLECTING PORE WATER	Description: Homogenized sample
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials DH Date: 9/24/13

Sample Lead Initials MW Date: 9/21/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 8-C3

Date: 9/18/13

Vessel: Tieton

Sampling Crew: Palmieri, Sugalski, Bielmann

Vessel Crew: Sougen, Schut, Tuschhoff

EPA Observer: Burt Shepard

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1158

Departure Time: 1615

River Stage:

Water Surface Elev. (ft): 1,281.9

Water Surface Elevation Source: USBR

Weather Conditions Upon Arrival

Temp (°F): 79°F

Wind (mph): Breeze (light)

Clouds/Precipitation: Partly cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 603

Boat Traffic: observer & support boats

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Rock outcrop on right shore

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Observed by EPA & CCT. Pore water extracted using peristaltic pump; for 3 stones

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/20/13

Sample Lead Initials ZG Date: 9/18/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 1-C3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 178

Drop # (1) 2 3 Cast Time 1501 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 360362.02 NORTHING: 5313734.80

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description:

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time:
Homogenized Sample: _____ Time:
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Sample Lead Initials: JS Date: 9/18/13 Field Supervisor Initials: KH Date: 9/20/13

Only water.

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8-C3

Anchor Point (max 3) 1 2 3 Water Depth (feet): 176

Drop # 1 2 3 Cast Time 1506 Sampler Penetration (inches): 7.7 inches

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 360375.28 NORTHING: 5313743.82

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES NO
2. Overlying water present? YES NO
3. Overlying water excessively turbid? YES NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES NO
5. Desired penetration depth (4 to 6 inches) achieved? YES NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES NO
7. Sample is: Accepted Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of Sediment in Sampler: 0 su Description: Air stone clogged.

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0522 Time: 1511
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials ZB Date: 9/18/13 Field Supervisor Initials LDH Date: 9/20/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sample was overfilled and there appeared to be some loss therefore it was rejected!

~~Water~~ no overlying water.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-C3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 17.4

Drop # 1 2 (3) Cast Time 1524 Sampler Penetration (inches): 6

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 360369.44 NORTHING: 5313737.98

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 30 % (Accepted) Rejected

pH of Sediment in Sampler: 7.29 su Description: turb.cl

Sediment Characteristics

Type: % Silt ~94 (<1/16 mm)
% Sand ~21 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 5Y 3/2
Description: Dark olive gray Silt w/ fine sand

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/8"

Odor: None (Hydrogen sulfide) slight
Other:

Amphipods: NONE Tubes: Macrophytes:
Debris(twigs/leaves): NONE Other:

Stratified sediment: Yes (No) Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0523 Time: 1527
Homogenized Sample: 103-0527 Time: 1613
Other: 103-0524 Time: 1530

Sediment (SE) Sample ID: SE-S-C3 Time: 1615 # Containers: 5 Volume: 100 %
Duplicate SE Sample ID: Time: # Containers: Volume: %
Split SE Samples (EPA/NPS/CCT): CB 9/18/13 # Containers: Volume: %
Pore Water (PW) Sample ID: ~~SE-S-C3~~ PW-S-C3 Time: 1611 # Containers: 1 Volume: 30 %

Sample Lead Initials: [illegible] Date: 9/18/13 Field Supervisor Initials: DH Date: 9/20/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 8-C3

Date: 9/18/13 Vessel: Tielen

Camera Serial #: #1

Photo ID: 103-0521 Time: 1440	Photo ID: 103-0522 Time: 1511
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: 2nd grab attempt Acceptable sample
Photo ID: 103-0523 Time: 1527	Photo ID: 103-0524 Time: 1530
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: 3rd grab in Sampler	Description: 3rd grab in Sampler after removing overlying water
Photo ID: 103-0525 Time: 1542	Photo ID: 103-0526 Time: 1612
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Pore water extraction using the peristaltic pump	Description: Homogenized Sediment
Photo ID: 103-~~0526~~ 0527 9/18/13 Time: 1612	Photo ID: Time:
Photographer: Sugelski	Photographer:
Photo Orientation:	Photo Orientation:
Description: Homogenized Sediment	Description:

Field Supervisor Initials DH Date: 9/20/13

Sample Lead Initials [illegible] Date: 9/18/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: 8-C4

Date: 9/19/13

Vessel: Tilton

Sampling Crew: Sugalsk, Bielmann, Pelvier

Vessel Crew: Saugen, Schut, Tuschhoff, Duffield

EPA Observer: Marylin Gauthier

C.R. Observer: Eric Ooschwee-Voss

Arrival Time: 0832

Departure Time: 1160

River Stage:

Water Surface Elev. (ft): 1281.70 ~~1281.90~~ ~~1280.41~~

Water Surface Elevation Source: ~~NOAA River info~~ 800-824-4916

9/19/13 ~~9/19/13~~ 00:00

Weather Conditions Upon Arrival

Temp (°F): 64°F

Wind (mph): Breezy

Clouds/Precipitation: Clear

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 604

Boat Traffic: NPS, Support & Observer boats

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Grab was overfilled on 3rd attempt on 1 side. The other side (right) side, met acceptance criteria. Because this is a chemistry only station, the right side will be processed as an acceptable sample. manual & peristaltic extraction methods used for porewater collection

19 pw stores used

5 filters used

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/20/13

Sample Lead Initials [illegible] Date: 9/19/13

Two Buckets of Homogenized material was collected. One had no overlying water the other one did. Each one was marked.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** S-C4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 296

Drop # (1) 2 3 Cast Time 0840 Sampler Penetration (inches): —

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 361804.03 NORTHING: 531315787

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0530 Time: 0845
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____ Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):	# Containers:	Volume: ____ %
Pore Water (PW) Sample ID: ____ Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials: JH Date: 9/14/13 Field Supervisor Initials: DA Date: 9/20/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Rock : some
Sand : gravel.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8-C4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 238

Drop # 1 (2) 3 Cast Time 0858 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 361834.30 NORTHING: 5313102.58

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description:

Sediment Characteristics

Type: % Silt ≈90 (<1/16 mm)
% Sand trace (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-6532 Time: 0859
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: Time:	# Containers:	Volume: %
Duplicate SE Sample ID: Time:	# Containers:	Volume: %
Split SE Samples (EPA/NPS/CCT):	# Containers:	Volume: %
Pore Water (PW) Sample ID: Time:	# Containers:	Volume: %

Sample Lead Initials: JJ Date: 9/19/13 Field Supervisor Initials: DH Date: 9/20/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

incomplete closure. Sample washed out.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 8-C4

Anchor Point (max 3) 1 2 3 Water Depth (feet): 230

Drop # 1 2 3 Cast Time 0907 Sampler Penetration (inches): 13

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: ~~363~~ JB 9/19/13 {NAD_83_UTM_Zone_11_North} JB 9/19/13

EASTING: ~~361834.30~~ NORTHING: ~~5313102.58~~

Sample Acceptance Criteria: 361822.12 5313107.90

1. Sampler overfilled or sediment pressed against top of sampler? YES NO
2. Overlying water present? YES NO
3. Overlying water excessively turbid? YES NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES NO
5. Desired penetration depth (4 to 6 inches) achieved? YES NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES NO
7. Sample is: Accepted Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 66 % Accepted Rejected

pH of Sediment in Sampler: 7.12 su Description: turbid

Sediment Characteristics

Type: % Silt ≈ 99 (<1/16 mm)

% Sand trace (1/16 - 2 mm)

% Gravel

% Cobbles

% Silica Glass:

Color: Munsell Color Chart #: 5Y 3/2
Description: Dark olive gray silt w trace sand.

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): 1/8"

Odor: None Hydrogen sulfide slight
Other:

Amphipods: none Tubes: Macrophytes:
Debris(twigs/leaves): Other:

cobbles on bottom

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0535 Time: 0918
Homogenized Sample: 103-0540 Time: 1036
Other: 103-0534 Time: 0917

Sediment (SE) Sample ID: SE-8-C4 Time: 1038 # Containers: 4 Volume: 100 % — 32 oz + 1 gal + 5 gal

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): SE-8-C4 # Containers: 1 Volume: % — 1 gal

Pore Water (PW) Sample ID: PW-8-C4 Time: 1013 # Containers: 2 Volume: 66 % — 50 + 40 filtered

Sample Lead Initials JB Date: 9/19/13 Field Supervisor Initials DH Date: 9/20/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Chemistry only location. Sample will be collected from side not overfilled.

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: 8-C4

Date: 9/19/13 Vessel: Tiefen

Camera Serial #: #1

Photo ID: 103-0528 Time: 0827	Photo ID: 103-0529 Time: 0838
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation: Upstream / left bank
Description: Station ID	Description: Deployment of 1st grab
Photo ID: 103-0530 Time: 0845	Photo ID: 103-0531 Time: 0847
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: left bank	Photo Orientation:
Description: Rock in grab on 1st Attempt	Description: material remains from 1st grab
Photo ID: 103-0532 Time: 0859	Photo ID: 103-0533 Time: 0911
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: 2nd grab attempt. Sediment in grab	Description: boat traffic during retrieval of 3rd grab
Photo ID: 103-0534 Time: 0917	Photo ID: 103-0535 Time: 0918
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: 3rd grab attempt, overfilled, acceptable sides	Description: Acceptable side of 3rd grab, sample to be processed for Chemistry only.

Field Supervisor Initials: KH Date: 9/30/13

Sample Lead Initials: [illegible] Date: 9/19/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 8-C4

Date: 9/19/13 **Vessel:** Tootsen

Camera Serial #: #1

Photo ID: 103-0536 Time: 0931	Photo ID: 103-0537 Time: 0934
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: material removed from acceptable 1/2 of grab	Description: Sample after acceptable side is removed.
Photo ID: 103-0538 Time: 1027	Photo ID: 103-0539 Time: 1028
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Pore water extraction	Description: pore water extraction
Photo ID: 103-0540 Time: 1036	Photo ID: Time:
Photographer: Sugalski	Photographer:
Photo Orientation:	Photo Orientation:
Description: Homogenized Sample	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: KM Date: 9/20/13

Sample Lead Initials: ZS Date: 9/19/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-1

Date: 9/5/13 **Vessel:** Tieton

Sampling Crew: Sogalski, Vetter, Kelly **Vessel Crew:** Hinz, Schut, Sawyer, Trudeau

EPA Observer: IRVine, Stiefelmeier **C.R. Observer:** Eric COSATHWEE-VOSS

Arrival Time: 1115 **Departure Time:** 1520

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): _____

Wind (mph): light

Clouds/Precipitation: Overcast

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____ Boat Traffic: None

Water Surface: (Calm) (Small Waves) (Choppy) — mostly calm

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): Sand bar upstream of locations

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: 103-0249	Time: 1114	Photo ID: 103-0251	Time: 1146
Photo ID: 103-0250	Time: 1146	Photo ID: 103-0252	Time: 1146

General Notes:

Successful grab on 6th cast. Some winnowing was experienced near sides. Side material was removed. Sample was processed. Change ~~to~~ form was filled out.

C.R. - cultural resources

Field Supervisor Initials: JS Date: 9/5/13

Sample Lead Initials: DH Date: 9/7/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-1 11:52

Anchor Point (max 3) 1 2 3 Water Depth (feet): 26.3

Drop # 1 2 3 Cast Time 11:52 Sampler Penetration (inches):

Angle (< 5°max) Yes No 1159 Cultural Resources Observed? No Yes

Sample Location:
~~Latitude~~ ECA: 448615.60 ~~Longitude~~ ~~west~~ North: 5450398.77 UTM, meters

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)

% Sand _____ (1/16 - 2 mm)

% Gravel _____

% Cobbles _____

% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials: 23 Date: 9/5/13 Field Supervisor Initials: DH Date: 9/7/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-1 1159

Anchor Point (max 3) (1) 2 3 **Water Depth (feet):** 19.3

Drop # 1 (2) 3 Cast Time 1159 **Sampler Penetration (inches):**

Angle (< 5°max) (Yes) No **Cultural Resources Observed?** (No) Yes

Sample Location:
Latitude: 448669.81 east Longitude: 5450412.02 North UTM meters

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: / Description:

Redox Boundary: Present? Yes No / If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide / Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials GS Date: 9/5/13 Field Supervisor Initials DH Date: 9/7/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-1 1204

Anchor Point (max 3) 1 2 3 Water Depth (feet): 9 feet

Drop # 1 2 3 Cast Time 1204 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location:
~~Latitude:~~ 448679.45 east ~~Longitude:~~ 5450402.39 north UTM meters

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES NO
2. Overlying water present? YES NO
3. Overlying water excessively turbid? YES NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES NO
5. Minimum sampler penetration depth (6 inches) obtained? YES NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES NO
7. Sample is: Accepted Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present – Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: _____ %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials: JS Date: 9/5/13 Field Supervisor Initials: DH Date: 9/7/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 9 feet

Drop # (1) 2 3 Cast Time 1211 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location:
~~Latitude~~ east: 448666.20 ~~Longitude~~ North: 5450386.72 UTM, meters

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? YES (NO)
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES (NO)
5. Minimum sampler penetration depth (6 inches) obtained? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? (YES) NO
7. Sample is: Accepted (Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % Accepted (Rejected)

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 95 (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): None Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0259 Time: 1216
Homogenized Sample: 102-0262 Time: 1250
Other: Time:

Sediment (SE) Sample ID: P Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: PW-6-1-R Time: 1240 # Containers: 3 Volume: 100 %

Sample Lead Initials JS Date: 9/5/13 Field Supervisor Initials DH Date: 9/7/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-1 1253

Anchor Point (max 3) 1 (2) 3 **Water Depth (feet):** 10

Drop # 1 (2) 3 **Cast Time** 1253 **Sampler Penetration (inches):** 9

Angle (< 5°max) (Yes) No **Cultural Resources Observed?** No Yes

Sample Location:
~~Latitude~~ 117°42'16.9709 ~~East~~ W **Longitude:** 49°12'14.6513 North

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is: collected in Lexan tub	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: 5.24 su **Description:**

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: / Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0263 Time: 1257
Homogenized Sample: 103-0265 Time: 1315
Other: 103-0264 Time: 1258

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Sample Lead Initials SS Date: 9/5/13 Field Supervisor Initials DH Date: 9/7/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Some winnowing on sides. Center of sample was intact. Because of winnowing on sides and no overwire water, sample is rejected.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-1 1334

Anchor Point (max 3) 1 2 3 Water Depth (feet): 10.1

Drop # 1 2 3 Cast Time 1334 Sampler Penetration (inches): ~~8.5~~ 7.5

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: ~~Latitude:~~ 117° 42' 17.0923 W ~~Longitude:~~ 49° 12' 14.6106 N
TJC 9/30/13 TJC 9/30/13

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES NO
2. Overlying water present? YES NO
3. Overlying water excessively turbid? YES NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES NO
5. Minimum sampler penetration depth (6 inches) obtained? YES NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? at sides, material was removed YES NO
7. Sample is: Accepted ~~Rejected~~ JS.

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % Accepted Rejected

pH of Sediment in ~~Sampler~~ lexan tub: 7.98 su Description: No water in sampler — Sample collected from tub

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 95 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 2.5Y 5/2
Description: light Brown

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Debris(twigs/leaves): None Tubes: Other: Macrophytes:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0266 Time: 1336
Homogenized Sample: Time:
Other: in Grab 103-0267 Time: 1337

Sediment (SE) Sample ID: SE-G-1-~~B~~ DRH 9/6/13 Time: 1425 # Containers: 7 Volume: 100 %

Duplicate SE Sample ID: — Time: DRH # Containers: — Volume: — %

Split SE Samples (EPA/NPS/CCT): ~~SE-G-1B 1425~~ # Containers: + Volume: 100 % — Bioassay only

Pore Water (PW) Sample ID: PW-G-1 Time: 1425 # Containers: 3 Volume: 100 %

Sample collected from tub

Sample Lead Initials JB Date: 9/5/13 Field Supervisor Initials DH Date: 9/9/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: Trail launch (G1 to G-2)

Date: 9/5/13 Vessel: Tieton

Camera Serial #: #1

Photo ID: 103-0246 Time: 1032	Photo ID: 103-0248 Time: 1035
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: South (left bank)	Photo Orientation: ~~North~~ upstream
Description: leaving boat launch	Description: Traveling to G-1
Photo ID: 103-0249 Time: 1114	Photo ID: 103-0250 Time: 1146
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: upstream	Photo Orientation: Right bank
Description: Calibrating pH meter near upstream sand bar	Description: overlooking Sample location G-1 through G-4
Photo ID: 103-0251 Time: 1146	Photo ID: 103-0252 Time: 1146
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: Downstream	Photo Orientation: upstream
Description: near Sample location G1 - G-4	Description: upstream of sand bar ; G1 to G-4 Sample location
Photo ID: 103-0253 Time: 1149	Photo ID: 103-0254 Time: 1154
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: upstream	Photo Orientation: N/A
Description: Preparing drop for G-1	Description: Empty ; open sampler from 1st drop

Field Supervisor Initials: DH Date: 9/7/13

Sample Lead Initials: JS Date: 9/5/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** 6-1

Date: 9/5/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0255 **Time:** 1159	**Photo ID:** 103-0256 **Time:** 1204
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation: UP Stern	**Photo Orientation:** UP Stern
Description: Empty 1st Sampling attempt	**Description:** rejected ~~Same~~ 3rd attempt
Photo ID: 13 103-0258 **Time:** 1211	**Photo ID:** 103-0259 **Time:** 1216
Photographer: Sugalski	**Photographer:** Sugalsh
Photo Orientation: UP Stream	**Photo Orientation:** N/A
Description: loss of Sediment in Sampler from 4th attempt	**Description:** Rejected Sample from 4th grab
Photo ID: 103-0260 **Time:** 1216	**Photo ID:** 103-0261 **Time:** 1236
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation: N/A	**Photo Orientation:** N/A
Description: rejected Sample from 4th grab	**Description:** 150 ml of pore water from 4th rejected grab
Photo ID: 103-0262 **Time:** 1250	**Photo ID:** 103-0263 **Time:** 1257
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation:	**Photo Orientation:** N/A
Description: remaining rejected Sample from 4th grab. rest was in 5-gallon Bucket.	**Description:** Attempt @ PW collection in 5th attempt. No water recovered. Also Sediment in Sample

Field Supervisor Initials DH Date: 9/7/13

Sample Lead Initials JS Date: 9/5/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** G-1

Date: 9/5/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0264 **Time:** 1258	**Photo ID:** 103-0265 **Time:** 1315
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation: NA	**Photo Orientation:**
Description: 5th grab attempt Sediment in Sampler. winnowing on Sides.	**Description:** Rejected 5th grab in ~~Sedon~~ lexan tub
Photo ID: 103-0266 **Time:** 1330	**Photo ID:** 103-0267 **Time:** 1337
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation: N/A	**Photo Orientation:** N/A
Description: Accepted 6th cast for G-1. Winnowed Material on Sides was removed	**Description:** Accepted 6th cast for G-1. winnowed material on sides was removed.
Photo ID: 103-0268 **Time:** 1414	**Photo ID:** 103-0269 **Time:** 1428
Photographer: Sugalski	**Photographer:** Sugalski
Photo Orientation: N/A	**Photo Orientation:** N/A
Description: Acceptable Composite Sample	**Description:** Homogenizing the 6th Acceptable Sample
Photo ID: 103-0270 **Time:** 1456	**Photo ID:** **Time:**
Photographer: Sugalski	**Photographer:**
Photo Orientation: N/A	**Photo Orientation:**
Description: Inspection and adjustment of Sampler to remove Potential gaps when closing.	**Description:**

Field Supervisor Initials DA Date: 9/7/13

Sample Lead Initials SS Date: 9/5/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-2

Date: 9/5/13 **Vessel:** Tiefen

Sampling Crew: Sugalski, Vetter, Kelly **Vessel Crew:** Hinz, Schut, Seugen, Truelsen

EPA Observer: Irvine, Stifelman **C.R. Observer:** Eric OOSAHWEE-VOSS

Arrival Time: 1531 **Departure Time:** 1638

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): _____
Wind (mph): light
Clouds/Precipitation: overcast

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____ Boat Traffic: none

Water Surface: (Calm) (Small Waves) (Choppy) mostly calm
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): Sand bar upstream of location

Sample Location Photo IDs: (see Photo Log for descriptions) Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

pore water attempted from top 2 sides only air was pulled into sample. Pore water sample not collected due to lack of water.

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/7/13

Sample Lead Initials ZS Date: 9/5/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-2 1532

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 16.3

Drop # (1) 2 3 Cast Time 1532 Sampler Penetration (inches): unknown

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: ~~Latitude:~~ W 117° 42' 15.366 ~~Longitude:~~ N 49° 12' 13.3028
TJC 9/30/13 TJC 9/30/13

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present – Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____	%
Duplicate SE Sample ID: _____	Time: _____	# Containers: _____	Volume: _____	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____	%

Sample Lead Initials: JS Date: 9/5/13 Field Supervisor Initials: DH Date: 9/7/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

rock in sampler
no recovery

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-2 1536

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 16.3

Drop # 1 (2) 3 Cast Time 1536 Sampler Penetration (inches): 7 inches

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: ~~Latitude:~~ W 117° 42' 14.7869 TJC 9/30/13 ~~Longitude:~~ N 49° 12' 18.3065 TJC 9/3/13

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. ~~Any~~ sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of Sediment in Sampler: 8.66 su Description: no Porewater, drained From Sampler

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)

% Sand 95 (1/16 - 2 mm)

% Gravel ____

% Cobbles ____

% Silica Glass: ____

Color: Munsell Color Chart #: 2.5Y 5/2 Description: Sand, Trace Silt

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches): ____

Odor: (None) Hydrogen sulfide Other: ____

Amphipods: ____ Tubes: ____ Macrophytes: ____

Debris(twigs/leaves): None Other: ____

Stratified sediment: Yes (No) Sheen Present: Yes (No)

Sample Collected Using

Van Veen 1 Eckman ____ Ponar ____ Shovel ____

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: 103-0274 Time: 1538

Homogenized Sample: 103-0276-78 Time: 1547/1601 1605

Other: 103-0225 Time: 1538

Sediment (SE) Sample ID: ~~SE-6-2-B~~ DUP 9/6/13	Time: 1555	# Containers: 7	Volume: 100 %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): —	—	# Containers: —	Volume: — %
Pore Water (PW) Sample ID: NA	Time: N/A	# Containers: 0	Volume: 0 %

Sample Lead Initials: ~~JS~~ Date: 9/5/13 Field Supervisor Initials AM Date: 9/9/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

no Porewater only air

water over top Drained off before photo, but not before pH reading

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** G-2

Date: 9/5/13 **Vessel:** Tiedon

Camera Serial #: #1

Photo ID: 103-0271 Time: 1504	Photo ID: 103-0272 Time: 1536
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: N/A	Photo Orientation: Upstream
Description: Station ID	Description: Bringing in 2nd grab. Accidental, inital water running out of sampler
Photo ID: 103-0273 Time: 1536	Photo ID: 103-0274 Time: 1538
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: Upstream	Photo Orientation: N/A
Description: Observing 2nd grab of G-2. Note water leaking from Sampler	Description: 2nd attempt successful grab. most overlying water has drained off
Photo ID: 103-0275 Time: 1538	Photo ID: 103-0276 Time: 1547
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: N/A	Photo Orientation: N/A
Description: Opposite side of Sampler from 2nd attempt	Description: removing Sediment from Sampler & placing into lexan tub for Processing
Photo ID: 103-0277 Time: 1604	Photo ID: 103-0278 Time: 1605
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: N/A	Photo Orientation: N/A
Description: Homogenized Sample in 16oz Sample jar	Description: Homogenized Sample in 16oz Sample Jar

Field Supervisor Initials: DS Date: 9/5/13

Sample Lead Initials: DA Date: 9/7/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** G-2

Date: 9/5/13 **Vessel:** Tie Jon

Camera Serial #: #1

Photo ID: 103-0279 Time: 1624	Photo ID: 103-0280 Time: 1624
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: Downstream	Photo Orientation: Downstream
Description: Tie Jon against bank where Samples G-1 & G-2 were processed.	Description: gravel ~~bar~~ bar upstream of sample locations & Sample Processing area.
Photo ID: 103-0281 Time: 1624	Photo ID: Time:
Photographer: Sugalski	Photographer:
Photo Orientation: Upstream	Photo Orientation:
Description: Shot of Gravel bar upstream of Sample locations	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials JS Date: 9/5/13

Sample Lead Initials DH Date: 9/8/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-3

Date: 9/6/2013 **Vessel:** Tieton

Sampling Crew: Vetter, Sugelski, Kelly **Vessel Crew:** Hinz, Saugen, Truelove, Schut

EPA Observer: Cameron Irvine, North Stillaman **C.R. Observer:** Eric

Arrival Time: 0900 **Departure Time:** 1025

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): _____

Wind (mph): very light wind

Clouds/Precipitation: overcast & rain

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____ Boat Traffic: none

Water Surface: ~~(Calm)~~ (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): Sand bar upstream of location

Sample Location Photo IDs: (see Photo Log for descriptions) Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

water drained out of sample and pore water could not be collected.

Acceptable sample on 2nd try

Medium fine Sand

Sample processed at sandbar

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 9/6/13

Sample Lead Initials: DH Date: 9/6/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-3 0917

Anchor Point (max 3) (1) 2 3 **Water Depth (feet):** 28.7

Drop # (1) 2 3 Cast Time 0917 **Sampler Penetration (inches):** ≈ 10 cm

Angle (< 5°max) Yes No **Cultural Resources Observed?** (No) Yes

Sample Location:
Latitude: 4485 86.20 Longitude: 5450257.14 UTM meters

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials GS Date: 9/6/13 Field Supervisor Initials KDH Date: 9/7/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sticks and some Sand

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-3 0928

Anchor Point (max 3) (1) 2 3 **Water Depth (feet):** 22.3

Drop # 1 (2) 3 Cast Time 0928 **Sampler Penetration (inches):** 9

Angle (< 5°max) (Yes) No **Cultural Resources Observed?** (No) Yes

Sample Location:
Latitude: 4485796.95 ~~Longitude:~~ 521570270.32 UTM meters

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of Sediment in Sampler: 8.48 su Description: no Pore water Recovered

Sediment Characteristics

Type: % Silt 5-2 (<1/16 mm)
% Sand 95-98 (1/16 - 2 mm)
% Gravel
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 2.5Y 4/2
Description:

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: (Yes) No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0288 Time: 0929
Homogenized Sample: 103-0292 Time: 0945
Other: 103-0289 Time: 0929

Sediment (SE) Sample ID:	SE-6-3	Time:	0945	# Containers:	7	Volume:	100 %
Duplicate SE Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):				# Containers:	—	Volume:	— %
Pore Water (PW) Sample ID:	—	Time:	—	# Containers:	—	Volume:	— %

Sample Lead Initials [illegible] Date: 9/6/13 Field Supervisor Initials DH Date: 9/7/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Pore water drained from Sample.

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** G-3

Date: 9/6/13 **Vessel:** Tiebar

Camera Serial #: #1

Photo ID: 103-0282 **Time:** 0914	**Photo ID:** 103-0283 **Time:** 0918
Photographer: Sugelski	**Photographer:** Sugelski
Photo Orientation: right bank	**Photo Orientation:** upstream / RT Bank
Description: Sampler deployment 1st attempt	**Description:** Material recovered from 1st grab attempt
Photo ID: 103-0284 **Time:** 0919	**Photo ID:** 103-0285 **Time:** 0925
Photographer: Sugelski	**Photographer:** Sugelski
Photo Orientation:	**Photo Orientation:** RT Bank
Description: Station ID	**Description:** 2nd attempt deployment
Photo ID: 103-0286 **Time:** 0925	**Photo ID:** 103-0287 **Time:** 0928
Photographer: Sugelski	**Photographer:** Sugelski
Photo Orientation: RT Bank	**Photo Orientation:** RT Bank
Description: 2nd attempt deployment	**Description:** 2nd attempt recovery
Photo ID: 103-0288 **Time:** 0929	**Photo ID:** 103-0289 **Time:** 0929
Photographer: Sugelski	**Photographer:** Sugelski
Photo Orientation: N/A	**Photo Orientation:** N/A
Description: Sediment from 2nd attempt	**Description:** Sediment from 2nd attempt

Field Supervisor Initials: OH Date: 9/8/13

Sample Lead Initials _____ Date: _____

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: G-3

Date: 9/6/13 Vessel: Tie Fern

Camera Serial #: #1

Photo ID: 103-0790 Time: 0936	Photo ID: 103-0791 Time: 0938
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation: —	Photo Orientation: —
Description: Pore water recovery attempt	Description: Material collected from 2nd grab
Photo ID: 103-0792 Time: 0945	Photo ID: Time:
Photographer: Sugelski	Photographer:
Photo Orientation: N/A	Photo Orientation:
Description: Homogenized Sample	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials DH Date: 9/8/13

Sample Lead Initials JS Date: 9/6/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: G-4

Date: 9/6/13

Vessel: Tieton

Sampling Crew: Vetter, Sugalski, Kelly

Vessel Crew: Hinz, Saugen, Tredeau, Jeff Schut

mark stiffman

EPA Observer: Cameron Irvine

C.R. Observer: Eric

Arrival Time: 10 30

Departure Time: 1150

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): _____

Wind (mph): light

Clouds/Precipitation: rain

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____

Boat Traffic: None

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sand Bar up Stream

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Sample acceptable on 4th grab. leach recovered in sample. layer of fine grey sand & silt at approximate 6 inches. Pore water collected from port near bottom of sampler.

C.R. - cultural resources

Field Supervisor Initials JS Date: 9/6/13

Sample Lead Initials _____ Date: _____

Rinsate collected after G-4 is processed.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-4 1032

Anchor Point (max 3) 0 1 2 3 Water Depth (feet): 15.2

Drop # 0 1 2 3 Cast Time 1032 Sampler Penetration (inches): _____

Angle (< 5°max) (Yes) No Cultural Resources Observed? No Yes

Sample Location:
~~Latitude~~: 4148741.72 East ~~Longitude~~: 5450191.35 North UTM meters

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0295 Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %
Duplicate SE Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	_____ %
Pore Water (PW) Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %

Sample Lead Initials CA Date: 9/6/13 Field Supervisor Initials _____ Date: _____

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

vegetation / plant matter

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** 6-4 1040

Anchor Point (max 3) 1 2 3 Water Depth (feet): 13.2

Drop # 1 2 3 Cast Time 1040 Sampler Penetration (inches):

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location:
Latitude: 448733.79 Longitude: 5450176.27

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials JS Date: 8/6/13 Field Supervisor Initials _____ Date: _____

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

plat matter some sediment

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-4 1042

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 22.3

Drop # 1 2 (3) Cast Time 1042 Sampler Penetration (inches): _____

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: Latitude: ~~48~~ 5450270.32 Longitude: 4485896.95

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)

% Sand _____ (1/16 - 2 mm)

% Gravel _____

% Cobbles _____

% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:

Debris(twigs/leaves): Other:

Stratified sediment: Yes No

Sheen Present: Yes No

Sample Collected Using

Van Veen _____

Eckman _____

Ponar _____

Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)

Sediment in Grab: _____ Time: _____

Homogenized Sample: _____ Time: _____

Other: Time: _____

Sediment (SE) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Duplicate SE Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: _____ %
Pore Water (PW) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %

Sample Lead Initials JS Date: 9/4/13 Field Supervisor Initials _____ Date: _____

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

grab.

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** G-4 1047

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 14.8

Drop # (1) 2 3 Cast Time 1047 Sampler Penetration (inches): 8.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: Latitude: 4418723.87 Longitude: 5450204.05

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 75 % (Accepted) Rejected

pH of Sediment in Sampler: 8.37 su Description:

Sediment Characteristics

Type: % Silt 1% 3-4 (<1/16 mm)
% Sand 95 (1/16 - 2 mm)
% Gravel 1-2%
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 2.5 Y 5/2
Description: Grey Sand w trace Silt and occasional gravel

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other:

Amphipods:
Debris(twigs/leaves): XS
Tubes: 1 each
Other:
Macrophytes:

Stratified sediment: (Yes) (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0299 Time: 1047
Homogenized Sample: 103-0303 Time: 1111
Other: Time:

Sediment (SE) Sample ID:	SE-G-4	Time:	1116	# Containers:	7	Volume: 100 %
Duplicate SE Sample ID:		Time:		# Containers:		Volume: %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume: %
Pore Water (PW) Sample ID:	PW-G-4	Time:	1057	# Containers:	3	Volume: 75 %

Sample Lead Initials ES Date: 9/4/13 Field Supervisor Initials Date:

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Small pocket of gray area in sample layer found at ≈ 6-inches

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** G-4

Date: 9/6/13 **Vessel:** Tietun

Camera Serial #: #1

Photo ID: 103-0293 Time: 1005	Photo ID: 103-0294 Time: 1030
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: N/A	Photo Orientation: RT Bank
Description: Station ID	Description: Deployment of 1st attempt
Photo ID: 103-0295 Time: 1033	Photo ID: 103-0296 Time: 1037
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: N/A	Photo Orientation: N/A
Description: recovered plant matter in sampler from 1st attempt	Description: 2nd Attempt
Photo ID: 103-0297 Time: 1038	Photo ID: 103-0298 Time: 1042
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: N/A	Photo Orientation:
Description: material in 2nd Attempt	Description: material collected from 3rd Attempt
Photo ID: 103-0299 Time: 1047	Photo ID: 103-0300 Time: 1052
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Material in grab	Description: leach recovered in sample.

Field Supervisor Initials JS Date: 9/6/13

Sample Lead Initials _____ Date: _____

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** G-C1

Date: 9/6/13 **Vessel:** Tie Sun

Camera Serial #: #1

Photo ID: 103-0301 Time: 1104	Photo ID: 103-0302 Time: 1108
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: N/A	Photo Orientation:
Description: Darker area of Sample located as a pocket in Sample	Description: layer of fine sand + silt near a depth of 6 inches
Photo ID: 103-0303 Time: 1111	Photo ID: 103-0304 Time: 1111
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation: N/A	Photo Orientation: N/A
Description: Homogenized sample	Description: Homogenizing the Sample
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: [illegible] Date: 9/6/13

Sample Lead Initials _____ Date: _____

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-1

Date: 9/8/13 **Vessel:** TIETON

Sampling Crew: VETTER/SULKALSKI/KELLY **Vessel Crew:** HINZ/SAUGEN/SCHLIT/TUSCHHOFF

EPA Observer: STIFELMAN/IRVINE(CH) **C.R. Observer:** Oosahwee-Voss

Arrival Time: 0917 **Departure Time:** 1105

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): _____

Wind (mph): <2mph

Clouds/Precipitation: overcast

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____ Boat Traffic: Support boat.

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

- LAL-1 in over 500' of water. Moved East + north based on shore topography. Agreement from all parties for location change.
- AP-1 Drop provided enough sediment but was highly winnowed due to large rock in sample jaws.

C.R. - cultural resources

Field Supervisor Initials: [illegible] Date: 9/8/13

Sample Lead Initials: MW Date: 9/8/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: LAL-1

Anchor Point (max 3) (1) 2 3 Water Depth (feet) 45.30'

Drop # (1) 2 3 Cast Time 0944 Sampler Penetration (inches) -0-

Angle (< 8°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING 418705.15 NORTHING 5492239.22

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Saved. Discarded

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 95 (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass ____

Color: Munsell Color Chart #: 5Y 4/1 Description: dark gray

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: CLAT(R) Tubes: Macrophytes: CLAMS
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No) Sheen Present: (Yes) No

Sample Collected Using: Van Veen X, Eckman ____, Ponar ____, Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %
Split SE Samples (EPA/NPS/CCT):		# Containers: ____	Volume: ____ %
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____ %

Sample Lead Initials MW Date 9/8/13 Field Supervisor Initials [illegible] Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 | Station Identifier: LAL-1

Anchor Point (max 3): (1) 2 3 | Water Depth (feet): 51.1

Drop # 1 (2) 3 | Cast Time: 0948 | Sampler Penetration (inches): <1"

Angle (< 5°max): Yes (No) | Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 418672.41 | NORTHING: 5492260.34

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	~~YES~~ MW	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? Winnowing	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% | Accepted | Rejected

pH of Sediment in Sampler: _____ su | Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #: | Description:

Redox Boundary: Present? Yes No | If present -- Depth Below Sediment Surface (inches):

Odor: None | Hydrogen sulfide | Other: _____

Amphipods: | Tubes: | Macrophytes:
Debris(twigs/leaves) | Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: MW | Date: 9/5/13 | Field Supervisor Initials: DH | Date: 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: LAL-1

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 56'

Drop # 1 2 (3) Cast Time 1002 Sampler Penetration (inches): 3"

Angle (< 5° max) Yes (No) Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 418683.68 NORTHING: 5492270.90

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Debris (twigs/leaves): Rocks Tubes: Other: Macrophytes: CLAMS

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date 9/5/13 Field Supervisor Initials DH Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: LAL-1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 43.4'

Drop # (1) 2 3 Cast Time 1010 Sampler Penetration (inches): None

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 418670.65 NORTHING: 5492243.10

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date: 9/8/13 Field Supervisor Initials DH Date: 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAC-1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 44.50

Drop # (1) 2 3 Cast Time 1013 Sampler Penetration (inches): -0- No sample

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 418669.95 NORTHING: 5492245.56

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials MW Date 9/8/13 Field Supervisor Initials DH Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: LAL-1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 44.8

Drop # 1 2 (3) Cast Time 1015/1014 Sampler Penetration (inches): None

Angle (< 5° max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 418671.55 NORTHING: 5492244.11

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Duplicate SE Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: %
Pore Water (PW) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %

Sample Lead Initials MW Date 9/8/13 Field Supervisor Initials DH Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 | Station Identifier: LAL-1

Anchor Point (max 3): 1 2 (3) | Water Depth (feet): 60.8

Drop # (1) 2 3 | Cast Time 1020 | Sampler Penetration (inches): 9.8"

Angle (< 5°max) Yes No | Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 418638.03 NORTHING: 5492497.99

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 10 % | Accepted (Rejected)

pH of ~~Sediment~~ Water in Sampler: 7.90 su | Description:

Sediment Characteristics

Type: % Silt 80 (<1/16 mm) | % Sand 20 (1/16 - 2 mm) | % Gravel 0 | % Cobbles 0 | % Silica Glass 0

Color: Munsell Color Chart #: 5Y 2.5/1 | Description: BLACK

Redox Boundary: Present? (Yes) No | If present -- Depth Below Sediment Surface (inches): 0.5"

Odor: None Hydrogen sulfide | Other:

Amphipods: | Tubes: | Macrophytes: CLAMS
Debris(twigs/leaves): twigs/wood | Other:

Stratified sediment: Yes (No) | Sheen Present: (Yes) No

Sample Collected Using: Van Veen ____ Eckman ____ Ponar ____ Shovel ____

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab:	103-0353	Time:	1031
Homogenized Sample:	103-0356	Time:	1045
Other: w/overlying water	103-0352	Time:	1026

Sediment (SE) Sample ID:	SE-LAL-1	Time: 1046	# Containers:	7	Volume: 100 %
Duplicate SE Sample ID:		Time:	# Containers:		Volume: %
Split SE Samples (EPA/NPS/CCT):			# Containers:	1	Volume: 100 %
Pore Water (PW) Sample ID:		Time:	# Containers:		Volume: %

Sample Lead Initials: MW Date: 9/8/13 | Field Supervisor Initials: DH Date: 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LAL-1

Date: 9/8/13 **Vessel:** TIETON

Camera Serial #: LUMIX #1

Photo ID: 103-0340 **Time:** 0821	**Photo ID:** 103-0341 **Time:** 0941
Photographer: VETTER	**Photographer:** VETTER
Photo Orientation:	**Photo Orientation:** SOUTH
Description: LAL-1 Identifier	**Description:** Rock wall opposite LAL-1
Photo ID: 103-0342 **Time:** 0841	**Photo ID:** 103-0343 **Time:** 0941
Photographer: VETTER	**Photographer:** VETTER
Photo Orientation: SE	**Photo Orientation:** EAST
Description: Rock out crop at end of rock wall near LAL-1 revised.	**Description:** Shallow inlet north of rock wall.
Photo ID: 103-0344 **Time:** 0941	**Photo ID:** ~~103-0345~~ **Time:** ~~0947~~
Photographer: VETTER	**Photographer:** VETTER
Photo Orientation: NE	**Photo Orientation:**
Description: Shallow inlet NE of LAL-1 revised	**Description:** ~~Rocks in sampler~~
Photo ID: ~~103-0348~~ **Time:** 0953	**Photo ID:** 103-0345 **Time:** 0941
Photographer: ~~VETTER~~	**Photographer:** VETTER
Photo Orientation:	**Photo Orientation:** WEST
Description: ~~Sample at LAL-1 rejected~~	**Description:** WEST SHORE From LAL-1 revised

Field Supervisor Initials DH Date: 9/9/13

Sample Lead Initials MW Date: 9/8/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LAL-1

Date: 9/8/13 **Vessel:** TIETON

Camera Serial #: LUMIX #1

Photo ID: 103-0346 **Time:** 0942	**Photo ID:** 103-0347 **Time:** 0947
Photographer: VETTER	**Photographer:** VETTER
Photo Orientation: NW	**Photo Orientation:**
Description: Shore NW of LAL-1	**Description:** ROCKS AT AP1 Drop 1
Photo ID: 103-0348 **Time:** 0953	**Photo ID:** ~~103-0~~ 103-0349 **Time:** 1004
Photographer: VETTER	**Photographer:** VETTER
Photo Orientation:	**Photo Orientation:**
Description: SEDIMENT from AP1 Drop 2	**Description:** ROCK + SEDIMEN AP1 Drop 3
Photo ID: 103-0350 **Time:** 1010	**Photo ID:** 103-0351 **Time:** 1014
Photographer: VETTER	**Photographer:** VETTER
Photo Orientation:	**Photo Orientation:**
Description: Rock at AP2 Drop 1	**Description:** Rock at AP2 DROP3
Photo ID: 103-0352 **Time:** 1026	**Photo ID:** 103-0353 **Time:** 1031
Photographer: VETTER	**Photographer:** VETTER
Photo Orientation:	**Photo Orientation:**
Description: SEDIMENT AT AP3 Drop 1 w/water Good grab!	**Description:** Good sample after removing overlying water.

Field Supervisor Initials DH Date: 9/9/13

Sample Lead Initials MW Date: 9/8/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LAL-1

Date: 9/8/13 **Vessel:** TIETON

Camera Serial #: LUMIX #1

Photo ID: 103-0354 Time: 1036	Photo ID: 103-0355 Time: 1036
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: CLOGGED PORE WATER STONES	Description: CLOGGED PORE WATER STONES.
Photo ID: 103-0352 Time: 1045	Photo ID: 103-0357 Time: 1117
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation: EAST
Description: HOMOGENIZED SAMPLE @ LAL-1	Description: SHORE WEST OF LAL-1
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials: DH Date: 9/9/13

Sample Lead Initials: MW Date: 9/8/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-2

Date: 9/8/13 **Vessel:** TIETON

Sampling Crew: VETTER/SUGALSKI/KELLY **Vessel Crew:** HINZ/SMIGEN/SCHUT/TSAHHOTFF

EPA Observer: STIFELMAN/IRVINE (CH) **C.R. Observer:** Oosahwee-Voss

Arrival Time: 1126 **Departure Time:** 1340

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): _____

Wind (mph): CALM

Clouds/Precipitation: PTLY CLOUDY

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____ Boat Traffic: Support boat.

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): Cobble beach, stream discharging to lake on east shore.

Sample Location Photo IDs: (see Photo Log for descriptions)

Camera ID: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

- Moved N of LAL-1 for revised LAL2 location 220 M or so.
  - → No sample API Drop 1
  - → API Drop 2 90% organic material
  - → attempted 78 move casts after API Drop 2.

C.R. - cultural resources

~~Sample Lead~~ Field Supervisor Initials MW Date: 9/8/13

~~Sample Lead~~ Initials NDH Date: 9/9/13

Field Supervision

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-2

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 24'

Drop # (1) 2 3 Cast Time 1134 Sampler Penetration (inches): <1" minimal sediment

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 4185547 NORTHING: 5492502.83

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Duplicate SE Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: %
Pore Water (PW) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %

Sample Lead Initials: MW Date: 9/5/13 Field Supervisor Initials: DH Date: 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-2

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 27.5

Drop # 1 (2) 3 Cast Time 1138 Sampler Penetration (inches): 6"

Angle (< 5°max) Yes (No) Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 418537.24 NORTHING: 5492506.79

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? Edges low-middle humped	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	~~Rejected~~

on hold DRH 9/9/13

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of ~~Sediment~~ water in Sampler: 8.05 su Description:

Sediment Characteristics

Type: % Silt + (nw) (<1/16 mm)

% Sand 510 (nw) (1/16 - 2 mm)

% Gravel

% Cobbles

% Silica Glass

Color: Munsell Color Chart #: Description: BLACK

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: None (Hydrogen sulfide) Other:

organics ~~5-10%~~ 90%

Amphipods: Tubes: Macrophytes:

Debris(twigs/leaves): twigs/branches Other:

Stratified sediment: Yes No

Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-036 frm 2 Time: 1145 (nw)
Homogenized Sample: 103036 Time: 1148
Other: Time:

Sediment (SE) Sample ID: SE-LAL-2 Time: 1330 # Containers: 4 (nw) Volume: 100 %

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials: MF Date: 9/8/13 Field Supervisor Initials: DH Date: 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-2

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 52.1'

Drop # 1 2 (3) Cast Time 1217 Sampler Penetration (inches): -0- No sample

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 418523.05 NORTHING: 5492565.16

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Duplicate SE Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume: %
Pore Water (PW) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %

Sample Lead Initials MW Date 9/8/13 Field Supervisor Initials DM Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 62'

Drop # (1) 2 3 Cast Time 1221 Sampler Penetration (inches): 2"

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 418517.00 NORTHING: 5492554.97

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Sand

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using: Van Veen _____ Eckman _____ Ponar _____ Shovel _____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT)				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials MW Date 9/8/13 Field Supervisor Initials DH Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-2

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 62-3

Drop # 1 (2) 3 Cast Time 1230 Sampler Penetration (inches): ~3"

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 418525.80 NORTHING: 5492567.06

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is: mostly organic debris	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand 5% (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____
organic 95%

Color: Munsell Color Chart #: _____ Description: _____

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches): _____

Odor: None Hydrogen sulfide Other: _____

Amphipods: _____ Tubes: _____ Macrophytes: clams
Debris(twigs/leaves): _____ Other: _____

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: _____ Time: _____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials MW Date: 9/8/13 Field Supervisor Initials DH Date: 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 | Station Identifier: LAL-2

Anchor Point (max 3): 1 (2) 3 | Water Depth (feet): 39.4

Drop # 1 2 (3) Cast Time 1242 | Sampler Penetration (inches): 1"

Angle (< 5°max) Yes (No) | Cultural Resources Observed? No Yes

Sample Location: EASTING 418542.85 (NAD_83_UTM_Zone_11_North) NORTHING 5492573.66

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials MW Date: 9/8/13 Field Supervisor Initials DH Date: 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: LAL-2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 26.4

Drop # (1) 2 3 Cast Time 1248 Sampler Penetration (inches): -0-

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: EASTING 418545.79 (NAD_83_UTM_Zone_11_North) NORTHING 5492670.51

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)

% Sand _____ (1/16 - 2 mm)

% Gravel _____

% Cobbles 100'-one rock

% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials MW Date: 9/6/13 Field Supervisor Initials DH Date 9/9/13

Sample ID Format
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-2

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 22.6

Drop # 1 (2) 3 Cast Time 1252 Sampler Penetration (inches): -0-

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING 418549.64 NORTHING 5492665.01

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? All lost.	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials MW Date 9/8/13 Field Supervisor Initials DH Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-2

Anchor Point (max 3) 1 2 (3) Water Depth (feet):

Drop # 1 2 (3) Cast Time 1321 Sampler Penetration (inches) -0- no sample

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: ~~418549.64~~ 418587.31 NORTHING: 5492640.95

ORH 9/9/13

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description:

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials MW Date: 9/8/13 Field Supervisor Initials DH Date: 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LAL-2

Date: 9/8/13 **Vessel:** TIETON

Camera Serial #: LUMIX #1

Photo ID: 103-0358 Time: 1130	Photo ID: 103-0359 Time: 1131
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: LAL-2 page break	Description: Depth finder showing bottom Left - leaving shore toward W Right - approaching shore toward E
Photo ID: 103-0360 Time: 1132	Photo ID: 103-0361 Time: 1137
Photographer: VETTER	Photographer: VETTER
Photo Orientation: EAST	Photo Orientation:
Description: Stream entering lake just South of LAL-2	Description: rocks from API Drop1
Photo ID: 103-0362 Time: 1145	Photo ID: 103-0363 Time: 1145
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: Sample at API Drop2 mounded sand	Description: Organic matter/debris protruding from sampler at API-Drop 2
Photo ID: 103-0364 Time: 1148	Photo ID: 103-0365 Time: ~~1148~~ 1219
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: Organic debris in tub	Description: Minimal Sample at API Drop 3

Field Supervisor Initials: DA Date: 9/9/13

Sample Lead Initials: MW Date: 9/8/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LAL-2

Date: ~~LUMIX #1~~ (MW) 9/8/13 **Vessel:** TIETON

Camera Serial #: LUMIX #1

Photo ID: 103-0366	Time: 1223	Photo ID: 103-0367	Time: 1235
Photographer: VETTER		Photographer: VETTER	
Photo Orientation:		Photo Orientation:	
Description: Minimal sample retrieved @ AP2 Drop 1		Description: Organic debris @ AP2 Drop 2.	
Photo ID: 103-0368	Time: 1244	Photo ID: 103-0371	Time: 1250
Photographer: VETTER		Photographer: VETTER	
Photo Orientation:		Photo Orientation:	
Description: rock @ AP2 Drop 3 rejected sample		Description: LARGE Rock @ AB3 Drop 1	
Photo ID: 103-0369	Time: 1247	Photo ID: 103-0370	Time: 1250
Photographer: VETTER		Photographer: VETTER	
Photo Orientation: South east		Photo Orientation:	
Description: Slump near LAL2		Description: Inadvertant photo	
Photo ID: 103-03~~70~~71 DRH 9/9/13	Time: 1323	Photo ID:	Time:
Photographer: Vetter		Photographer:	
Photo Orientation:		Photo Orientation:	
Description: Rock caught in side edge of sampler.		Description:	

out of sequence

Field Supervisor Initials WH Date: 9/9/13

Sample Lead Initials MW Date: 9/8/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-3

Date: 9/8/13 **Vessel:** TIETON

Sampling Crew: VEITER/SUCHESKI/KELLY **Vessel Crew:** HINZ/SMITH/SCHUT/~~TSCHU~~ Tuschhoff

EPA Observer: SITTELMAN/IRVING (CM) **C.R. Observer:** OOsahwee-Voss

Arrival Time: 1345 **Departure Time:** 1606

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): _____
Wind (mph): CALM
Clouds/Precipitation: PARTLY CLOUDY

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____ Boat Traffic: SUPPORT BOAT

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes No
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Steep outcrops North + South
Logging rails along gravelly shore east of LAL-3

Sample Location Photo IDs: SEE LOG
(see Photo Log for descriptions) Camera ID: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

- LOGGING RAILS EAST OF LAL 3 at shore.
- Sample collected near shore due to steep drop offs.
- took 10 attempts (MW) to get required sample volume need to fill all containers

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/9/13

Sample Lead Initials MW Date: 9/8/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: LAL-3

Anchor Point (max 3) (1) 2 3 Water Depth (feet) 19'

Drop # (1) 2 3 Cast Time _____ Sampler Penetration (inches) -0- rock

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING 418373.18 NORTHING 5493663.09

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date 9/6/13 Field Supervisor Initials DA Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 | Station Identifier: LNL-2 (NW) 3

Anchor Point (max 3): (1) 2 3 | Water Depth (feet): 16'

Drop #: 1 (2) 3 | Cast Time: 1355 | Sampler Penetration (inches): 5"

Angle (< 5° max): Yes (No) | Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 418377.99 NORTHING: 5493669.97

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

need more volume

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % | Accepted (Rejected)

pH of ~~Sediment~~ water in Sampler: 8.52 su | Description:

Sediment Characteristics

Type: % Silt 10 (<1/16 mm) | % Sand 65 (1/16 - 2 mm) | % Gravel 25 | % Cobbles 0 | % Silica Glass 0

Color: Munsell Color Chart # 10YR 4/3 | Description: BROWN

Redox Boundary: Present? Yes (No) | If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide | Other:

Amphipods: | Tubes: | Macrophytes:
Debris (twigs/leaves): | Other:

Stratified sediment: Yes (No) | Sheen Present: Yes (No)

Sample Collected Using: Van Veen X | Eckman | Ponar | Shovel

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab:	103-0379	Time:	1358
Homogenized Sample:	103-0356	Time:	1536
Other:	103-0357	Time:	1543

Sediment (SE) Sample ID:	SE-LNL-3	Time: 1536	# Containers: 7	Volume: 100	%
Duplicate SE Sample ID:	MUD0001	Time: 1536	# Containers: 4	Volume: 100	%
Split SE Samples (EPA/NPS/CCT):			# Containers:	Volume:	%
Pore Water (PW) Sample ID:		Time:	# Containers:	Volume:	%

Sample Lead Initials: MW Date: 9/5/13 | Field Supervisor Initials: DH Date: 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-3

Anchor Point (max 3) (1) 2 3 **Water Depth (feet):** 81

Drop # 1 2 (3) **Cast Time** 1420 **Sampler Penetration (inches):** -0- rock

Angle (< 5°max) Yes No **Cultural Resources Observed?** No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING 418 354.84 NORTHING 5493636.02

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channelling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su **Description:** _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date 9/8/13 Field Supervisor Initials DN Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: LAL-3

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 71

Drop # (1) 2 3 Cast Time 1223 Sampler Penetration (inches): <1"

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING 418371.03 NORTHING 5493643.06

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using: Van Veen X; Eckman ____; Ponar ____; Shovel ____

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date 9/8/13 Field Supervisor Initials DH Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-3

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 10'

Drop # 1 (2) 3 Cast Time 1427 Sampler Penetration (inches): 4"

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 418352.62 NORTHING: 5493728.24

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected need more volume.

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted (Rejected)

pH of ~~Sediment~~ Water in Sampler: 8.95 su Description:

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 60 (1/16 - 2 mm)
% Gravel 35
% Cobbles 0
% Silica Glass: 0

Color: Munsell Color Chart #: 10YR 4/3 Description: BROWN

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0352 Time: 1429
Homogenized Sample: 103-0356 Time: 1536
Other: 103-0357 Time: 1543

Sediment (SE) Sample ID: SE-LAL-3 Time: 1536 # Containers: 7 Volume: 100 %

Duplicate SE Sample ID: MUD0001 Time: 1536 # Containers: 4 Volume: 100 %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials MW Date 9/5/13 Field Supervisor Initials DH Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAC-3

Anchor Point (max 3): 1 (2) 3 Water Depth (feet): 10.0'

Drop # 1 2 (3) Cast Time 1442 Sampler Penetration (inches): -0- no recovery rock

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 4183 23.51 NORTHING: 5493 716.27

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MV Date 9/8/13 Field Supervisor Initials DH Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: LAL-3

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 10.4

Drop # (1) 2 3 Cast Time 1446 Sampler Penetration (inches): -0- rock in sampler

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 4183205 NORTHING: 5493720.5

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date 9/8/13 Field Supervisor Initials DH Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: LAL-3

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 7'

Drop # 1 (2) 3 Cast Time 1451 Sampler Penetration (inches): no recovery - 0 - rocks

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 4163 79.48 NORTHING: 549 3661.36

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date 9/5/13 Field Supervisor Initials DH Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 | Station Identifier: LAL-3

Anchor Point (max 3): 1 2 (3) | Water Depth (feet): 7'

Drop # 1 2 (3) Cast Time 1500 | Sampler Penetration (inches): 3 - 7"

Angle (< 5°max) Yes (No) | Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING 418376.28 NORTHING 5493643.62

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of ~~Sediment~~ Water in Sampler: no water su Description:

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 50 (1/16 - 2 mm)
% Gravel 35
% Cobbles 10
% Silica Glass 0

Color: Munsell Color Chart # 10YR 4/3 Description: BROWN

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No) | Sheen Present: Yes (No)

Sample Collected Using: Van Veen X, Eckman, Ponar, Shovel

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab:	103-0355	Time: 1503
Homogenized Sample:	103-0356 (W)	Time: 1536
Other:	103-0357	Time: 1543

Sediment (SE) Sample ID:	SE-LAL-3	Time: 1536	# Containers: 7	Volume: 100	%
Duplicate SE Sample ID:	MH00001	Time: 1536	# Containers: 4	Volume: 100	%
Split SE Samples (EPA/NPS/CCT):			# Containers:	Volume:	%
Pore Water (PW) Sample ID:		Time:	# Containers:	Volume:	%

Sample Lead Initials MW Date 9/8/13 Field Supervisor Initials JA Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-3

Anchor Point (max 3) 1 2 3 4 Water Depth (feet): 7.1'

Drop # (1) 2 3 Cast Time 1521 Sampler Penetration (inches): 5.5"

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 418379.62 NORTHING: 5493652.97

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 60 (1/16 - 2 mm)
% Gravel 35
% Cobbles 0
% Silica Glass: 0

Color: Munsell Color Chart #: 5YR 4/3 Description: BROWN

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0385 Time: 1524
Homogenized Sample: 103-0386 Time: 1536
Other: 103-0387 Time: 1543

Sediment (SE) Sample ID: SE-LAL-3 Time: 1536 # Containers: 7 Volume: 100 %

Duplicate SE Sample ID: MUD0001 Time: 1536 # Containers: ~~4~~ 4 Volume: 100 %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date 9/8/13 Field Supervisor Initials BA Date 9/9/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LAL-3

Date: 9/8/13 **Vessel:** TIETON

Camera Serial #: LUMIX #1

Photo ID: 103-0374 Time: 1344	Photo ID: 103-0375 Time: 1344
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation: South
Description: LAL-3 page break	Description: 150' deep water a logs
Photo ID: 103-0376 Time: 1349	Photo ID: 103-0377 Time: 1349
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: OBSERVER BOAT	Description: OBSERVER BOAT
Photo ID: 103-0378 Time: 1350	Photo ID: 103-0379 Time: 1358
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: Rock @ API Drop 1 in sampler	Description: recovered sample at API Drop 2
Photo ID: 103-0380 Time: 1401	Photo ID: 103-0381 Time: 1422
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: SIEVING SAMPLE	Description: Rock in sampler

Field Supervisor Initials: DH Date: 9/9/13

Sample Lead Initials: MW Date: 9/8/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LAL-3

Date: 9/8/13 **Vessel:** TIETON

Camera Serial #: LUMIX #1

Photo ID: 103-0382 Time: 1429	Photo ID: 103-0383 Time: 1444
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: Recovered material at AP2 Drop 2	Description: Rock in side of sampler.
Photo ID: 103-0384 Time: 1503	Photo ID: 103-0385 Time: 1524
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: Recovered material AP3 Drop 3.	Description: Recovered Material @ AP4 Drop 1
Photo ID: 103-0386 Time: 1536	Photo ID: 103-0387 Time: 1543
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: COMPOSITED MATERIAL OF LAL-3 SAMPLE SEDIMENT	Description: COMPOSITED MATERIAL OF LAL-3 SAMPLE SEDIMENT DURING COLLECTION FOR 5 GALLON BUCKETS
Photo ID: 103-0388 Time: 1554	Photo ID: Time:
Photographer: VETTER	Photographer:
Photo Orientation:	Photo Orientation:
Description: COLLECTION OF RINSEATE BLANK	Description:

Field Supervisor Initials: OK Date: 9/9/13

Sample Lead Initials: MW Date: 9/8/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-4

Date: 9/7/13 **Vessel:** TIETON

Sampling Crew: Sugalski / Kelly / Vetter **Vessel Crew:** HINZ / SMUDEN / TUSCHHOFF / SCHUT

EPA Observer: MARK STIFELMAN **C.R. Observer:** ERIC OOSAHWEE-VOSS
CAMERON IRVINE (CH)

Arrival Time: 0934 **Departure Time:** 1132

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): _____
Wind (mph): _____
Clouds/Precipitation: OVERCAST

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____ Boat Traffic: SUPPORT BOAT

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)
BEACH ON NE SIDE OF SAMPLE. LARGE ROCK ON BEACH. OLD BOAT LAUNCH ID'd by rock piles

Sample Location Photo IDs:
(see Photo Log for descriptions)
Camera ID: LUMIX #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:
NOT ENOUGH VOLUME @ 6" to fill bulk sample containers. Returned to Anchor Point 1 Drop ~~EAST~~ 3. This next location (Cre-grab) is Anchor point 2 Drop 1. Retrieved 6" again will combine w/ previous material to obtain enough volume. Recollected sediment chemistry samples. Disposed of old by compositing into bulk samples.

C.R. - cultural resources

~~Field Supervisor~~ Supervisor Initials MW Date: 9/7/13

~~Sample Lead~~ Field Supervison Initials DK Date: 9/8/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

9/7/13

Project Number: 36310189 **Station Identifier:** LAL-4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 25.9'

Drop # (1) 2 3 Cast Time 0946 Sampler Penetration (inches): No sample

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location:
Latitude: 546685(1-X) N Longitude: 435078.23 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	NO NA
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES.	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MV Date: 9/7/13 Field Supervisor Initials DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 38.8

Drop # 1 (2) 3 Cast Time 0952 Sampler Penetration (inches): 6"

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location:
Latitude: 5466779.75 N Longitude: 435759.03 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? WINNOWING	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description: 2.5Y 3/1

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None (Hydrogen sulfide)
Other: ____

Amphipods: Debris (twigs/leaves): TW16-5 Tubes: Other: Macrophytes:

Stratified sediment: Yes (No) Sheen Present: (Yes) No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Sample Lead Initials MW Date: 9/2/13 Field Supervisor Initials DM Date: 9/5/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-4

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 16.2

Drop # 1 2 (3) Cast Time 1006 Sampler Penetration (inches): 6"

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: Latitude: 52 66831.88 N Longitude: 43 5125.49 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: overlying H2O 8.46 su Description:

Sediment Characteristics

Type: % Silt 20% (<1/16 mm)
% Sand 74% (1/16 - 2 mm)
% Gravel 5%
% Cobbles 1%
% Silica Glass: —

Color: Munsell Color Chart #: Description: 2.5 Y 3/1

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: (None) (NW) Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes: CLAMS
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: (Yes) No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0313 Time: 1013
Homogenized Sample: 103-0317 Time: 1109
Other: Time:

Sediment (SE) Sample ID: ~~SE-LAL-4~~ Time: ~~1027~~ # Containers: ~~4~~ Volume: ~~1500~~ %

VOIDED SE AP 2 Drop3 Page 4 of 4 (NW)

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: PW-LAL-4 Time: 1021 # Containers: 3 Volume: 100 %

Sample Lead Initials NW Date: 9/7/13 Field Supervisor Initials DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-4

Anchor Point (max 3): ~~1~~ MW (2) 3 Water Depth (feet): 17.2

Drop # (1) 2 3 Cast Time 1047 Sampler Penetration (inches): 6"

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: Latitude: 5246832.57 Longitude: 435780.52

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.17 su (overlying water) Description:

Sediment Characteristics

Type: % Silt 20% (<1/16 mm)
% Sand 74 (1/16 - 2 mm)
% Gravel 5%
% Cobbles 1%
% Silica Glass: —

Color: Munsell Color Chart #: Description: 2.5Y 2.5/1 Black

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: None (Hydrogen sulfide) Other:

Amphipods: Tubes: Macrophytes: CLMMS
Debris(twigs/leaves): twigs Other:

Stratified sediment: Yes No
Sheen Present: (Yes) No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0316 Time: 1049
Homogenized Sample: 103-0317 Time: 1109
Other: Time:

Sediment (SE) Sample ID: SE-LAL-4 Time: 1112 # Containers: 7 Volume: 100 %

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LAL-4

Date: 9/7/13 **Vessel:** TETON

Camera Serial #: LUMIX #1

Photo ID: 103-0308 **Time:** 0940	**Photo ID:** 10330309 **Time:** 0948
Photographer: VETTER	**Photographer:** VETTER
Photo Orientation: NE	**Photo Orientation:** SAMPLER DEVICE-DOWN
Description: SHORE of LARGE ROCK.	**Description:** Minimal sample in device
Photo ID: 103-310 **Time:** 0954	**Photo ID:** 103-0311 **Time:** 0957
Photographer: VETTER	**Photographer:** VETTER
Photo Orientation:	**Photo Orientation:**
Description: ROCK IN SAMPLE	**Description:** RECOVERED SAMPLE - REJECTED
Photo ID: 103-0312 **Time:** 1008	**Photo ID:** 103-0313 **Time:** 1013
Photographer: KELLY	**Photographer:** VETTER
Photo Orientation: DOWN	**Photo Orientation:** DOWN
Description: RECOVERED SAMPLE IN DEVICE W/ OVERLYING WATER.	**Description:** RECOVERED SAMPLE IN DEVICE
Photo ID: 103-0314 **Time:** 1027	**Photo ID:** 103-0315 **Time:** 1048
Photographer: VETTER	**Photographer:** VETTER
Photo Orientation: DOWN	**Photo Orientation:**
Description: TUB CONTAINING AP1 DROP 3 Material	**Description:** RETRIEVING GRAB AT AP2 DROP 1

Field Supervisor Initials DH Date: 9/8/13

Sample Lead Initials MW Date: 9/7/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LAL-4

Date: 9/7/13 **Vessel:** TIETON

Camera Serial #: LUMIX #1

Photo ID: 103-0316 Time: 1049	Photo ID: 103-0317 Time: 1109
Photographer: VETER	Photographer: VETER
Photo Orientation:	Photo Orientation:
Description: RETAINED MATERIAL IN GRAB AP2 DROP 1	Description: HOMOGENIZED SEDIMENT PRIOR TO COLLECTING SAMPLES
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials AH Date: 9/9/13

Sample Lead Initials MW Date: 9/7/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-5

Date: 9/7/13 **Vessel:** TIETON

Sampling Crew: SUGALSKI VETTER KELLY **Vessel Crew:** HINZ SAGLON SCHUT, Tuschhoff

EPA Observer: CAM IRVINE/STIFELMAN **C.R. Observer:** ERIC Oosahwee-Voss

Arrival Time: 1138 **Departure Time:** 1230

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): _____

Wind (mph): CALM

Clouds/Precipitation: OVERCAST

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____ Boat Traffic: SUPPORT BOAT

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

PLAYGROUND + BEACH ACCESS ON NE SHORE (from location)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

API Drop 1 - no sample retrieved. Hit large rock.

API Drop 2 - good sample; no pore water, EPA split.

C.R. - cultural resources

~~Sample Lead~~ Field Supervisor Initials MV Date: 9/7/13

~~Sample Lead~~ Initials DH Date: 9/8/13

Field Supervisor

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-5

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 53.5

Drop # (1) 2 3 Cast Time 1143 Sampler Penetration (inches): No Sample

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: Latitude: 521653.56 Longitude: 435169.77

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? -All -none in sampler.	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-5

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 66.3

Drop # 1 (2) 3 Cast Time _____ Sampler Penetration (inches): 8 11

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location:
Latitude: 5246554.90 Longitude: 435187.02 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 0 % Accepted (Rejected)

pH of SCMTER Sediment in Sampler: 8.10 su Description: Clogged stones no water recovered.

Sediment Characteristics

Type: % Silt 75% (<1/16 mm)
% Sand 25% (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: overlying 2.5Y 5/3 - dark olive brown
below redox 5Y 5/1 gray

Redox Boundary: Present? (Yes) No
If present – Depth Below Sediment Surface (inches): 0.25"

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: (Yes) No

Sample Collected Using
Van Veen Y
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0322+ Time: 1158
Homogenized Sample: 103-0325 Time: 1218
Other: REDOX ZONE Time: 1209

Sediment (SE) Sample ID: SE-LAL-5 Time: 1218 # Containers: 7 Volume: 100% %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: 1 Volume: _____ %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LA-L-5

Date: 9/7/13 **Vessel:** TIETON

Camera Serial #: LUMIX #1

Photo ID: 103-0318 Time: 1131	Photo ID: 103-0319 Time: 1142
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation: NE toward shore
Description: LA-L-5 Sign	Description: Playground across from sample area.
Photo ID: 103-0320 Time: ~~1143~~ 1150	Photo ID: 103-0322 Time: 1158
Photographer: VETTER	Photographer: KELLY
Photo Orientation:	Photo Orientation:
Description: RETRIEVAL OF API DROP 2	Description: SEDIMENT IN SAMPLER
Photo ID: 103-0323 Time: 1209	Photo ID: 103-0324 Time: 1214
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: REDOX ZONE	Description: HOMOGENIZING SAMPLE
Photo ID: 103-0325 Time: 1218	Photo ID: Time:
Photographer: VETTER	Photographer:
Photo Orientation:	Photo Orientation:
Description: HOMOGENIZED MATERIAL	Description:

Field Supervisor Initials: DA Date: 9/8/13

Sample Lead Initials: MW Date: 9/7/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-6

Date: 9/7/13 **Vessel:** TIETON

Sampling Crew: VETTER/SUGALSKI/KELCH **Vessel Crew:** Shawn Hinz, Steve Sawyer, J Schut, C Tuschhoff

EPA Observer: CAM IRVINE/MARC STIFELMAN **C.R. Observer:** Eric Oosahwee-Voss

Arrival Time: 1312 **Departure Time:** ~~1556~~ 1536

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): _____

Wind (mph): CALM TO <5 mph

Clouds/Precipitation: OVERCAST

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: _____ Boat Traffic: SUPPORT BOAT

PADDLE WHEEL BOAT

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

CAMPGROUND ON NE S, site is SE of playground.

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: LUMIX #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

AP1 Drop 1 5" sediment recovered. Placed in tub. Will collect additional material & combine for good sample volume.

AP3 Drop 1 1.5" sediment at one end 4" at the other. Pore water collected.

Sediments combined from AP1 Drop 1 + AP3 Drop 1. Not enough for sediment samples.

Retrieved final amount of sample from AP4 Drop 1

C.R. - cultural resources

Field Supervisor Initials ~~MV~~ DH Date: ~~9/7/13~~ 9/8/13

Sample Lead Initials MV Date: 9/7/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 37.5

Drop # (1) 2 3 Cast Time 1316 Sampler Penetration (inches): 5"

Angle (< 5°max) Yes (No) Cultural Resources Observed? (No) Yes

Sample Location:
Latitude: 5466502.77 N Longitude: 435323.12 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted (Rejected)

pH of ~~Sediment~~ Water in Sampler: 7.37 su Description:

Sediment Characteristics

Type: % Silt 30% (<1/16 mm)

% Sand 70% (1/16 - 2 mm)

% Gravel —

% Cobbles —

% Silica Glass: —

Color: Munsell Color Chart #:
Description: 2.5Y 3/1 very dark gray (see page 10) (MU)

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 0.25"

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes: CCAMS
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: (Yes) No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0329 Time: 1325
Homogenized Sample: 103-0338 Time: 1507
Other: Time:

Sediment (SE) Sample ID: see pg 10 Time: # Containers: Volume: %

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LIA-L-6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 39.4

Drop # 1 (2) 3 Cast Time ~~1346~~ MW 1330 Sampler Penetration (inches): None / Unknow

Angle (< 5°max) Yes (No) Cultural Resources Observed? (No) Yes

Sample Location:
Latitude: 546642.34 N Longitude: 435347.26 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater
Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: / Description:

Redox Boundary: Present? Yes No / If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide / Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____	%
Duplicate SE Sample ID: _____	Time: _____	# Containers: _____	Volume: _____	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____	%

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials DH Date: 9/9/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-6

Anchor Point (max 3) (1) 2 3 **Water Depth (feet):** 43.2

Drop # 1 2 (3) Cast Time 1336 **Sampler Penetration (inches):** 0 4"

Angle (< 5°max) Yes (No) **Cultural Resources Observed?** (No) Yes

Sample Location:
Latitude: 5466472.58 N Longitude: 435363 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 09-0331 Time: 1336
Homogenized Sample: _____ Time: _____
Other: Time: _____

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: LAL-6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 43.2

Drop # (1) 2 3 Cast Time 1343 Sampler Penetration (inches): None

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: Latitude: 5466460.51 N Longitude: 435302.81 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)

% Sand _____ (1/16 - 2 mm)

% Gravel _____

% Cobbles _____

% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen _____
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: _____ Time: _____
Homogenized Sample: _____ Time: _____
Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials ~~9/9/13~~ DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 43.1'

Drop # 1 (2) 3 Cast Time 1357 Sampler Penetration (inches): No sample

Angle (< 5°max) Yes (No) Cultural Resources Observed? (No) Yes

Sample Location: Latitude: 5466494.53 N Longitude: 435312.69 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)

% Sand _____ (1/16 - 2 mm)

% Gravel _____

% Cobbles _____

% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:

Debris(twigs/leaves): Other:

Stratified sediment: Yes No

Sheen Present: Yes No

Sample Collected Using

Van Veen _____

Eckman _____

Ponar _____

Shovel _____

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: _____ Time: _____

Homogenized Sample: _____ Time: _____

Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials LDH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 40 ft

Drop # 1 2 (3) Cast Time 1405 Sampler Penetration (inches): No sample

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: Latitude: 435300.62 E Longitude: 5476500.57 N

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)

% Sand _____ (1/16 - 2 mm)

% Gravel _____

% Cobbles _____

% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:

Debris(twigs/leaves): Other:

Stratified sediment: Yes No

Sheen Present: Yes No

Sample Collected Using

Van Veen _____

Eckman _____

Ponar _____

Shovel _____

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: _____ Time: _____

Homogenized Sample: _____ Time: _____

Other: Time: _____

Sediment (SE) Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %
Duplicate SE Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	_____ %
Pore Water (PW) Sample ID:	_____	Time:	_____	# Containers:	_____	Volume:	_____ %

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-6

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 38.8

Drop # (1) 2 3 Cast Time 1410 Sampler Penetration (inches): 1.5" to 4"

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location:
Latitude: 5466508.80 N Longitude: 435323.12 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES (NO)
2. Overlying water present? (YES) NO
3. Overlying water excessively turbid? YES (NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? (YES) NO
5. Minimum sampler penetration depth (6 inches) obtained? YES (NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES (NO)
7. Sample is: (Accepted) Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of ~~Sediment~~ Water in Sampler: 7.68 su Description:

Sediment Characteristics

Type: % Silt 30 (<1/16 mm)
% Sand 70 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None (Hydrogen sulfide)
Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: (Yes) No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0333 Time: 1421
Homogenized Sample: 103-0338 Time: 1507
Other: Time:

Sediment (SE) Sample ID: SE-LAL-6 Time: SEEpg 10 # Containers: Volume: %

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: PW-LAL-6 Time: 1429 # Containers: 3 Volume: ~~100~~ 97 % MU

Sample Lead Initials MU Date: 9/7/13 Field Supervisor Initials DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-6

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 28.8

Drop # 1 (2) 3 Cast Time 1448 Sampler Penetration (inches): 0 - Rock in sampler

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location: Latitude: 46 52 58.1 N Longitude: 435324.76 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)

% Sand _____ (1/16 - 2 mm)

% Gravel _____

% Cobbles _____

% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:

Debris(twigs/leaves): Other:

Stratified sediment: Yes No

Sheen Present: Yes No

Sample Collected Using

Van Veen _____

Eckman _____

Ponar _____

Shovel _____

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: _____ Time: _____

Homogenized Sample: _____ Time: _____

Other: Time:

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____ %

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-6

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 28.5

Drop # 1 2 (3) Cast Time 1452 Sampler Penetration (inches): 0 - Rock

Angle (< 5°max) Yes (No) Cultural Resources Observed? No Yes

Sample Location: Latitude: 546523.07 N Longitude: 435332.99E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)

% Sand _____ (1/16 - 2 mm)

% Gravel _____

% Cobbles _____

% Silica Glass: _____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: _____

Amphipods: Tubes: Macrophytes:

Debris(twigs/leaves): Other:

Stratified sediment: Yes No

Sheen Present: Yes No

Sample Collected Using

Van Veen _____

Eckman _____

Ponar _____

Shovel _____

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: _____ Time: _____

Homogenized Sample: _____ Time: _____

Other: Time:

Sediment (SE) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Duplicate SE Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %
Split SE Samples (EPA/NPS/CCT):		# Containers: _____	Volume: _____ %
Pore Water (PW) Sample ID: _____	Time: _____	# Containers: _____	Volume: _____ %

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials DH Date: 9/8/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** LAL-6

Anchor Point (max 3) 1 2 3 (4) Water Depth (feet): 32.5

Drop # (1) 2 3 Cast Time 1454 Sampler Penetration (inches): 1" 3.5"

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: Latitude: 546509.90 N Longitude: 435631 E

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 0 % Accepted Rejected

pH of ~~Sediment~~ water in Sampler: 7.54 su Description:

Sediment Characteristics

Type: % Silt 30% (<1/16 mm)

% Sand 70% (1/16 - 2 mm)

% Gravel —

% Cobbles —

% Silica Glass: —

Color: Munsell Color Chart #: 2.5Y 3/1 Description:

Redox Boundary: Present? (Yes) No If present -- Depth Below Sediment Surface (inches): 0.25

Odor: None (Hydrogen sulfide) Other:

Amphipods: Tubes: Macrophytes:

Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)

Sheen Present: (Yes) No

Sample Collected Using

Van Veen 4

Eckman

Ponar

Shovel

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: 103-0337 Time: 1501

Homogenized Sample: 103-0338 Time: 1507

Other: Time:

Sediment (SE) Sample ID: SE-LAL-6 Time: 1509 # Containers: 7 Volume: 100 %

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials MW Date: 9/7/13 Field Supervisor Initials AM Date: 9/9/13

Sample ID Format:
SE-1-C2-C: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2-B: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** LAL-6

Date: 9/7/13 **Vessel:** TIETON

Camera Serial #: LUMIX #1

Photo ID: 103-0326 Time: 1253	Photo ID: 103-0327 Time: 1312
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation: NE
Description: LAL-6 Sign (Photo break)	Description: Shore + campground SE of playground.
Photo ID: 103-0328 Time: 1318	Photo ID: 103-0329 Time: 1325
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: RETRIEVED LAL-6 material with overlying water	Description: Retrieved sample after siphoning water off top.
Photo ID: 103-0330 Time: 1331	Photo ID: 103-0331 Time: 1336
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: ROCK IN SAMPLER OR API Drop 2	Description: Rejected material API Drop 3
Photo ID: 103-0332 Time: 1418	Photo ID: 103-0333 Time: 1421
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: Siphoning water from AP3 Drop 1	Description: SEDIMENT IN GRAB AP3 Drop 1.

Field Supervisor Initials DH Date: 9/8/13

Sample Lead Initials MW Date: 9/7/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: LAL-6

Date: 9/7/13 Vessel: TILTON

Camera Serial #: LUMIX #1

Photo ID: 103-0334 Time: 1444	Photo ID: 103-0335 Time: 1450
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: Rock AT AP3 Drop 2 Shekin sampler.	Description: Rock at AP3 Drop 3.
Photo ID: 103-0336 Time: 1454	Photo ID: 103-0337 Time: 1501
Photographer: VETTER	Photographer: VETTER
Photo Orientation:	Photo Orientation:
Description: SAMPLE w/overlying water ~~Drop~~ AP4 Drop 1	Description: Sample material
Photo ID: 103-0338 Time: 1507	Photo ID: Time:
Photographer: VETTER	Photographer:
Photo Orientation:	Photo Orientation:
Description: Homogenized material for LAL-6	Description:
Photo ID: Time:	Photo ID: Time:
Photographer:	Photographer:
Photo Orientation:	Photo Orientation:
Description:	Description:

Field Supervisor Initials DH Date: 9/8/13

Sample Lead Initials MW Date: 9/7/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** REF-1

Date: 10-04-13 **Vessel:** TIETON

Sampling Crew: GP, OB, DC **Vessel Crew:** STEVE, JEFF, MIKE

EPA Observer: MONICA TONEL **C.R. Observer:** ERIC OO SAHWEE VOSS

Arrival Time: 1045 **Departure Time:** 1300

River Stage:
Water Surface Elev. (ft): _____
Water Surface Elevation Source: _____

Weather Conditions Upon Arrival
Temp (°F): 55
Wind (mph): LIGHT
Clouds/Precipitation: CLEAR

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 699 Boat Traffic: NONE

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.): VERT. WALLS OF SEDIMENT

Sample Location Photo IDs: (see Photo Log for descriptions)

Camera ID: Lumix #1

Photo ID: 103-0722	Time: 1059	Photo ID: 103-0723	Time: 1107
Photo ID: 103-0724	Time: 1138	Photo ID: 103-0725	Time: 1150

General Notes:

103-0722-1059 - Drop #3 - RETRIEVED.
4TH Grab Volume insufficient for Sample -
8TH Grab Volume completes the Sample - Both are composited.
0723 - Incomplete Core
0724 - Incomplete Core
0725 - Sed in Grab 8
0726 - pore water Sample 1200
0727 - Homogenizing Sample 1240
0728 - Homogenized Sample 1244
0729 - Signed NPS COC Split Sample 1257

C.R. - cultural resources

Field Supervisor Initials: OH Date: 10/6/13

Sample Lead Initials: GP Date: 100413

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** REF-1

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 64

Drop #: (1) 2 3 Cast Time: 1046 Sampler Penetration (inches): DID NOT CLOSE

Angle (< 5°max): (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 416074.73 NORTHING: 5380814.95

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Minimum sampler penetration depth (6 inches) obtained?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____ % Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers's (see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (~~EPA/NPS/CCT~~):		# Containers: ____	Volume: ____	%
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials: GP Date: 10/4/13 Field Supervisor Initials: DH Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: REF-1

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 63

Drop # 1 (2) 3 Cast Time 1050 Sampler Penetration (inches): DID NOT CLOSE

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: EASTING: 416071.70 (NAD_83_UTM_Zone_11_North) NORTHING: 5380816.74

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe Filled: ____ % Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (< 1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: ____ Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using: Van Veen ____ Eckman ____ Ponar ____ Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT):		# Containers: ____	Volume: ____	%
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials GP Date 100413 Field Supervisor Initials DH Date 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** REF-1

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 55

Drop # 1 2 (3) Cast Time: ~~Grab~~ 1050 Sampler Penetration (inches): ?

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 416079.37 NORTHING: 5380837.15

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Minimum sampler penetration depth (6 inches) obtained?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____ % Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0722 Time: 1059
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Duplicate SE Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID: ____	Time: ____	# Containers: ____	Volume: ____	%

Sample Lead Initials: SP Date: 100413 Field Supervisor Initials: DH Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** REF-1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 56

Drop # (1) 2 3 Cast Time 1102 Sampler Penetration (inches): 6.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 416083.76 NORTHING: 5380854.11

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.37 su Description:

Sediment Characteristics

Type: % Silt +80 (<1/16 mm)
% Sand 15 (1/16 - 2 mm)
% Gravel 5
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #:
Description: 10Y 2/1

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 0.5

Odor: None (Hydrogen sulfide)
Other:

Amphipods: YES Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0123 Time: 1107
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID: Time: # Containers: Volume: %

Duplicate SE Sample ID: Time: # Containers: Volume: %

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: Time: # Containers: Volume: %

Sample Lead Initials: [illegible] Date: 100413 Field Supervisor Initials: DH Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Ref-1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 55

Drop # 1 (2) 3 Cast Time 1130 Sampler Penetration (inches): DID NOT CLOSE

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 416046.83 NORTHING: 5380823.73

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: GLEY 1
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%
Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____%
Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Sample Lead Initials GR Date: 10413 Field Supervisor Initials AH Date: 10/4/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** REF-1

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 54

Drop # 1 2 (3) Cast Time 1132 Sampler Penetration (inches): ——

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 416084.09 NORTHING: 5380867.38

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is: ROCKS IN JAWS	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____ % ~~Accepted~~ ~~Rejected~~

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0724 Time: 1138
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ ~~Volume:~~ ____ %
Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %
Split SE Samples (EPA/NPS/CCT): ____ # Containers: ____ Volume: ____ %
Pore Water (PW) Sample ID: ____ Time: ____ ~~# Containers:~~ ____ Volume: ____ %

Sample Lead Initials GP Date: 10/4/13 Field Supervisor Initials DH Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** REF-1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 44

Drop # (1) 2 3 Cast Time 1141 Sampler Penetration (inches):

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 416072.11 NORTHING: 5380863.25

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is: ROCK IN JAWS	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description:

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other:

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: Time:
Homogenized Sample: Time:
Other: Time:

Sediment (SE) Sample ID:	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials CP Date: 100413 Field Supervisor Initials DH Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** REF-1

Anchor Point (max 3) 1 2 (3) Water Depth (feet): 56

Drop # 1 (2) 3 Cast Time 1149 Sampler Penetration (inches): 9.5

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: EASTING: 411670.06 {NAD_83_UTM_Zone_11_North} NORTHING: 5390804.48

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.35 su Description:

Sediment Characteristics

Type: % Silt +85 (<1/16 mm)

% Sand 10 (1/16 - 2 mm)

% Gravel 5

% Cobbles

% Silica Glass:

Color: Munsell Color Chart #: GLEY-1 Description: 10Y 2.5/1

Redox Boundary: Present? (Yes) No; If present -- Depth Below Sediment Surface (inches): 0.50

Odor: None (Hydrogen sulfide) Other:

Amphipods: Yes Tubes: — Macrophytes: —

Debris(twigs/leaves): Yes Other:

Stratified sediment: Yes No

Sheen Present: Yes No

Sample Collected Using: Van Veen ____ Eckman ____ Ponar ____ Shovel ____

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: 10 3-07.25 Time: 1154

Homogenized Sample: ____ Time: ____

Other: ____ Time: ____

Sediment (SE) Sample ID: SE-REF-1	Time: 1246	grab 10-5-13	# Containers: 3 ORN	Volume: 100 ORN	%
Duplicate SE Sample ID: —	Time: —		# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): Yes — NTPRES.			# Containers: 1	Volume: BUCKET	%
Pore Water (PW) Sample ID: PW-REF-1	Time: 1230 ORN		# Containers: 3	Volume: 100	%

Sample Lead Initials: CP Date: 100413 Field Supervisor Initials: KM Date: 10/6/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Ref-1

Date: 10-4-13 **Vessel:** RV Tiaton

Camera Serial #: Lumix #1

Photo ID: 103-0721 Time: 1010	Photo ID: 103-0722 Time: 1059
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Ref-1 photo board.	Description: Incomplete grab closure from Grab #3
Photo ID: 103-0723 Time: 1107	Photo ID: 103-0724 Time: 1138
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Sediment in grab #3 w/ incomplete closure 10-4-13	Description: Sediment in grab #6 - incomplete closure.
Photo ID: 103-0725 Time: 1154	Photo ID: 103-0726 Time: 1200
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Sediment in grab #8	Description: Porewater sampling.
Photo ID: 103-0727 Time: 1240	Photo ID: 103-0728 Time: 1244
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Homogenized sample.	Description: Homogenized sample.

Field Supervisor Initials: OH Date: 10/6/13

Sample Lead Initials: CJ Date: 10 04 13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Ref-1

Date: 10-4-13 **Vessel:** RV Tieton

Camera Serial #: Lumix #1

Photo ID: 103-0729	Time: 1257	Photo ID:	Time:
Photographer: O. Brilman		Photographer:	
Photo Orientation: N/A		Photo Orientation:	
Description: Ref-1 C.O.C. form for NPS split.		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials DH Date: 10/6/13

Sample Lead Initials GP Date: 100413

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** REF-2

Date: 10 OCT 2013 **Vessel:** RV TETON

Sampling Crew: JRF/DC/OB **Vessel Crew:** SS/US/CT

EPA Observer: N BADON **C.R. Observer:** A HUBERT

Arrival Time: 1225 **Departure Time:** 1445

River Stage:
Water Surface Elev. (ft): 1284.00
Water Surface Elevation Source: BIRCH REEL.

Weather Conditions Upon Arrival
Temp (°F): 64
Wind (mph): 0-5
Clouds/Precipitation: OVERCAST

Site Information:

Boat Position: (Powered) (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 69 Boat Traffic:

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: LUMIX #1

Photo ID: 103-0709	Time: 1200	Photo ID: 103-0710	Time: 1227
Photo ID: 103-0711	Time: 1240	Photo ID: 103-0712	Time: 1308

General Notes:
GRAB 1: REJECTED, NO VOLUME RETRIEVED. SAMPLER DID NOT CLOSE.
GRAB 2: ACCEPTED, ~ 10 gallons
GRAB 3: ACCEPTED, ~ 8 gallons
- CHARACTERIZATION AND SAMPLE INFORMATION ON GRAB 3 DATA SHEET

PHOTO #	TIME	
103-0713	1317	
103-0715	1357	
103-0716	1413	COC for NPS (#03-714 also is COC)

C.R. - cultural resources

Field Supervisor Initials: DH Date: 10/9/13

Sample Lead Initials: JRF Date: 10 OCT 2013

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Ref-2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 70.8

Drop # (1) 2 3 Cast Time 1230 Sampler Penetration (inches): N/A

Angle (< 5°max) Yes No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 414924.78 NORTHING: 5376758.63

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected) *

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted (Rejected)

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description: ____

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches): ____

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Duplicate SE Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %
Split SE Samples (EPA/NPS/CCT):	____			# Containers:	____	Volume:	____ %
Pore Water (PW) Sample ID:	____	Time:	____	# Containers:	____	Volume:	____ %

Sample Lead Initials: JPF Date: 1 OCT 2013 Field Supervisor Initials: DH Date: 10/2/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

* SAMPLER DID NOT CLOSE

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Ref-2

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 64

Drop # 1 (2) 3 Cast Time 1235 Sampler Penetration (inches): 8"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 414936 NORTHING: 5376769.55

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: ____% (Accepted) Rejected

pH of Sediment in Sampler: 8.75 * su Description:

Sediment Characteristics

Type:** % Silt — (<1/16 mm)
% Sand — (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color:** Munsell Color Chart #:
Description:

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): <0.5"

Odor: (None) Hydrogen sulfide
Other:

Amphipods: Y Tubes: N Macrophytes: N
Debris(twigs/leaves): Y Other: N/A

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman
Ponar
Shovel

**Photo Numbers 's **
(see Photo Log for descriptions)
Sediment in Grab: 103-0711 Time: 1240
Homogenized Sample: 103-0715 Time: 1357
Other: Time:

Sediment (SE) Sample ID:**	Time:	# Containers:	Volume:	%
Duplicate SE Sample ID:	Time:	# Containers:	Volume:	%
Split SE Samples (EPA/NPS/CCT):		# Containers:	Volume:	%
Pore Water (PW) Sample ID:	Time:	# Containers:	Volume:	%

Sample Lead Initials DNF Date: 1 OCT 2013 Field Supervisor Initials KH Date: 10/2/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

* overlying water

** see grab 3 of 3 for characteristics, for photos, and sample information

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 Station Identifier: Ref-2

Anchor Point (max 3): (1) 2 3 Water Depth (feet): 68

Drop # 1 2 (3) Cast Time 1323 Sampler Penetration (inches): 6.5"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 414940.86 NORTHING: 5376751.43

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Minimum sampler penetration depth (6 inches) obtained?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 8.46* su Description: —

Sediment Characteristics **

Type: % Silt 70 (<1/16 mm)
% Sand 30 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: 5Y 3/1
Description: VERY DARK GREY

Redox Boundary: Present? (Yes) No; If present -- Depth Below Sediment Surface (inches): <0.5"

Odor: (None) Hydrogen sulfide Other: —

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using: Van Veen ✓; Eckman; Ponar; Shovel

Photo Numbers ' s **
(see Photo Log for descriptions)
Sediment in Grab: 103-0712 Time: 1308
Homogenized Sample: 103-0715 Time: 1357
Other: Time:

Sediment (SE) Sample ID:	SE-Ref-2	Time: 1400	# Containers:	7	Volume:	100 %
Duplicate SE Sample ID:	—	Time: —	# Containers:	—	Volume:	— %
Split SE Samples (EPA/NPS/CCT):	SE-Ref-2		# Containers:	1	Volume:	100 %
Pore Water (PW) Sample ID:	PW-Ref-2	Time: 1345	# Containers:	3	Volume:	100 %

Sample Lead Initials: JPF Date: 1 OCT 2013 Field Supervisor Initials: DH Date: 10/2/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** SE-Ref-2

Date: 10-1-13 **Vessel:** RV Tieton

Camera Serial #: Lumix #1 (orange)

Photo ID: 103-0709 Time: 1200	Photo ID: 103-0710 Time: 1227
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: W
Description: Ref-2 photo board.	Description: location of REF-2 near shoreline.
Photo ID: 103-0711 Time: 1240	Photo ID: 103-0712 Time: 1308
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Sediment in grab.	Description: 2nd grab (to get enough sediment) Sediment in grab.
Photo ID: 103-0713 Time: 1317	Photo ID: 103-0715 Time: 1357
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Porewater sampling	Description: Homogenized sample.
Photo ID: 103-0716 Time: 1413	Photo ID: Time:
Photographer: O. Bilmann	Photographer:
Photo Orientation: N/A	Photo Orientation:
Description: Ref-2 NFS C.O.C form.	Description:

Field Supervisor Initials: OH Date: 10/2/13

Sample Lead Initials: JW Date: 1 OCT 2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: Ref. 6

Date: 09/14/13

Vessel: Tieton

Sampling Crew: Sugalski, Parker, Stegner

Vessel Crew: Toschhoff, Schut, Saugen, Tredeau

EPA Observer: Burt

C.R. Observer: Eric Oosahwee-Voss

Arrival Time: 1032

Departure Time: 1338

River Stage:

Water Surface Elev. (ft): _____

Water Surface Elevation Source: _____

Weather Conditions Upon Arrival

Temp (°F): 85°F

Wind (mph): light

Clouds/Precipitation: mostly cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 652

Boat Traffic: observers

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Observed by NPS & EPA

pore water attempted w/ blue air stone on ~~"decanted~~ "decanted" water of grabs 3 and 5. 6 filters used to get to the minimum line of preserved pore water sample.

C.R. - cultural resources

Field Supervisor Initials DH Date: 9/18/13

Sample Lead Initials ZS Date: 9/14/13

Sediment was composite of grabs: 3, 5, & 7

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** RefS-6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 21.6

Drop # (1) 2 3 Cast Time 1044 Sampler Penetration (inches): 0

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 460823.34 NORTHING: 5322521

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0460 Time: 1045
Homogenized Sample: ____ Time: ____
Other: Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: ____%

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Sample Lead Initials JS Date: 9/14/13 Field Supervisor Initials DH Date: 9/18/13

Rock in Sampler

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Ref-6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 27.40

Drop # 1 (2) 3 Cast Time 1046 Sampler Penetration (inches): 6

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 400826.61 NORTHING: 5322856.39

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: pore stone clogged

Sediment Characteristics

Type: % Silt 5% (<1/16 mm)
% Sand ~~2100.73~~ 95% (1/16 - 2 mm)
% Gravel Trace
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: 2.5Y 4/2
Description: SP, dark grayish brown

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches): _____

Odor: (None) Hydrogen sulfide
Other: _____

Amphipods: _____ Tubes: _____ Macrophytes: _____
Debris(twigs/leaves): none Other: _____

Stratified sediment: Yes (No) Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0161 Time: 1050
Homogenized Sample: _____ Time: _____
Other: _____ Time: _____

Sediment (SE) Sample ID: _____ Time: _____	# Containers: _____	Volume: _____ %
Duplicate SE Sample ID: _____ Time: _____	# Containers: _____	Volume: _____ %
Split SE Samples (EPA/NPS/CCT):	# Containers: _____	Volume: _____ %
Pore Water (PW) Sample ID: _____ Time: _____	# Containers: _____	Volume: _____ %

Sample Lead Initials: JS Date: 9/14/13 Field Supervisor Initials: ADH Date: 9/19/13 9/14/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

rock in sampler ~~prevented~~ prevented full closure. water leaked out before PH could be collected

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** RefS-6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 44.5

Drop # 1 2 (3) Cast Time 1104 Sampler Penetration (inches): 7"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 408447.04 NORTHING: 5327999.93

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: _____% Accepted (Rejected)

pH of Sediment in Sampler: 8.06 su Description: Stone Pebbles

Sediment Characteristics

Type: % Silt ≈15-20 (<1/16 mm)
% Sand 75-65 (1/16 - 2 mm)
% Gravel ≈10-15%
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #: 2.5Y 4/2
Description: dark grayish brown

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 4"

Odor: None Hydrogen sulfide
Other: Slight Algae

silty Sand w/ gravel & Sub angular to Sub rounded

Amphipods: Seal Tubes: Macrophytes: Snail
Debris(twigs/leaves): Other:

lenses of medium coarse Sand

Stratified sediment: (Yes) No
Sheen Present: Yes (No)

Sample Collected Using
Van Veen X
Eckman _____
Ponar _____
Shovel _____

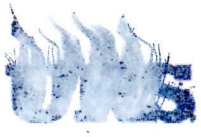
Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0462 Time: 11:11
Homogenized Sample: _____ Time: _____
Other: 103-0463 Time: 11:11

Sediment (SE) Sample ID:		Time:		# Containers:		Volume:	%
Duplicate SE Sample ID:		Time:		# Containers:		Volume:	%
Split SE Samples (EPA/NPS/CCT):				# Containers:		Volume:	%
Pore Water (PW) Sample ID:		Time:		# Containers:		Volume:	%

Sample Lead Initials: [illegible] Date: 9/14/13 Field Supervisor Initials: DA Date: 9/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sieved, not enough



Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** REF-C6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 25.6

Drop # (1) 2 3 Cast Time 1149 Sampler Penetration (inches): unknown

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 400348.62 NORTHING: 5322795.56

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	YES	(NO)
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	(NO)
5. Desired penetration depth (4 to 6 inches) achieved?	YES	(NO)
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	(YES)	NO
7. Sample is:	Accepted	(Rejected)

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: ____ su Description: ____

Sediment Characteristics

Type: % Silt ____ (<1/16 mm)
% Sand ____ (1/16 - 2 mm)
% Gravel ____
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes No; If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Sample Lead Initials JS Date: 9/14/13 Field Supervisor Initials DK Date: 9/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

rock in jaw

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Ref-6

Anchor Point (max 3) 1 (2) 3 Water Depth (feet): 44.5

Drop # 1 (2) 3 Cast Time 1202 Sampler Penetration (inches): 6.5

Angle (< 5° max) (Yes) No Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 400858.91 NORTHING: 5322791.60

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? – minimal washout	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? small amount of washout	(YES)	NO
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted (Rejected)

pH of Sediment in Sampler: 7.74 su Description: Jar stone clogged

Sediment Characteristics

Type: % Silt ~15-20 (<1/16 mm)
% Sand ~65-75 (1/16 - 2 mm)
% Gravel ~10-15
% Cobbles ____
% Silica Glass: ____

Color: Munsell Color Chart #: 2.5 Y 4/2
Description: dark grayish brown

Redox Boundary: Present? (Yes) No
If present -- Depth Below Sediment Surface (inches): 1/4"

Odor: (None) Hydrogen sulfide
Other: ____

Silt / Sand w/ sub-rounded gravel

Amphipods: scuds Tubes: Macrophytes:
Debris(twigs/leaves): Other: snails

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen (✓)
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0464 Time: 1208
Homogenized Sample: 103-0471 Time: 1253
Other: 103-0465 Time: 1208

Sediment (SE) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: ____ Time: ____ # Containers: ____ Volume: ____%

Sample Lead Initials: JS Date: 9/14/13 Field Supervisor Initials: AOA Date: 9/19/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Sample Sieved not enough. go out again

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Ref-C6

Anchor Point (max 3) 1 2 ~~3~~ Water Depth (feet): 38.0

Drop # ~~1~~ 2 3 Cast Time 1228 Sampler Penetration (inches): unkn

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 400856.83 NORTHING: 5322791.50

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? YES NO
2. Overlying water present? YES NO
3. Overlying water excessively turbid? YES NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? YES NO
5. Desired penetration depth (4 to 6 inches) achieved? YES NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? YES NO
7. Sample is: Accepted Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: _____ su Description: _____

Sediment Characteristics

Type: % Silt _____ (<1/16 mm)
% Sand _____ (1/16 - 2 mm)
% Gravel _____
% Cobbles _____
% Silica Glass: _____

Color: Munsell Color Chart #:
Description:

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

	Sample Collected Using	Photo Numbers 's (see Photo Log for descriptions)
Stratified sediment: Yes No	Van Veen ____	Sediment in Grab: _____ Time: _____
	Eckman ____	Homogenized Sample: _____ Time: _____
Sheen Present: Yes No	Ponar ____	Other: Time:
	Shovel	

Sediment (SE) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Duplicate SE Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Split SE Samples (EPA/NPS/CCT): # Containers: Volume: %

Pore Water (PW) Sample ID: _____ Time: _____ # Containers: _____ Volume: _____%

Sample Lead Initials JB Date: 9/14/13 Field Supervisor Initials DH Date: 9/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

Cobbles in Grab

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** RefC6

Anchor Point (max 3) 1 ~~2~~ 3 Water Depth (feet): 42.0

Drop # 1 2 ~~3~~ Cast Time ~~1225~~ 1232 Sampler Penetration (inches): 5.5

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: (NAD_83_UTM_Zone_11_North)
EASTING: 400854.03 NORTHING: 5332789.92

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: ____% Accepted Rejected

pH of Sediment in Sampler: 8.11 su Description:

Sediment Characteristics

Type: % Silt 15-20 (<1/16 mm)
% Sand 65-75 (1/16 - 2 mm)
% Gravel 10-15
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #: 2.5Y 4/2
Description: dark grayish brown

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches): 4 11

Odor: None Hydrogen sulfide
Other:

Silty Sand w/ Subrounded gravel

Amphipods: Seeds Tubes: Macrophytes:
Debris(twigs/leaves): Other: Snails

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen X
Eckman
Ponar
Shovel

Photo Numbers 's (see Photo Log for descriptions)
Sediment in Grab: 103-0463 Time: 1238
Homogenized Sample: 103-0471 Time: 1253
Other: 103-0469 Time: 1230

Sediment (SE) Sample ID: SE-Ref-6	Time: 1254	# Containers: ~~3~~ 7	Volume: 100 %	~12.5 gal
Duplicate SE Sample ID:	Time:	# Containers: 9/14/13	Volume: %	
Split SE Samples (EPA/NPS/CCT): SE-Ref-6		# Containers: 1	Volume: 100 %	~5 gal
Pore Water (PW) Sample ID: PW-Ref-6	Time: 1240	# Containers: 2	Volume: 30 %	

Sample Lead Initials: ~~JS~~ Date: 9/14/13 Field Supervisor Initials: KH Date: 9/18/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

~~cobbles~~ in grab JS 9/14/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Ref-6

Date: 9/14/13 **Vessel:** Tiefen

Camera Serial #: #1

Photo ID: 103-0457 Time: 1009	Photo ID: 103-0458 Time: 1035
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation: Right Bank
Description: station ID	Description: Shore line conditions ~~near~~ at Ref-6
Photo ID: 103-0459 Time: 1040	Photo ID: 103-0460 Time: 1043
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation: Rt. Bank	Photo Orientation:
Description: looking for possible Sample location	Description: rock in 1st grab attempt.
Photo ID: 103-0461 Time: 1050	Photo ID: 103-0462 Time: 1111
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Winnowed 2nd grab. Rejected Sample	Description: Sediments in 3rd grab
Photo ID: 103-0462 Time: 1111	Photo ID: 103-0463 Time: 1111
Photographer: Sugelski	Photographer: Sugelski
Photo Orientation:	Photo Orientation:
Description: Sediments in 3rd grab	Description: Sediments in 3rd grab

Field Supervisor Initials: DH Date: 9/13/13

Sample Lead Initials: JS Date: 9/14/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Ref-6

Date: 9/14/13 **Vessel:** Tyee

Camera Serial #: #1

Photo ID: 103-0464 Time: 1208	Photo ID: 103-0465 Time: 1208
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sediment in 5th grab	Description: Sediment in 5th grab
Photo ID: 103-0466 Time: 1211	Photo ID: 103-0467 Time: 1212
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Processing of Sediment and observations	Description: Processing of 5th grab
Photo ID: 103-0468 Time: 1238	Photo ID: 103-0469 Time: 1238
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: 6th 7th grab in Sampler	Description: 7th grab in Sampler
Photo ID: 103-0470 Time: 1241	Photo ID: 103-0471 Time: 1253
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Attempts to filter pore water.	Description: Homogenized Sample

103-0472 1302
Sugalski
COC for UPS Sample

103-0473
Sugalski
URS
URS washing Sample received from URS.

Field Supervisor Initials: AM Date: 9/18/13

Sample Lead Initials: JS Date: 9/14/13

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** TRIB-1

Date: 26SEPT2013 **Vessel:** N/A

Sampling Crew: JRF, GP, OB **Vessel Crew:** N/A

EPA Observer: A. LaTier **C.R. Observer:** L. McCullough (URS)

Arrival Time: 1032 **Departure Time:** 1445

River Stage:
Water Surface Elev. (ft): —
Water Surface Elevation Source: —

Weather Conditions Upon Arrival
Temp (°F): 65°F
Wind (mph): 10-15
Clouds/Precipitation: OVERCAST

Site Information:

Boat Position: ~~(Powered)~~ NP ~~(Anchored)** River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 696 Boat Traffic: N/A

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: Yes (No)
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: Pentax Optio TA-2

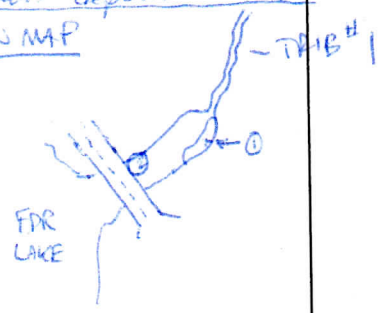
Photo ID: 103-0127	Time: 1101	Photo ID: 103-0128	Time: 1103
Photo ID: 103-0129	Time: 1206	Photo ID: 103-0130	Time: 1225

General Notes:

DEVIATION FROM FSP/SOP:
PORE WATER COLLECTED IN SITU from shore of sediment deposit adjacent to water line.

103-0127 - Original sample location
103-0128 - Target location
103-0129 - moving grab to tub
103-0130 pore water sampling
103-0131 1309 oversize material
103-0132 1320 Homogenized sample

LOCATION MAP



① SAMPLE LOCATION
② XYS ACCORDING TO GPS UNIT

C.R. - cultural resources

Field Supervisor Initials _____ Date: _____

Sample Lead Initials JRF Date: 26SEPT13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** TRIB 1

Anchor Point (max 3) ~~1~~ ~~2~~ ~~3~~ TRIB Water Depth (feet): < 0.5

Drop # ~~1~~ ~~2~~ ~~3~~ Cast Time TRIB Sampler Penetration (inches): 6"

Angle (< 5°max) Yes (No) Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 1095364.6 NORTHING: 5365249.9

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 6.7* su Description: SLIGHTLY CLAY

Sediment Characteristics

Type: % Silt 5 (<1/16 mm)
% Sand 95 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: Description:

Redox Boundary: Present? Yes (No) If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide Other:

Amphipods: N Tubes: N Macrophytes: N
Debris(twigs/leaves): Y Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen
Eckman
Ponar ✓
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: N/A Time: N/A
Homogenized Sample: 03-0132 Time: 1320
Other: Time:

Sediment (SE) Sample ID: SE-Trib-1 Time: 1327	# Containers: 4	Volume:	%
Duplicate SE Sample ID: MUD 0003 Time: 1327	# Containers: 4	Volume:	%
Split SE Samples (EPA/NPS/CCT):	# Containers:	Volume:	%
Pore Water (PW) Sample ID: PW-TRIB-1 Time: 1230	# Containers: 3	Volume: 100	%

Sample Lead Initials JRF Date: 26SEPT2013 Field Supervisor Initials _____ Date: _____

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

* pH is from excess PW sample. Overlying water pH = 7.2

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Tributary 1

Date: 9-26-13 **Vessel:** N/A Trib. sampling

Camera Serial #: Pentax Optio TA-2

Photo ID: 103-0127	Time: 1101	Photo ID: 103-0128	Time: 1107
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: South		Photo Orientation: SW	
Description: Original sample location @ Trib 1 (Barnaby Creek)		Description: Target location @ Trib. 1 (Barnaby creek)	
Photo ID: 103-0129	Time: ~~1225~~ 1206 CS	Photo ID: 103-0130	Time: 1225
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: ~~Porewater Sampler~~ CS Collecting sample in grab and moving to Lexan tub		Description: Porewater sampling/ collected @ 1230	
Photo ID: 103-0131	Time: 1309	Photo ID: 103-0132	Time: 1320
Photographer: GP		Photographer: O. Bielmann	
Photo Orientation: ~~South~~ SW N/A		Photo Orientation: N/A	
Description: OVERSIZE MATERIAL FROM SEDIMENT		Description: Homogenized sample	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials ____ Date: ____

Sample Lead Initials JRF Date: 9/26/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Trib-2

Date: 10/7/13 **Vessel:** N/A

Cabanillas **Sampling Crew:** Sugalski, Bielmeier **Vessel Crew:** Schut, Toschhoff

EPA Observer: Laura Buelow **C.R. Observer:** Eric Boss, HINEE-Voss

Arrival Time: 0830 **Departure Time:** 1200

River Stage:

Water Surface Elev. (ft): N/A

Water Surface Elevation Source:

N/A

Weather Conditions Upon Arrival

Temp (°F): ~ 58° F

Wind (mph): Calm

Clouds/Precipitation: Partly Cloudy

Site Information:

Boat Position: (Powered) N/A (Anchored) River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: N/A Boat Traffic: N/A

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes (No)

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Tires, galvanized metal and Rusted cables upstream of sampling area. Trees were around Sampling area.

Sample Location Photo IDs: (see Photo Log for descriptions)

Camera ID: #1

Photo ID: — Time: — Photo ID: — Time: —

Photo ID: — Time: — Photo ID: — Time: —

General Notes:

Sample was sieved and multiple grabs were needed to obtain Sediment sample volume.

about 20 grabs were needed.

used 2" ~~fr~~ Ceramic or stone 10/7/13

for metals in PW, water (~30mL) ~~of~~ 10/7/13 from the Blue stone was combined with the white stone water to get the final volume

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/8/13

Sample Lead Initials JS Date: 10/7/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Trib-2

Anchor Point (max 3) 1 2 3 Water Depth (feet): 3-6 inches

Drop # 1 2 3 Cast Time End 9:42 Sampler Penetration (inches): 4 inches

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 417919.40 NORTHING: 5389775.80

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 100 % Accepted Rejected

pH of Sediment in Sampler: 7.05 su Description:

creek is 7.1

Sediment Characteristics

Type: % Silt — (<1/16 mm)
% Sand ≥100 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

after sieving

Color: Munsell Color Chart #: 5Y5/2
Description: olive grey medium fine Sand

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: crayfish larve crawfish larve Tubes: Macrophytes:
Debris(twigs/leaves): Other: some woody debris

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen
Eckman
Ponar X
Shovel

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0756 Time: 0947
Homogenized Sample: 103-0758 Time: 1130
Other: Time:

Sediment (SE) Sample ID: SE-Trib-2	Time: 1130	# Containers: 7	Volume: 100 %
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: — %
Split SE Samples (EPA/NPS/CCT): SE-Trib-2		# Containers: 1	Volume: 100 %
Pore Water (PW) Sample ID: PW-Trib-2	Time: 1127	# Containers: 3	Volume: 100 %

Sample Lead Initials: [illegible] Date: 10/7/13 Field Supervisor Initials DH Date: 10/8/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 Station Identifier: Trib-2

Date: 10/7/13 Vessel: N/A (Tietan crew)

Camera Serial #: #1

Photo ID: 103-0750 Time: 0837	Photo ID: 103-0751 Time: 0837
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Station ID	Description: Overview of Sample location.
Photo ID: 103-0752 Time: 0929	Photo ID: 103-0753 Time: 0930
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sieving the sediment	Description: grab deployment
Photo ID: 103-0754 Time: 0933	Photo ID: 103-0755 Time: 0941
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: Sampler deployment	Description: Sampling area i rusty cobbles upstream
Photo ID: 103-0756 Time: 0947	Photo ID: 103-0757 Time: 0951
Photographer: Sugalski	Photographer: Sugalski
Photo Orientation:	Photo Orientation:
Description: ~~Homog~~ Sediment in tub during porewater collection.	Description: Tire & galvanized metal upstream of Sample location.

Field Supervisor Initials: DH Date: 10/8/13

Sample Lead Initials: JG Date: 10/7/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Trib-2

Date: 10/7/13 **Vessel:** U/A Clinton Crew

Camera Serial #: #1

Photo ID: 103-0758	Time: 1130	Photo ID: 103-0759	Time: 1221
Photographer: Soggelsi		Photographer: Suzelski	
Photo Orientation:		Photo Orientation:	
Description: Homogenized Sediment		Description: QC for UPS split	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials: DA Date: 10/8/13

Sample Lead Initials: [illegible] Date: 10/7/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** IRIB-3

Date: 10 OCT 2013 **Vessel:** RV TIETON

Sampling Crew: JRF / DC / OB **Vessel Crew:** SS / JS / CT

EPA Observer: ~~MUNCH TONEL~~ N. BADON **C.R. Observer:** AL HUBERT

Arrival Time: 0905 **Departure Time:** 1200

River Stage:
Water Surface Elev. (ft): 1284.90

Water Surface Elevation Source: BUREN REEL.

Weather Conditions Upon Arrival
Temp (°F): 44

Wind (mph): 0-2

Clouds/Precipitation: OVERCAST

Site Information:

Boat Position: (Powered) ~~(Anchored)~~ DNF

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 685

Boat Traffic: N/A

Water Surface: DNF ~~(Calm)~~ ~~(Small Waves)~~ DNF (Choppy)

Surface Vegetation Present: Yes (No)

Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: CAM x #1

Photo ID	Time	Photo ID	Time
103-0698	0827	103-0699	0915
103-0700	0922	103-0701	0924

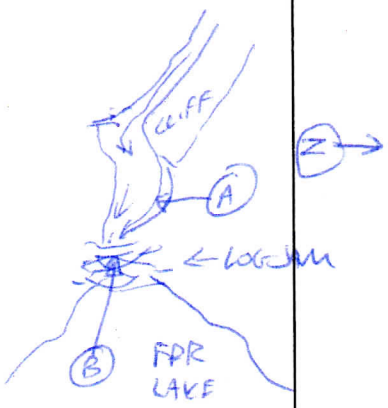
General Notes:

pH overlying water = 8.8

pH porewater = 8.6

PHOTO #	TIME
103-0702	0959
103-0703	1009
103-0704	1009
103-0705	1010
103-0706	1015
103-0707	1025
103-0708	1112
103-0714	1320

SAMPLE LOCATION



C.R. - cultural resources

Field Supervisor Initials JOH Date: 10/09/13

Sample Lead Initials JRF Date: 10 OCT 2013

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** TRIB-3

Anchor Point (max 3) (1) 2 3 Water Depth (feet): < 1

Drop # (1) 2 3 Cast Time N/A Sampler Penetration (inches): ~6"

Angle (< 5°max) (Yes) No Cultural Resources Observed? (No) Yes

Sample Location: ** {NAD_83_UTM_Zone_11_North}

EASTING: 412684 NORTHING: 5363469

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	(NO)
7. Sample is:	(Accepted)	Rejected

Porewater

Cumulative Percent of Porewater Syringe filled: 80 % (Accepted) Rejected

pH of Sediment in Sampler: 8.6* su Description:

Sediment Characteristics

Type: % Silt — (<1/16 mm)

% Sand 100 (1/16 - 2 mm)

% Gravel —

% Cobbles —

% Silica Glass: —

Color: Munsell Color Chart #: 5Y 4/3

Description: ~~SAGE~~ OLIVE

Redox Boundary: Present? Yes (No)

If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide

Other:

Amphipods: N Tubes: N Macrophytes: N

Debris(twigs/leaves): Y Other: NA

Stratified sediment: Yes (No)

Sheen Present: Yes (No)

Sample Collected Using

Van Veen

Eckman

Ponar ✓

Shovel ✓

Photo Numbers 's (see Photo Log for descriptions)

Sediment in Grab: Time:

Homogenized Sample: 103-0708 Time: 1112

Other: Time:

Sediment (SE) Sample ID: SE-TRIB-3	Time: 1100	# Containers: 7	Volume: ~75	%
Duplicate SE Sample ID: —	Time: ~~1100~~ **	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): SE-TRIB-3		# Containers: 2	Volume: ~75	%
Pore Water (PW) Sample ID: PW-TRIB-3	Time: 1100	# Containers: 3	Volume: ~80	%

Sample Lead Initials ORF Date: 10/1/13 Field Supervisor Initials DM Date: 10/02/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

** ACCURACY WAS 43'

* pH of PW subsample. overlying water was 8.8

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Trib-3 (Chewaka Cr.)

Date: 10-1-13 **Vessel:** RV Tietan

Camera Serial #: Lumix #1 (orange)

Photo ID: 103-0698 Time: 0827	Photo ID: 103-0699 Time: 0915
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: SE
Description: Trib-3 photo board.	Description: SE- Trib-3 @ mouth of Chewaka Creek.
Photo ID: 103-0700 Time: 0922	Photo ID: 103-0701 Time: 0924
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N	Photo Orientation: SW
Description: Sediment sampling @ Trib-3	Description: Porewater sampling @ Trib-3 - Location A
Photo ID: 103-0702 Time: 959	Photo ID: 103-0703 Time: 1009
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Porewater sampling @ SE-Trib-3 - location A	Description: Clay layer @ location A @ Trib 3
Photo ID: 103-0704 Time: 1009	Photo ID: 103-0705 Time: 1010
Photographer: O. Bilmann	Photographer: O. Bilmann
Photo Orientation: N/A	Photo Orientation: N/A
Description: Clay shelf @ Trib 3	Description: No flash - clay shelf @ Trib 3

Field Supervisor Initials OA Date: 10/8/13

Sample Lead Initials _____ Date: _____

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Trib 3 (Chemeka Cr.)

Date: 10-1-13 **Vessel:** RV Tietan

Camera Serial #: _____

Photo ID: 103-0706	Time: 1015	Photo ID: 103-0707	Time: 1025
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: Thick sand deposit @ location B Trib 3		Description: location B @ Trib 3	
Photo ID: 103-0708	Time: 1112	Photo ID: 103-0714	Time: 1320
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: N/A		Photo Orientation: N/A	
Description: Homogenized sample.		Description: NPS C.O.C. form from Trib. 3.	
Photo ID: _____	Time: _____	Photo ID: _____	Time: _____
Photographer: _____		Photographer: _____	
Photo Orientation: _____		Photo Orientation: _____	
Description: _____		Description: _____	
Photo ID: _____	Time: _____	Photo ID: _____	Time: _____
Photographer: _____		Photographer: _____	
Photo Orientation: _____		Photo Orientation: _____	
Description: _____		Description: _____	

Field Supervisor Initials CDA Date: 10/2/13

Sample Lead Initials _____ Date: _____

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189

Station Identifier: Tributary 3 (Trib-3) (Chewaka Creek)

Date: 9-26-13

Vessel: N/A

Camera Serial #: Pentax Optio - TA2

Photo ID: 103-0133	Time: 1504	Photo ID: 103-0134	Time: 1505
Photographer: O. Bielmann		Photographer: O. Bielmann	
Photo Orientation: SW		Photo Orientation: NW	
Description: Location of Trib 3 Sample (Chewaka Cr) w/ Steep slope.		Description: Proximity of roadway to Trib-3 sample location	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials: [illegible] Date: 10/02/13

Sample Lead Initials: [illegible] Date: 26 SEPT 2013

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189

Station Identifier: Trib-4

Date: 10/9/13

Vessel: Treton

Sampling Crew: Bielmann, Cabanillas, Sugalski

Vessel Crew: Sagen, Collins, Schut

EPA Observer: Laura Buelow

C.R. Observer: Eric Oosahwee-Voss/Ray Depuydt

Arrival Time: 1005

Departure Time: 1412

River Stage:

Water Surface Elev. (ft): —

Water Surface Elevation Source: —

Weather Conditions Upon Arrival

Temp (°F): 50°

Wind (mph): Calm

Clouds/Precipitation: mostly cloudy

Site Information:

Boat Position: (Powered) (Anchored)

River Current: (Swift) (Eddie) (Calm) (Ripple)

River Mile: 721

Boat Traffic: N/A

Water Surface: (Calm) (Small Waves) (Choppy)

Surface Vegetation Present: Yes No

Was Vegetation Removed: Yes No

Notable shore surface features: (rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

N/A

Sample Location Photo IDs:
(see Photo Log for descriptions)

Camera ID: #1

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

Photo ID: _____ Time: _____ Photo ID: _____ Time: _____

General Notes:

Sediment was collected from a low point in the Creek Drainage & then collection was moved upstream and sediment was collected and screened where available. The Rocky substrate of the tributary required the shovel, ~~about~~ on average about 2 to 3 cups of material is collected with the shovel & then screened. For the final volume approx. 3 to 4 gals was collected with the shovel & placed into a bucket & then put into the screen & tub.

C.R. - cultural resources

Field Supervisor Initials DA Date: 10/10/13

Sample Lead Initials JB Date: 10/9/10

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Trib-4

Anchor Point (max 3) 1 2 3 Water Depth (feet): 4-6 inches

Drop # 1 2 3 Cast Time 1040 Sampler Penetration (inches): 2-6 inches

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: ~~428199.52~~ ~~428198.20~~ 428199.07 NORTHING: ~~5408253.~~ ~~5408254.21~~ 5408255.78

PDOP = 13.72

Start

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	NO
2. Overlying water present?	YES	NO
3. Overlying water excessively turbid?	YES	NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	YES	NO
5. Desired penetration depth (4 to 6 inches) achieved?	YES	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES	NO
7. Sample is:	Accepted	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % Accepted Rejected

pH of Sediment in Sampler: 8.41 su Description:

Sediment Characteristics

Type: % Silt 10 (<1/16 mm)
% Sand 80 (1/16 - 2 mm)
% Gravel 10
% Cobbles
% Silica Glass:

Color: Munsell Color Chart #:
Description: Silty Sand with Gravel - medium fine sand

Redox Boundary: Present? Yes No
If present -- Depth Below Sediment Surface (inches):

Odor: None Hydrogen sulfide
Other:

Amphipods: Tubes: Macrophytes: Dragon Fly Larvae
Debris(twigs/leaves): Other: Snail

Stratified sediment: Yes No
Sheen Present: Yes No

Sample Collected Using
Van Veen
Eckman
Ponar
Shovel x

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 103-0807 Time: 1152
Homogenized Sample: 103-0808 Time: 1341
Other: 103-0808 Time: 1341

Sediment (SE) Sample ID:	SE-Trib-4	Time: 1342	# Containers: 3	Volume: 100	%
Duplicate SE Sample ID:	—	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT):	SE-Trib-4		# Containers: 1	Volume: 100	%
Pore Water (PW) Sample ID:	PW-Trib-4	Time: 1228	# Containers: 3	Volume: 100	%

Sample Lead Initials: [illegible] Date: 10/9/13 Field Supervisor Initials: [illegible] Date: 10/10/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

428205.40 E 5408281.88 N

URS

End

2 ~~23~~ 10/4/13

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Trib - 4

Date: 10/4/13 **Vessel:** Tieton

Camera Serial #: #1

Photo ID: 103-0801	Time: 1102	Photo ID: 103-0802	Time: 1102
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Dragon Fly larve in Sediment		Description: Dragon Fly larve in Sediment	
Photo ID: 103-0803	Time: 1103	Photo ID: 103-0804	Time: 1128
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Dragon Fly larve in Sediment		Description: Placing Scoop of Sediment into tub	
Photo ID: 103-0805	Time: 1128	Photo ID: 103-0806	Time: 1141
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Screening Sediment		Description: Screening Sediment	
Photo ID: 103-0807	Time: 1152	Photo ID: 103-0808	Time: 1341
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Sediment in tub Before Pore water		Description: homogenized photo	

103-0809 1408
Sugalski
oops photo of clipboard

Field Supervisor Initials AH Date: 10/10/13

Sample Lead Initials AS Date: 10/4/13

URS

1 of 10/9/13

Page 2 of 2

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Tr.b-4

Date: 10/9/13 **Vessel:** Tristan

Camera Serial #: #1

Photo ID: 103-0793	Time: 1028	Photo ID: 103-0794	Time: 1037
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation: Down Stream	
Description: Station ID		Description: Collection of Sediment	
Photo ID: 103-0795	Time: 1038	Photo ID: 103-0796	Time: 1042
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Collection of Sediment		Description: Placement of Sediment into Lexan tub	
Photo ID: 103-0797	Time: 1051	Photo ID: 103-0798	Time: 1058
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Collection of Sediment with the Shovel		Description: Screening of Sediment	
Photo ID: 103-0799	Time: 1058	Photo ID: 103-0800	Time: 1101
Photographer: Sugalski		Photographer: Sugalski	
Photo Orientation:		Photo Orientation:	
Description: Collection of sediment with the shovel		Description: Snail in collected Sediment.	

Field Supervisor Initials: KM Date: 10/10/13

Sample Lead Initials: [illegible] Date: 10/9/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Trib-5

Date: 10/9/13 **Vessel:** Tahoma

Sampling Crew: Rapp/Navros/McDaniel **Vessel Crew:** Collins

EPA Observer: C. Irvine **C.R. Observer:** Oosahwee-Voss

Arrival Time: 1250 **Departure Time:** 1547

River Stage:
Water Surface Elev. (ft): N/A
Water Surface Elevation Source: N/A

Weather Conditions Upon Arrival
Temp (°F): 57°F
Wind (mph): calm
Clouds/Precipitation: mostly clear

Site Information:
Boat Position: N/A (Powered) (Anchored) River Current: N/A (Swift) (Eddie) (Calm) (Ripple)
River Mile: N/A Boat Traffic: N/A
Water Surface: (Calm) (Small Waves) (Choppy) N/A
Surface Vegetation Present: Yes No
Was Vegetation Removed: Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)

Sample Location Photo IDs:
(see Photo Log for descriptions)
Camera ID: TA-2 pentax

Photo ID: 112-0362	Time: 1304	Photo ID: 112-0363	Time: 1305
Photo ID: 112-0364	Time: 1305	Photo ID: 112-0365	Time: 1305

General Notes:
Crown Creek
downstream extent E. 430709.30 N. 5412498.3
upstream extent E. 430681.7 N. 5412512.1

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/14/13

Sample Lead Initials [signature] Date: 10/9/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Trib-5

Anchor Point (max 3) 1 2 3 Water Depth (feet): _____

Drop # 1 2 3 Cast Time 1314 Sampler Penetration (inches): 6"

Angle (< 5°max) Yes No Cultural Resources Observed? No Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 430709.30 NORTHING: 5412498.3

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler?	YES	(NO)
2. Overlying water present?	(YES)	NO
3. Overlying water excessively turbid?	YES	(NO)
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout?	(YES)	NO
5. Desired penetration depth (4 to 6 inches) achieved?	(YES)	NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)?	YES N/A	NO
7. Sample is:	(Accepted)	Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 7.78 su Description: _____

Sediment Characteristics

Type: % Silt 60 (<1/16 mm)
% Sand 20 (1/16 - 2 mm)
% Gravel 20
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: 5Y 3/2
Description: dark gray

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches): _____

Odor: (None) Hydrogen sulfide
Other: _____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ____
Eckman ____
Ponar ____
Shovel ✓

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: ____ Time: ____
Homogenized Sample: ____ Time: ____
Other: ____ Time: ____

Sediment (SE) Sample ID: SE-Trib5	Time: 1453	# Containers: 4/3	Volume: 100/80	%
Duplicate SE Sample ID: —	Time: —	# Containers: —	Volume: —	%
Split SE Samples (EPA/NPS/CCT): —		# Containers: —	Volume: —	%
Pore Water (PW) Sample ID: PW-Trib5	Time: 1444	# Containers: 3	Volume: 100	%

Sample Lead Initials JL Date: 10/9/13 Field Supervisor Initials DA Date: 10/14/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** trib-5

Date: 10/9/13 **Vessel:** Tahoma

Camera Serial #: TA-2 pentax

Photo ID: 112-0361 Time: 13:03	Photo ID: 112-0362 Time: 13:04
Photographer: BM	Photographer: BM
Photo Orientation:	Photo Orientation: Upstream
Description: Site ID Trib # 5 Crown Creek	Description: sediment site locations looking upstream from first sample site
Photo ID: 112-0363 Time: 13:05	Photo ID: 112-0364 Time: 13:05
Photographer: BM	Photographer: BM
Photo Orientation:	Photo Orientation:
Description: Left bank of stream	Description: Right bank of stream
Photo ID: 112-0365 Time: 13:05	Photo ID: 112-0366 Time: 13:06
Photographer: BM	Photographer: BM
Photo Orientation:	Photo Orientation:
Description: downstream of sample sites	Description: SE sediment Scoop/shovel #1
Photo ID: 112-0367 Time: 13:07	Photo ID: 112-0368 Time: 14:47
Photographer: BM	Photographer: BM
Photo Orientation:	Photo Orientation:
Description: SE shovel scoop #2	Description: homogenized sample Trib #5 SE

Field Supervisor Initials: DH Date: 10/11/13

Sample Lead Initials: [signature] Date: 10/9/13

URS

Sample Location Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Trib-6

Date: 10/10/13 **Vessel:** Tahoma

Sampling Crew: TR/OB/BM **Vessel Crew:** Collins / Jenkins

EPA Observer: Bewlow **C.R. Observer:**

Arrival Time: 1030 **Departure Time:** 1315

River Stage:
Water Surface Elev. (ft): N/A
Water Surface Elevation Source: N/A

Weather Conditions Upon Arrival
Temp (°F): 49
Wind (mph): calm
Clouds/Precipitation: mostly cloudy

Site Information:

Boat Position: N/A (Powered) (Anchored) River Current: N/A (Swift) (Eddie) (Calm) (Ripple)

River Mile: 732 Boat Traffic: N/A

Water Surface: (Calm) (Small Waves) (Choppy)
Surface Vegetation Present: N/A Yes No
Was Vegetation Removed: N/A Yes No

Notable shore surface features:
(rock outcrops, streams, wetlands, oxbows, outfalls, roads, houses, campsites, construction, etc.)
outfall west side of hwy 25 approx. 50 m below road below culvert.

Sample Location Photo IDs:
(see Photo Log for descriptions)
Camera ID: TA-2 pentax

Photo ID: 113-0370 Time: 1037 Photo ID: 113-0371 Time: 1037
Photo ID: 113-0372 Time: 1037 Photo ID: 113-0373 Time: 1037

General Notes:
Upstream coordinates
E: 441385.54 N: 5416571.09
Downstream
E: 441361.98 N: 5416585.64
Sample collected down embankment west side of hwy 25.

C.R. - cultural resources

Field Supervisor Initials DH Date: 10/14/13

Sample Lead Initials JM Date: 10/10/13

URS

Sediment/Porewater Sampling Form
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project Number: 36310189 **Station Identifier:** Trib-6

Anchor Point (max 3) (1) 2 3 Water Depth (feet): 2-3"

Drop # (1) 2 3 Cast Time 1045 Sampler Penetration (inches): 4-6"

Angle (< 5°max) Yes N/A No Cultural Resources Observed? (No) Yes

Sample Location: {NAD_83_UTM_Zone_11_North}
EASTING: 441385.54 NORTHING: 5416571.09

Sample Acceptance Criteria:

1. Sampler overfilled or sediment pressed against top of sampler? (YES) NO
2. Overlying water present? (YES) NO
3. Overlying water excessively turbid? (YES) NO
4. Sediment surface relatively undisturbed, relatively flat, no sign of channeling or sample washout? (YES) NO
5. Desired penetration depth (4 to 6 inches) achieved? (YES) NO
6. Any sign of sediment loss (incomplete closure, penetration at angle, tilting upon retrieval)? N/A YES NO
7. Sample is: (Accepted) Rejected

Porewater
Cumulative Percent of Porewater Syringe filled: 100 % (Accepted) Rejected

pH of Sediment in Sampler: 7.25 su Description: ____

Sediment Characteristics

Type: % Silt 10 (<1/16 mm)
% Sand 90 (1/16 - 2 mm)
% Gravel —
% Cobbles —
% Silica Glass: —

Color: Munsell Color Chart #: 5/Y 2/1
Description:

Redox Boundary: Present? Yes (No)
If present -- Depth Below Sediment Surface (inches):

Odor: (None) Hydrogen sulfide
Other: ____

Amphipods: Tubes: Macrophytes:
Debris(twigs/leaves): Other:

Stratified sediment: Yes (No)
Sheen Present: Yes (No)

Sample Collected Using
Van Veen ✓
Eckman ____
Ponar ____
Shovel ____

Photo Numbers 's
(see Photo Log for descriptions)
Sediment in Grab: 113-0374 Time: 1039
Homogenized Sample: 113-0377 Time: 1222
Other: 113-0375 Time: 1040

Sediment (SE) Sample ID: SE-Trib-6 Time: 1225 # Containers: 4/~~4~~3 DAH Volume: 100/80 %

Duplicate SE Sample ID: ____ Time: ____ # Containers: ____ Volume: ____ %

Split SE Samples (EPA/NPS/CCT): SE-Trib-6 # Containers: 1 Volume: 100 %

Pore Water (PW) Sample ID: PW-Trib-6 Time: 1215 # Containers: 3 Volume: 100 %

Sample Lead Initials JM Date: 10/10/13 Field Supervisor Initials DA Date: 10/14/13

Sample ID Format:
SE-1-C2: Sediment at Station 1-C2 (Chemistry only)
SE-1-B2: Sediment at Station 1-B2 (Bioassay and Chemistry)
PW-1-B2: Pore Water at Station 1-B2

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Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Trib #6 (5 mile Creek)

Date: 10/10/13 **Vessel:** Trib sample

Camera Serial #: TA-2 Pentax

Photo ID: 113-0369 Time: 10:15	Photo ID: 113-0370 Time: 10:37
Photographer: BM	Photographer: BM
Photo Orientation:	Photo Orientation: downstream
Description: Site ID Trib# 6	Description: downstream section of sample site
Photo ID: 113-0371 Time: 10:37	Photo ID: 113-0372 Time: 10:37
Photographer: BM	Photographer: BM
Photo Orientation: Upstream	Photo Orientation:
Description: upstream of lowest sample site	Description: Left bank 5 mile CK
Photo ID: 113-0373 Time: 1037	Photo ID: 113-0374 Time: 10:39
Photographer: BM	Photographer: BM
Photo Orientation:	Photo Orientation:
Description: Right bank 5 mile CK	Description: SE Shovel #1
Photo ID: 113-0375 Time: 10:40	Photo ID: 113-0376 Time: 10:42
Photographer: BM	Photographer: BM
Photo Orientation:	Photo Orientation:
Description: SE Shovel #2	Description: upstream section of Sample site just below culvert outlet

Field Supervisor Initials DH Date: 10/14/13

Sample Lead Initials JM Date: 10/10/13

URS

Photo Log
Upper Columbia River RI/FS
2013 Phase 2 Sediment Study

Project: 36310189 **Station Identifier:** Trib #6 (Smiley Creek)

Date: 10/10/13 **Vessel:** Trib Sample

Camera Serial #: TA-2 Pentax

Photo ID: 113-0377	Time: 12:22	Photo ID:	Time:
Photographer: BM		Photographer:	
Photo Orientation:		Photo Orientation:	
Description: homogenized SE sample Trib #6		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	
Photo ID:	Time:	Photo ID:	Time:
Photographer:		Photographer:	
Photo Orientation:		Photo Orientation:	
Description:		Description:	

Field Supervisor Initials: DA Date: 10/14/13

Sample Lead Initials: JR Date: 10/10/13

URS